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INDEX OF CONTENTS.

JANUARY TO JUNE, 1893.

A

Abies Mariesi, 299
Abraxis grossulariata, 393
Abutilons, 301
Acacia, the false, for forage, 170
Aconite and Celery, 362
Adiantum cuneatum for cutting, 292
Africa, South, fruit from, 76
Agricultural Benevolent Institution, 47
Agricultural returns for 1892...257
Allamanda Williamsii, 142
Alocasia Dussii, 658
Amiens, market gardens of, 258
Amorphophallus oncophyllus, 658; A. giganteus, 658
Anemone blanda, 333; the garden, 77
Anthurium Chamberlaini, 259, 719; A. Scherzerianum, 358; effect of manuring, 579
Antibes, hardy Palms in, 132
Antirrhinum glutinosum, 298
Apiary, the, 15, 71, 144, 198, 262, 359, 447, 520, 573, 660, 717
Aposporous Lastrea, an, 549
Apple, Armorel, 268, 301; Atalanta, 293; Beauty of Stoke, 368; Bismarck, 194; Cockle Pippin, 368, 457; crop in South Wilts, 606; decay, interesting, 47; Hormead Pearmain, 203; Jas. Grieve, 53; Reinette du Canada, 521; Royal Somerset, 368; Sturmer Pippin, 457; tree-pests in France, 540
Apples, American and British, 144, 203, 267, 333, 393; and Pears, chemistry of, 577; British, 174; new, 454; pests in France, 579; spraying of, 419
Aquilegias, hybrid, 572, 750
Araucaria imbricata, the original at Kew, 232
Arboriculture in Kent, 628
Ard-Cairn, Daffodils at, 296
Aristolochia, internal structure of flower of the, 484
Art and Science, Summer School of, 329
Arum palæstinum, 174, 204
Arundina bambusæfolia, 298
Asclepias curassavica, 444
Ascott, Leighton Buzzard, 721
Ash, species of, 364
Ash, the, 293
Asparagus for forcing, 78; manures for, 259
Auricula seeds, raising of, 422; the, 445, 579
Auriculas, 176
Australia, fruit from, 452
Australian fruit, packing of, 692
Azalea indica, growth and culture of, 626, 712
Azaleodendron × Count de Kerchove, 665

B

Bacteria and leguminous plants, 742; in Elæagnus nodules, 577
Bacteria in the soil, 505
Baker, Mr. J. G., 746
Bamboos at Kew, 299
Bananas for the table, 146
Bangalore Botanic Garden, 391
Barn Elms, Barnes, 392
Barrier Island, 161
Barron, Mr. A. F., 633
Bean, Girtford Giant Runner, 665; the Windsor, 334
Beans, preserved, 454
Beaudesert, 164
Beaumontia grandiflora, 547
Beech Lawn, Audenshaw, 166
Begonia cinnabarina (Hybrida var. albo vittata), 19; Lansbergæ, 720
Begonias, winter-flowering, 106
Belgian notes, 108, 132, 230, 356
Belgium, 658
Belvoir, spring-flowering at, 741
Benary, Ernst, 385
Benefit and Provident Society, United Horticultural, 202
Benevolent Institution, Gardeners' Royal, 52, 74, 107, 112, 174, 202, 361, 513
Bennett, Mr. E., 547
Bergmann, M. Ernest, 747
Birds of New Zealand, native, 391
Birmingham Botanical Gardens, 208, 553, 683
Blackmoor House, 328
Blinds, paper Venetian, 723
Boilers, 578

Books, Notices of: — Annales Agronomiques, 170; Bibliographia de la Rosa, 235; Boletim da Sociedade Broteriana, 201; Botanical Magazine, the, 46, 200, 420, 546, 719; Botanische Zeitung, 170; Cassell's Popular Gardening, 265; Celery for Profit (*T. Greiner*), 605; Ceylon, Handbook to the Flora of, 18; Contributions from the Botanical Laboratory of the University of Pennsylvania, 106; Cottage Gardening, 633, 720; Country Gentleman's Catalogue, 721; Das Kleine Haus mit Garten (*Lothar Abel*), 81; Dictionnaire Pratique d'Horticulture, 201, 544; English Botany, 234; Ferns of South Africa (*Thos. R. Sim, F.R.H.S.*), 145; Field Club, the, 201; Food of Plants, the (*A. P. Laurie*), 605; Fruit Culture (*J. Cheal*), 720; Gardener's Story, a (*Geo. H. Ellwanger*), 81; Garden Oracle, the, 170; Geographical Journal, 17; Grasses of the Pacific Slope (*Dr. Vasey*), 107; Histoire des Plantes, 48; Icones Plantarum, 746; Illustrierte Monatshefte, 719; Index Kewensis, 748; Johnson's Gardeners' Dictionary, 234, 368; Journal of the American Pomological Society, 201; Journal of the Kew Guild, 604; Journal of the Royal Horticultural Society, 200; Kew Bulletin, 362, 632; Les Plantes de Grande Culture, Vilmorin, Andrieux et Cie., 266; Les Plantes Potagères et la Culture Maraichère, 201; Les Orchidées de Semis, 171; Manual of Orchidaceous Plants, Part IX., 515; Odorographia: a Natural History of Raw Materials and Drugs used in the Perfume Industry (*J. Ch. Sawer, F.L.S.*), 20; Orchidées Rustiques (*H. Correvon*), 718; Orchid Review, the, 46, 201, 420; Pamphlet on the Potato (*Jas. Dobbie*), 300; Primer of Horticulture (*Jno. Wright*), 296; Report on Insects and Fungi Injurious to Crops, 514; Revue de l'Horticulture Belge, 170; Rosarian's Year Book, 106; The Rose (*H. B. Ellwanger*), 266; Text-Book of Tropical Agriculture (*Alfred Nicholls, M.D.*), 145; The Wild Rabbit (*J. S. Simpson*), 544; Vegetable and Fruit Farming, Hints on, 48

Bordeaux Mixture, 666, 722
Boscawen, the late J. T., 172
Botanic Garden, Glasgow, 107
Botanic Gardens, Manchester, 140
Botanic institutions, list of, 108
Botanist, the selfish, 75, 110
Bougainvilleas, 323
Bouvardias, 323, 714
Brentford market, the, 599
Broccoli, 421; hardy, 333; and the frost, 363; the preservation of, 230, 333; Suttons' Late Queen, 366
Bruges, Orchids at, 356
Brussels, cut flower trade of, 749; Orchids at, 18
Buitenzorg Botanic Garden, 68
Bulbophyllum comosum, 298; B. Pechei, 298
Bull's, W., new plants at, 413
Burnpark, Orchids at, 656
Burns, Robert, and gardening, 265
Bystock, Orchids at, 10

C

Cabbage, Ellam's Early, 635
Cacao, 24
Caladium argyrites, 630
Calanthe Oweniana, 712
California, 289, 388, 657, 739
Calla Pentlandii, 516
Calochortus, the, 748
Camellia reticulata, 485
Camellias at Titsey Park, 267; hardiness of, 111; lifting, 323
Canna, synopsis of the species of, 42, 70, 164, 196
Cannas, 142, 743
Cannes, the recent winter at, 628
Canning, 422
Canton, letter from, 260
Cape, fruit from the, 106
Caralluma campanulata, 47
Carex japonica variegata, 172
Carnation, the, 176, 682; Duke of York, 520; chemical constituents of the, 570
Carnations and Picotees, 744
Carrot, monstrosity of the flower of the, 137
Catalpa speciosa, 721
Caterpillars, 484, 750
Cattleya, a mis-shapen, 665; C. Gaskelliana, 741; C. labiata, 235; C. l. Mendelii, Clarke's var., 688; C. Trianæ "Fairy," 292; C. T. var. Gravesiæ, 357; C. Warocqueana alba, 50; C. Warscewiczii, 712
Celastrus buxifolius, 397
Centenarian gardener, a, 692
Cereus grandiflorus, 664
Chamærops excelsa in Cornwall, 664
Chicago Exposition, 48, 201, 656; Primulas at the exhibition at, 293
Chicory, 387
Chiswick, Pæonies at, 693
Chlorophytum elatum variegatum, 101
Chou de Bedford, Laxton's, 71
Chrysanthemum cinerariæfolium, 750
Chrysanthemum exhibition in Vienna, 719; grafting, 18; variation, 363
Chrysanthemums, 140, 578; all the year round, 667; for training, 393; in the colonies, 82; single-flowered, 364, 454
Cladophora aegagropila, 265
Clerodendron Baronianum, 234
Clifton Cottage, Irises and Hemerocallis at, 743
Clivedon House, 541
Coccidæ or scale-insects on Orchids, 548
Coccocypselum hirsutum, 201
Cocoa-nut, double, at Kew, 74
Cœlogyne Hookeriana, 322; C. Sanderæ, 360, 391
Coffee disease in Jamaica, 303; plantations, 146
Coir, paving blocks of, 331
Colorado, West, 660
Coltsfoot, 234
Conditions, effect of local, on horticulture, 100
Conifers, trimming of, 454
Continent, a journey through, 686, 741

Coombe Warren House, 663
Copperas in plant manures, 719
Coprosma Baueriana variegata, 134
Coris monspeliensis, 748
Count Kerchove de Denterghem, 449
Crichel House Gardens, 508
Crickets, remedy against, 363
Crinodendron Hookeri, 634
Crinum pedunculatum, 138; C. yemense, 658
Crocus Sieberi, 293; C. striped, 422
Crotalaria juncea, 138; C. longirostrata, 234
Cucumber disease, 579; rot, 668
Cultural science, 746
Cupressus (Retinospora) obtusa and its varieties, 715, 743
Currant-bud mite, the, 232
Curtains, India-rubber, 754
Cyanophyllum magnificum from seed, 50
Cycnoches pentadactylon, 597
Cymbidium grandiflorum, 135
Cynorchis grandiflora, 197
Cypress, Lawson's, Haskins' variety, 146
Cypripedium Albertianum×, 19; C. calceolus, 667; C. Eucharis, 195; C. fasciculatum, 47; C. ×Hebe, 357; C. Lucienianum, 132, 322; C. ×memoria Moensi, 132; C. Moens, 322; C. Paris×, 444; C. villosum violaceum, 195; C. Tacita, 357
Cypripediums, hybrids, variability of, 163
Cyrtopodium Aliciæ, 711

D

Daffodils at Cork, 296; at the Antipodes, 174; for market, 383; in South of Ireland, 422
Dahlia, the, 607
Dahlias, new, 367
Daisy, the Michaelmas, 228
Dalmatia, insect-flower crops of, 742
Dammann & Co., new plants of, 414
Damper, an automatic, 48
Dandelion as a salad, 422
Daphne Mezereum, varieties of, 476
Dell, Egham, Orchids at the, 443
Dendrobium Hilli, 292; D. nobile, a fine plant of, 508; D. nobile nobilius, 386; D. Owenianum×, 226; D. Wardianum, 386; D. Wardianum var. gigantea, 292
Devonshire, flowers from, 298
Dianthus, the, 546
Dioon pectinatum, 718
Dioscorea in the Caucasus, 331
Diospyros costata, 50
Disa tripetaloides, 711
Dombeya rotundifolia, 397
Douglas Fir, the, 48
Dracæna Draco, 687; D. Sanderiana ? = D. thalioides, 576, 634
Dracænopsis australis at Belgrove, 133
Dragon's Blood, 687
Drought, the, 750
Dryden Bank, 79

E

Earl's Court Exhibition, 193, 330, 513
Echium arborescens, 690
Elæagnus angustifolius, root-nodules of (Bacteria), 577
Elder, the golden-leaved, 721
Emigration to Colonies and South America, 77
Environment, effect of, 100
Epidendrum spondiadum, 46
Eranthis cilicica, 266
Eremurus robustus, 694
Eritrichium nanum, 422; E. nothofulvum, 13
Eryngium campestre, 301
Erythea edulis, 507, 578
Erythrina crista-galli, 476; E. Zeyheri, 397
Erythronium Hartwegi, 516
Eucalypts, hardy, 207, 665
Eucalyptus coccifera, hardiness of, 237; E. cordata, 634; E. globulus, hardiness of, 234, 268
Eucalyptus, grafting of, 194
Eucalyptus oil, 604
Eucharis amazonica, 547
Eupatoriums, 301
Evergreens in pots, 164
Examination for gardeners, 22
Examinations in horticulture, 110, 390
Examinations of the Royal Horticultural Society, 267, 331, 747
Experiments at Rothamsted, 265

F

Fagus Moorei, 720
Fairlawn, Wimbledon Common, 268
Falmouth, climate in winter, 172
Fernery at Mr. May's, Edmonton, 323; the hardy, 323, 386
Fertilisers, law relating to the sale of, 719
Ficus elastica, 133
"Finches," the, Lindfield, 625
Finnochio, 366
Fish, gold, treatment of, 204
Flower garden, the, 14, 45, 72, 102, 134, 167, 199, 231, 262, 295, 327, 359, 389, 417, 447, 478, 511, 542, 572, 601, 631, 661, 689, 707, 745
Flowers under deciduous trees, 141
Fog, the town, 328
Folk-lore and Sage, 237
Fonthill Abbey, 39
Footpath Preservation Society, 171
Footpaths, 301; in pleasure-grounds, 334
Forestry, 13, 102, 197, 293, 324, 521
Forestry and Gardening Exhibition, opening of, 602
Forget-me-Not, sweet-scented, 13
Forsythias, the, 332
France, &c., a journey through, 741; Double Daffodils and Roman Hyacinths from, 606
Freesias, 130, 174, 394
Frost at Belvoir, 362; and the Roses, 100
Frosts and the fruit bloom, 483
Frozen flowers from New Zealand, 234, 751
Fruit cultivation and imported fruits, 139; from the Cape, 106; Colonies, transport of, 626; South Africa, 76; in Wilts, 749; prospects, 548, 686; selling and growing, 136; trees, summer pinching, 578, 606, 662, 666, 694, 728, 749
Fruits, preserved, 142
Fruits under glass, 45, 73, 102, 135, 166, 198, 231, 263, 294, 326, 358, 388, 417, 446, 478, 510, 542, 573, 601, 631, 661, 688, 716, 744
Fuchsia triphylla, 683
Fuchsias at Chelsea Nursery, 200
Fungi on flowers, influence of, 235; on the human body, action of, by C. B. Plowright, 138
Furcræa Bedinghausii, 747

G

Galanthus Fosteri, 237; winter blooming, 142
Gardenias, 143; in Sierra Leone, 207
"Gardens, grave and gay," 67
Gazania pygmæa, 397
Germany, hardy plants in, 132
Germination under difficulties, 104
Gentiana acaulis, watered with ice-water, 552
Ghent Quinquennial Exhibition, 203, 420, 480, 512; new plants at, 442, 471; hints for visitors to, 441
Gladiolus Childsii, 78; G. Nanceianus, 130; G. oppositiflorus, 291
Glasgow Botanic Gardens and Parks, 107
Glasnevin Botanic Gardens, 18
Gold fish, management of, 141, 174, 267, 333, 364
Gomphocarpus, 397
Gooseberry caterpillar, the, 392; sawfly, remedy for, 551
Graft hybrid, a, 544
Grafting of Rhubarb leaves, natural, 392
Grange, Alresford, fruits of the, 634
Grape, Barbarossa, 174, 204; Gros Colmar, 111, 172, 205, 238, 301, 333; Muscat Champion, 50, 78, 111, 238
Grapes, English, in American markets, 24; packing, 515
Greece, Currant crops in, 546
Grevillea robusta, 142
Gustavia pterocarpa, 130

H

Hamamelis, the genus, 303
Hampton Court, the home park at, 104
Hardy fruit garden, 14, 44, 72, 103, 135, 166, 198, 231, 263, 295, 327, 359, 389, 416, 447, 479, 511, 542, 573, 600, 630, 661, 689, 717, 745
Harvest of 1892...633
Hasskarl, Dr. Justus Karl, 331
Hawfinches, destruction caused by, 141
Hazel, a hermaphrodite, 633
Hazelbourne, Dorking, 712
Heating greenhouses, 141
Helichrysum cæspititium, 397
Helleborus fœtidus, poisoning by, 301
Hemerocallis, a new, 394
Hippeastrum, the, 323
Hives, wrappings for, 71
Holly and Oak, 422; growing on Oak, 364
Hollyhock, the, 176, 628
Honesty, 578
Hong-Kong, 228; ice in, 418; Orchid cultivation in, 83
Horticultural Club, 203
Horticultural College, Swanley, 331, 634, 693, 719; instruction, 75
Hybrids, 16; analogy of, 360
Hyde Park, spring bedding in, 552
Hydnophytum, 259
Hydrangea hortensis, blue colouring of, 684, 750
Hye-Leysen, M. Jules, the garden of, 606
Hypericum Moserianum, 476
Hypoestes moschata, 77

I

Ice in Hong-Kong, 418
Illicium floridanum, 386
Insect enemies of the Rose, 682
Insects on fruit trees, 607; on Pear trees, 749
Institute of Horticulture, 635; proposal for, 606
Investment, a profitable, 129
Iris alata, 50; var. Leichtlinii, 171
Iris Hookeriana, 47; I. stylosa for winter, 694
Irises and Hemerocallis at Clifton Cottage, 741; Irises, the Japanese, 168, 204; the Oncocylus group of, 266
Irish garden, Kilmacurragh, 709
Isle of Man, the, 655
Isopyrum thalictroides, 364
Italy, a journey through, 741; notes from, 13
Ivies, tender, 300
Ixora siphonantha, 234; I. Westii, 723

J

Jaffa, Orange trade of, 719
Jamaica, Coffee disease in, 303
Japan, flora of, 170
Jardin des Plantes, 137, 515
Johannesburg, a public park for, 330; notes from, 630

K

Kaki, 50
Keele Hall, 10
Keir House, Dunblane, 537
Kew, Bamboos at, 299
Kew Bulletin, 632
Kew, Eyot, 691; Guild, the, 690; Lilies at, 743; hardy plant-house at, 423; notes, 130, 332, 658; the show-house at, 106
Kilmacurragh Gardens, 709
Kitchen garden, the 15, 44, 73, 103, 133, 167, 199, 231, 263, 295, 326, 359, 389, 416, 446, 479, 510, 542, 573, 600, 630, 661, 689, 717, 745
Kniphofias, 170
Kumaon, notes from, 627

L

Label, Wood's Plant Club, 236
Labels, 265, 333
Lachenalia aurea gigantea, 290, 364, 394; L. tricolor, 394
Lachenalias at Kew, 423
Lælia vitellina, 365
Lælio-Cattleya amœna × var. delicata, 443
Lælio-Cattleya × Maynardi, 715
Landscape gardening, English style of, 567
Lapagerias, 452
Lastrea, an aposporous, 549
Lathyrus latifolius, in pots, 606

Law Notes:—Grimwood *v.* Weekes, 610; King *v.* End, 24; Royal Horticultural Society of Aberdeen *v.* Jas. Cocker & Sons, 425; Williams *v.* Keynsham Hort. Soc., 521
Leaf-mould, properties of, 110, 227
Leaves, the colouring matter of, 18
Lee, Mr. Jno., 259
Leguminous plants and bacteria, 742
Lemoine's new plants, 414
Leschenaultia biloba major, 753
Lightning on the Vine, action of, 720
Lilies, 227; Chinese, 235
Lilium speciosum, 129
Lily culture in pots, 163
Lime in the garden, 99
Lime-juice industry of Montserrat, 604
Liquorice culture in Russia, 664
Livistona inermis, 748
Lodoicea seychellarum at Kew, 74
London and the provinces, certificated exhibits at the Royal Horticultural Society, 136
Lonicera fragrantissima, 228; L. Standishii, 228
Luton Hoo gardens, 749
Lyperia multifida, 397

M

Macrozamia spiralis, 74
Madresfield Court, 100
Mammillaria prismatica, 201
Manchester Botanic Gardens, 140, 297
Manchester, gardens near, 166
Manure, liquid, and Paris gardening, 232
Manures, 168, 175
Manuring Potatos, 195
Maples, hardy Japanese, 415
Market gardening under glass, 353, 415, 457, 517, 542, 599, 633, 715
Marseilles, oleaginous seeds at, 754
Masaranga Porteana, 658
Maxillaria Sanderiana, 712
Mesa, the grand, West Colorado, 660

ropolitan Public Gardens Association, 138, 170
dleman, the, 300, 334
t, 386
dels, Apple, 22
nstrosity of the flower of the Carrot, 37
ntserrat lime juice, industry of, 604
rmodes igneum var. maculatum, 323
cuna rostrata, 445
lberries, 48
lching wall fruit trees, 445
sa rosacea, 259
shroom growing, 578; on beds of ree leaves, 666

N

RCISSUS at Kew, 332
rcissus cyclamineus, 422; hybrid, 423; in the Scilly Isles, 363; N. major, 422; N. poeticus ornatus, orcing of, 294; N. poeticus præcox, 47; N. Snowdrop, 454
ctarine, River's Early, 664
mesia strumosa, 46
penthes Mastersiana×, 683
penthes, large pitchers on, 484
ttle leaves and protection, 692
w plants (see Plants New, and Plants New and Noteworthy)
w York spring flower show, 637
w Zealand notes, 416; preservation of the flora and fauna of, 161
dularium digeneum, 633
velties of 1892...7

URSERY NOTES:— Backhouse & Co., York, 334; Barr & Sons, Long Ditton, 344, 477; Bull, William, 109, 714; Charlesworth, Shuttleworth & Co., 659; Cock, Jules de, Ledeberg, 688; Dallière, Alexis, 659; Dereyghere van Coppenolle, M. Ed., 547; Desbois, M. F., 627; Hartland's, W. Baylor, Nurseries, Cork, 23; Houtte, Louis van, Ghent, 627; Imschoot, Alf. van, Ghent, 627; Jones, H. J., Hither Green, 659; Knowles, A., 582; Kuyck, M. K. J., Mont St. Amand, Ghent, 688; Laing & Sons, 424, 750; Low, Hugh & Co., 79, 109; Pearson, J. and R. & Sons, 236; Peeters, M. A. A., Brussels, 658; Petrick, M., Mont St. Amand, Ghent, 688; Pitcher and Manda, New Jersey, 684; Sander, F., & Co., St. Albans, 139; Smet-Duvivier, M. de, Ghent, 627; Smet, de, Frères, Ghent, 659; Smet, Louis de, Ghent, 659; Smith, Messrs., Uitenhage, South Africa, 207; Sutton & Sons, 42; J. Veitch & Sons, Amaryllis at, 363; Vervaet & Co., Mont St. Amand, Ghent, 688; Vincke-Dujardin, M. G., Brugès, 659; Vuylsteke, Chas., Ghent, 627; Waterer, A., Knap Hill, 581; Williams, B. S. & Son, 53, 424

O

kwood, spring flowers at, 302

BITUARY:—Barlow, Samuel, 668; Benary, Ernst, 234; Burnett, S. M., 112; Chantin, M. Antoine, 269; Chaure, Jean, 330; De Candolle, Alphonse, 448; Ghiesbrecht, August B., 634; Harrison, Thos., 240; Johnson, C. P., 298; M'Kelvie, W. R., 458; McKenzie, A., 397; Newberry, Dr. John Strong, 16; Pasquale, Professor, 234; Passerini, Professor, 633; Phippen, G. W., 239, 269; Sanderson Edwin, 553; Schlumberger, F., 298; Sheppard, J., 83; Treseder, W., 397; Webster, J. B., 642; Westwood, Professor, M. O, 21; Woolls, Rev. Dr. 337

servatory, the Greenwich, 719

Odontoglossum Cervantesi var. punctatissima, 234; O. crispum, a new variety, 194; O. Edwardii, 163; O. polyxanthum, 667; Wilckeanum, 422
Odontoglossums at Burnpark, 656
Œceoclades maculata, 355
Oils, can plants digest fatty ?, 330
Oleaginous seeds at Marseilles, 754
Oncidium Jonesianum, 292; O. Saintlegerianum, 195
Onion, the Crown, 634
Oodeypore, 665; the Maharana's garden at, 82
Orange trade at Jaffa, 719
Orchard-house, the, 423
Orchid cultivation in Hong-Kong, 82
Orchid-houses, the, 15, 44, 72, 103, 134, 166, 198, 230, 263, 294, 327, 358, 389, 417, 446, 479, 511, 542, 572, 600, 631, 688, 716, 745
Orchid insects, 548
Orchids at Brussels, 18; at Burford Lodge, 540; at Bystock, Exmouth, 10; at Castle Hill, 444; at the Dell, Egham, 443; at Hazelbourne, 712; at Jas. Cypher's nursery, Cheltenham, 265; at M. A. A. Peeters, Ghent, 230; at North Easton, Mass., 196; at Oakwood, 596; at Osborne House, Edinburgh, 207; at Oswald House, N.B., 22; list of garden, 682; scent of, 390; sold for high prices, 458
Orphan Fund, the Royal Gardeners', 16, 22, 47, 52, 106, 168, 175, 202, 265, 267, 234, 450, 514, 575, 719
Orphan Fund election, 175, 204
Osborne House, Edinburgh, 177
Oswald House, Orchids at, 22
Oxford Botanic Gardens, 298, 547
Oxygen and the respiration of plants, 19

P

PACKING of Australian fruit, 692
Pæonies, herbaceous, at Chiswick, 693
Palms and their culture, 549; garden, list of, 260, 332; hardy, in Antibes, 132
Pansy, the, 713
Pansies, 723; tufted, 204, 238
Papaver umbrosum, 454
Parks, improvement in the, 171
Parks, public, and lawn-tennis, 266
Parsley, Hamburgh, 50
Parsnip eaten by vole, 301
Parsons, Mr. A., painting in Japan, 76
Pea English Wonder, 716; Sutton's Bountiful, 22
Peas, 722; early, 605, 667, 694; extreme earliness of, 692
Peach buds dropping, 551, 574, 635, 693
Peach tree, an old, 722, 749
Peaches, early, 743, 750
Pear Josephine de Malines, 203
Pears on Thorn stocks, 516; late, 606
Pentstemon, the, 713
People's Palace, Rose show for the, 451
Perennials, hardy, ground seeds, 723
Perfume in flowers, origin of, 107
Perfume plants at Grasse, 483
Petroleum as an insecticide, 364, 453, 516
Petroleum oil and Vine dressing, 50
Phaius Gravesii, 357; P. tuberculosus, 234
Phalænopsis culture, 71
Philadelphus, the genus, 742
Phloroglucinol in plants, 19
Phlox, the, 713
Picea Breweriana, 12; P. Engelmanni glauca, 600
Picture gallery, a botanist's, 202
Pictures, garden, exhibition of, 67
Pine, the cluster, value of in Britain, 172
Pink, the garden, 744
Pinks, 520
Pinus Laricio, 606
Pitcher-plants and Frankincense, 11
Pittosporum sp., 416
Planter's Friend, the, 209
Planting, 476

PLANTS NEW OR NOTEWORTHY, DESCRIBED:—Alocasia coriacea, 475; A. Watsoniana, 442; Arum Palæstinum, 98; Asplenium (erroneously printed Adiantum) duale, 10; Azalea Vaseyi, 539; Barbacenia squamosa, 414; Begonia Glory of Lorraine, 68; Bletia Godseffiana, 442; Brachionidium Sherringii, 290; Bulbophyllum Sanderianum, 291; B. vitiense, 291; Caladium sagittatum, 475; Calamus gracillimus, 475; Calanthe vestita var. Cornelius Vanderbilt, 322; Calypso borealis, 421; Cattleya× sub var. Reineckiana, 258; C. Trianæi Broomeana, 291; Chlorophytum brachystachyum, 710; Cœlogyne Clarkei, 741; Cotyledon Barbeyi, 624; Crassula centauroides, 656; Crocus Tauri, 226; Cyanophyllum aspersum, 475; Cypripedium Albertianum, 19; C. Alfred Bleu, 226; C. Calypso (Cypher's variety), 130; C. concolor var. striata, ; C. Lowianum aureum, 682; C. × sylva, 682; C. villosum var. Gortoni, 40; Cyrtanthus intermedius, 413; C. obliquus, 596; Dendrobium Benita, 354; D. (hybridum) Cassiope, 290; D. nobile Ballianum, 322; D. Owenianum ×, 226; D. rubens ×, 226; D. (hybridum) Venus, 291; Dichorizandra angustifolia, 475; Disa kewensis, 625; Dracæna Sanderiana ? = D. thalioides, 442; Epidendrum Palmeri, 322; Eranthis cilicica, 266; Eucharis Lowi, 538; Fritillaria citrina, 538; F. Whittalli, 506; F. Zagrica, 568; Galanthus Byzantinus, 226; G. Elwesii var. robustus, 226; G. gracilis, 656; G. Ikariæ, 506; G. maximus, 354; G. Perryii, 256; Gladiolus papilio, ×Gandavensis, 596; G. victoralis ×Sprenger, 596; G. hybrid, 596, 624; Heliconia illustris, 413; Hillia tetrandra, 414; Hypolytrum Schroderianum, 414; Iris Athoa, 711; I. Bismarckiana, 506; Kniphofia longicollis, 682; Pholidota Lugardi, 322; Kniphofia Tuckii, 68; Lachenalia aurea gigantea, 290; Lælia Finckeniana, 194; L. hybrida Normanni, 98; L.× Oweniana, 682; Lælio-Cattleya Schilleriana, 596; Lathyrus splendens, 258; Ludovia crenifolia, 442; Magnolia salicifolia, 258; Masdevallia Henrietta×, 740; M. Rebecca×, 740; Megaclinium minutum, 291; Narcissus, Dammann's hybrid, 507; hybrid, 428; Nepenthes mixta×, 46; Nerine mutabilis, 130; novelties of 1892, 7; Odontoglossum blandum var. albocupreum, 355; O. crispum, Hunter's variety, 194; O. c. var. Mrs. De Barri Crawshay, 741; O. Kränzlinii, 442; O. lanceans var. Gravesianum, 322; O. Williamsianum, 740; Oncidium Saintlegerianum, 10, 227; O. spilopterum, 10; Oreopanax Sanderianum, 442; Papaver umbrosum, fl.-pl., 40; Pelexia maculata, 322; Phaius amabilis×, 226; P. roseus, 291; Phyllogathis ciliata, 475; Picea Breweriana, 258; Pleurothallis rhombipetala, 290; Richardia Lutwychei, 568; Saintpaulia ionantha, 682; Salmia Laucheana, 442; Sarcochilus muscosus, 322; Schizocodon soldanelloides, 415; Scilla Buchanani, 568; leucophylla, 506; Scopolia carniolica var. Hladnickiana, 418; Selaginella usta, 414; Senecio sagittifolius, 258, 355; Stachys floridana, 40; Strobilanthes Dyerianus, 442; Tradescantia velutina, 475; Tulipa coccinea, 538; Vanda× Miss Joaquim, 740; Vriesia tesselata var. Sanderæ, 442

PLANT PORTRAITS: Acer nikoense, 547; Agave Victoria Regina, 332; Anthurium Andreanum var. Warnbeckeanum, 547; Apple Eliza Rathke, 107; A. MacMahon, 547; Aristolochia gigantea, 547; Ascyrum crux Andreæ, 721; Aster roseus, 332; Azalea (hybrida) Daviesi, 203; A. indica Marie Theresa, 332; Begonia Baumanni, 163; B. fulgens, 163; Begonia Lansbergii, 475; Bilbergia Bruanti, 332; Bulbophyllum tesselatum, 475; Boronia heterophylla, 721; Brugmansia aurea, 162; Buddleia Colvillei, 748; Calamus robustus, 332; Calochortus Kennedyi, 332; Cattleya Alexandræ, 162; C. Hardyana×, 547; C. labiata, 332; C. labiata vars., 721; C. Mossiæ Reineckiana, 721; Cherry, Early Prin, 748; Cherry, Bigarreau Lemercier, 203; Clerodendron hastatum, 162; Cochlioda Noetzliana, 107; Cœlogyne Sanderæ, 547; Colax jugosus, 721; Cornus Kousa, 547; Crocus luteus var. striatus, 385; Cupania elegans, 474; Cymbidium Lowianum, 547, 577; Cypripedium Chamberlainii, 577; C. Dibden ×, 162; C. Galatea, 577; C. Huybrechtianum, 748; C. Leonæ×, 162; C. Rothschidianum, 577; C. Spicerianum var. Mercatellianum, 721; Cyrtopodium Aliciæ, 721; Cyrtosperma ferox, 474; Dendrobium (hyb.) Cassiope, 332; D. Phalænopsis Schroderianum, 577; D. (hyb.) Venus, 332; Dichorizandra musaica gigantea, 474; Dieffenbachia meleagris, 474; D. olbia, 475; Disanthus cercidifolia, 748; Dracæna cuprea, 203; Epimedium macranthum, 107; Eulophiella Elisabethæ, 474; Gleditschia japonica, 577; Habenaria militaris, 721; Hæmanthus Lindeni, 474, 577; Heliconia spectabilis, 475; Iris atrofusca, 384; Labisia smaragdina, 474; Lælio-Cattleya Ridolfiana, 517; Lathræa clandestina, 721; Lathyrus grandiflorus, 203; Lycaste macrobulbon, 577; Mitchella repens, 577; Narcissus Fenzlii, 385; N. Margaritæ, 384; N. Sprengeri, 385; Odontoglossum Harryanum, 203; O. Insleayi, 577; O. ramosissimum, 332; O. Ruckerianum splendens, 385; Oncidium loxense, 577; Opuntia prolifera, 108; Papaver orientale, 108; Pavonia Wrightii, 108; Pellæa gracilis, 577; Peperomia metallica, 474; Phalænopsis Luddemanniana, 577; Philodendron verrucosum, 721; Prunus cerasifera var. Pissardi, 577; Rhodochiton volubile, 203; Rudbeckia purpurea, 721; Senecio Bonin-Simæ, 577; Smilax argyrea, 474; Solanum jasminoides, 332; Stenandrium (hybridum) Goosenianum, 203; S. Lindenii, 474; Stuartia pseudo-Camellia, 577; Tradescantia elongata, 474; T. reginæ, 474; T. superba, 474; Tricyrtis nana, 721; Triteleia uniflora cœrulea, 721; Tritoma corallina, 203; Vanda tricolor var. planilabris, 721; Vriesia (hybrida) Pommer Escherana, 721; Wahlenbergia pumiliorum, 203

Plants for decoration, select foliage, 133, 262, 477, 572
Plants, new, of 1892 ... 7, 52 (see also Plants new and noteworthy).
Plants, new substances from, 484
Plants under glass, culture of, 14, 45, 73, 102, 134, 167, 199, 231, 262, 294, 326, 358, 388, 417, 447, 479, 511, 542, 572, 601, 631, 661, 689, 716, 744
Pleurospermum Franchetianum, 234
Plumbago capensis, 334; bedded out, 302
Plum crop in France, 542
Plum, violet, of East Anglia, 421, 516, 551, 634
Poisoning by Helleborus fœtidus, 301
Poisonous plants, 748

Pollen, influence of, on ovary and seed, 48
Polyanthuses, border, 722
Poplar, Ontario, the, 582
Poppies, 516
Postal money notes, 633
Potato, an old variety of, 546
Potato culture, 267; disease, 201
Potatos, experiments in manuring, 195; planting, early, 267
Potatos, book on culture, a new, 452
Potatos, early, 174; from Scotland, 692
Potatos in Ireland, 602; manures for, 175
Poulton, Professor E. B., 748
Pretorian plants, 397
Primula cortusoides Sieboldii, 635
Primulas at Reading, 42
Protea effusa, 658
Protection in France, 664
Protheroe, Mr. W. H., 664
Provident and Benefit Society, United Horticultural, 330
Pseudotsuga Douglasi, 48
Pynaert's, M. Ed., new plants, 415
Pyrethrum, the, 660
Pyrethrum roseum, seedling, single, 606
Pyrus angustifolia, 43; coronaria, 234

Q

Queen's birthday honours, 691
Quince, Apple-shaped, 172
Quinine in America, 483

R

Railway rates, deputation to the Board of Trade on, 264, 269
Railway rates, the new, 16, 46, 75, 104, 137, 146, 202, 204, 264, 265, 419
Rain, the fall of, 720
Ramsgate public park, 268
Reinwardtia tetragyna, 138
Respiration of plants and lessened oxygen, 19
Restrepia antennifera, 234
Rhaphidophora decursiva, 298
Rhododendron Nobleanum, 363, 484; R. racemosum, 719; Thomsoni, 332;
Rhododendrons at Kew, 356; cross-bred, 641; exported to America, 451; greenhouse, 476; Himalayan, in flower, 363
Rhubarb, 386
Richardia æthiopica, a curious, 452; R. Lutwychei, 722
Richardias, treatment of, 629
Robinia, for forage, 170; R. hispida, 688
Root-nodules (Bacterial) of Elæagnus angustifolius, 577
Rosa gigantea, 163, 201; R. polyantha Crimson Rambler, 635, 720
Rose, Austrian yellow, 722; grafting, 23; insect enemies of; 682; Jaune Desprez, 454; Maréchal Niel, 142, 175, 197; prospects, 396, 665, 681
Roses, among the, 292; and the frost, 100; at Kew, 721; for general cultivation, 70; garden, the, 225; in pots, 143; in a cold house, 444; Madame Desprez and Jaune Desprez, 366; Tea, 366; Noisette, 97; pruning, 366
Rose show fixtures, 691
Rothamsted experiments, 265; jubilee, 297
Royal Horticultural Society, annual meeting of, 200; Certificates, 136; examinations, 747; list of committees, 49

S

Sage and folk-lore, 237
Salary of an estate manager, 138
Santa Paula, Lemon growing at, 539
Sarracenia flava, Manda's variety, 201
Sarracenia, the history of, 11
Sarracenias, 599
Say, M. Léon, 657
Scent of Orchids, 391
Scholarships, 80; in horticulture, 46
Scilla campanulata vars., 716

Scientific Committee: Acacia galls, 517; African produce, 239; Apple roots, with burr knot, 238; Aquilegia var. without spurs, 608; Arum with two spathes, 239; Bardfield Oxlips, changing colour, 552; Cecidomya Taxi, 366; Citron in Egypt, antiquity of the, 425; Cotoneaster, fasciated, 425; Cucumber roots, diseased, 425; Dimorphic Aralias, 426; Erythronium grandiflorum, giant form of, 552; Eucalyptus galls, 552; Euonymus attacked by caterpillars, 608; Egypt, antiquity of Citrons in, 425; fasciated Cotoneaster, 425; fog report, 238; Gentiana acaulis, 517; Grammatophyllum with spinescent roots, 517; Myosotis alpestris multipetalous var., 608; Myosotis alpestris, Victoria proliferous and many-petalled, 552; Oak branch, knotted, 366; Oranges, Californian, 517; Oxlip variety, 517; Oxlip Bardfield, changing colour, 502; Parsnips devoured by a vole, 238; Peach leaves, malformed, 552; Peridermium Strobi, 425; Polyanthus, Blue Primrose, 425; Primulas, blue, 366; Retama, scale insect on, 608; roots, spinescent, on Grammatophyllum, 517; Richardia, monstrous, 517; Sargasso weed and Cocoanuts, 366; soil with mites, 238; Sugar-cane moth, 608; Tipulæ in soil, 366; Ustilago on Psamma arenaria, 425

Seakale, 387
Season, in the Isle of Wight, 602; the early, 577; the exceptional, 602
Sedum Ewersii? 393
Seed trade, the, 106
Seeds, importing of, 104
Selenipedium (hybridum) Sedeni var. Weidlichianum, 292
Shamrock, 138
Sheppard, the late Mr. Jas. 107, 111
Smithsonian Institute, 665
Snowdrops, 138; the date of flowering of, 394

Societies:—American Pomological Society, 201; Banffshire Horticultural, 144; Beckenham Horticultural, 390; Birmingham Horticultural and Botanic, 552; Birmingham Spring Show, 456; Botanical of Edinburgh, 642; Brighton and Sussex New Horticultural, 457; Brussels Orchidéene, 233, 362, 658; Butley Tulip, 635; Crystal Palace, 396, 608; Croydon Chrysanthemum, date of, 75; Devon and Exeter, 19; Dundee Horticultural, 452; Dutch Horticultural and Botanical, 692; Earl's Court Exhibition, opening, 609; Earl's Court Rose Show, 724; Edinburgh Royal Botanical, 146, 206, 367, 519; Ghent Quinquennial, 485; see also under Ghent Quinquennial Horticultural, 230; Linnean, 105, 200, 230, 360, 449, 513, 575, 632, 719, 747; Manchester Royal Botanical and Horticultural, 137, 234, 337; Midland, Carnation, and Picotee Union, 107; Moseley Botanical, 610; National Auricula (Northern Section), 552; National Auricula and Primula, 518; National Chrysanthemum, 24, 201, 239, 482; National Rose, 752; Newcastle-on-Tyne Botanical and Horticultural, 520; Norfolk and Norwich Horticultural, 581; Provident and Benefit, United Horticultural, 330; Royal Botanic, 367, 518, 575, 609, 664; Royal Botanic of Manchester, 632, 636; Royal Caledonian Horticultural, 426; Royal Oxfordshire Horticultural, 753; Royal Horticultural, 79,80, 200,201, 205, 238, 335, 394, 425, 454, 517, 552, 580, 662, 695, 723, 751; revised list of awards of the, 75; R.H.S., Temple show, 632, 638; Scottish Horticultural, 76, 234, 239, 576; Tamworth Pansy show, 668; Torquay Horticultural, 137; York Florists, 17, 552; York Gala, the great, 724, 752

Sodium, as a plant food, 576
Soil, bacteria in the, 505
Soil moisture, and its effects on plant life, 193
Solanum Wendlandi, 683
Sowing, 476
Spider and its remedies, 174
Spinach, 421, 484; winter and summer, 546; round *v.* prickly, 364, 394, 578
Spraying for insects or blight, 746; fruit trees, 550
Spraying of Apples, 419
Spring flowers, 475; gardening at Belvoir, 741; at Wilton House, 517
Spring, the first flush of, 321; the early, 485
Spruce, the American Weeping, 12
Squirrels, 363, 393
Stable manure, a new chemical treatment for, 747
Stand Hall, Whitefield, 99
Stenandrium Beeckmannianum, 19
Stevensonia grandifolia, 200
Stigmaphyllum ciliatum, 684
Stock-taking, December, 1892, 76; January, 171; February, 298; March, 450; April, 604; May, 720
Strawberry Jno. Ruskin, 422, 452, 485, 516
Strawberries, and vegetables, earliness of, 605; strawberries, layering of, 753
Stravadium insigne, 658
Streptocarpus and Rehmannia hybrid, 453
Strepto-Gloxinia ×, 19
Streptosolen Jamesonii, 520
Sulfosteatite cuprique, 576
Surveyors' Institution, 75
Swainsonia galegifolia, 634
Switzerland, a journey through, 741
Symphyandra Hofmanni, 619, 749; hardiness of, 722
Syon House, 19; winter flowers at, 20

T

Tacca pinnatifida, 719
Tacsonia Van Volxemii, 323
Tangley Manor, 473
Tasmanian Apples for England, 361; fruit reports, 138
Tea from India, 665
Tea Roses, hardiness of, 393
Technical education, 106, 420, 483, 632, 634; at Cambridge 514; in horticulture, 694; see also under Examinations, instruction, 450
Tecomas, culture of, 551; Tecophilæa cyanocrocus, 393
Temperature of London, 634
Temple Show, the, 632, 662
Thistle, the Russian, 544
Thorns, double-flowering, for conservatory, 454
Thyrsos of Dionysos, 692
Tillandsia xiphioides var. arequita, 450
Timber growing, obstacles to home, 43
Timber, home-grown, prices of, 78
Tomato Conference, 141; Veitch's Early Ruby, 750
Tomatos and cancer, 78; winter, 364
Traveller's notes, a, 68, 130, 228, 260, 387, 568
Trees and shrubs, notes on flowering, 597; picture, 628
Trees in towns, 146, 453
Trentham, 623
Tresco Abbey Gardens, 694
Trichocentrum iridifolium, 445
Trichodesma angustifolium, 397
Trichopilia sanguinolenta, 201
Tritonia rosea, 201
Tropæolum polyphyllum, 750
Tsuga Pattoniana, 659
Tuberoses, 606
Tufted Pansies, 238
Tulip the, 579, 667
Turin, the Royal Academy of Sciences of, 75

U

Utricularia longifolia, 713

V

Vanda tricolor var. planilabris, 711
Vanilla, production and trade of, 478
Vegetables, arrival and prices of, 386; hardy spring, 551; in Scotland, 300
Veitch, H. J., presentation to Mr., 604
Veitch, J. H. (see Travellers' notes).
Veitch Memorial Fund, 233; prizes, 76
Vellosia equisetifolia, 397
Venetian garden, a, 604
Venidium calenduloides, 454
Verbascum cupreum, 754
Verbena, the, 484
Verbenas from seed, 99
Viburnum plicatum, 476
Vine, action of lightning on the, 720
Vine disease, Californian, 598
Vine dressing, 111; and petroleum oil, 50, 78, 204
Vine, on the growth of the, 550
Vines, origin of the colouring matter of, 24
Viola, the, as a decorative plant, 165
Violas and Viola culture, 570
Violets, King of, 333

W

Walnut crop in France, 542
Wardour Castle, 39
Washingtonia filifera, 13
Weather, and the crops, the, 666; in Aberdeenshire Highlands, in 1892, 357; in March, 451, 453; in Sussex, 50
Weathers, Jno., 633
Weed-killer, illegal sale of, 266
Weigelas, 642
Wellingtonia, a large, 111
Welsh wine, 420
Westwood, the late Professor, 170
Wheat, imports and consumption of, 577
Wilton House, spring gardening at, 517
Wistaria sinensis, 232
Women as gardeners, 604
Worsted *versus* Jute, 24

Y

Young, W., testimonial to, 172
Yucca Whipplei, 749

Z

Zamias, their poisonous qualities, 483

LIST OF ILLUSTRATIONS.

A

Alocasia Watsoniana, 569
Anthuriums, effect of manuring, 579
Apple Armorel, 267; Atalanta, 293; Bismarck, 195; fungus, 177
Ard-Cairn, Daffodils at, 297
Arum palæstinum, 101
Ascomyces deformans, 726
Aspidiotus biformis, 548
Azalea mollis var. Anthony Koster, 513
Azaleo-dendron × Count de Kerchove, 663

B

Bamboo, an artificially-trained, 387
Barn Elms, Barnes, a view of, 391
Barron, Mr. A. F., portrait of, 635
Benary, Ernst, the late, portrait of, 385
Blackmoor House, the gardens at, 329

C

Calypso borealis, 421
Carex japonica variegata, 173
Chinese water-temple, 261
Cladosporium lycopersici, 753
Cliveden, 541
Cocoa-Nut, double, germination of, 69; leaf of, 71
Cœlogyne Sanderæ, 361
Conchaspis Angræci (orchid scale), 548
Count Kerchove de Denterghem, portrait of, 449
Crichel House, Dorset, 509
Cycnoches pentadactylon, 80, 597, 599
Cynorchis grandiflora, 197
Cyperus laxus, 41
Cyrtanthus obliquus, 603

D

Daffodils at Ard-Cairn, 297
Davallia Mariesii in grotesque forms, 571
Diospyros costata, 51
Dracæna Sanderiana, 445
Dracænopsis australis at Belgrove, 133
"Dragon's Blood" fruits, 687

E

Echium arborescens, 691
Eranthis cilicica, 266
Eucharis Lowii, 539
Erythea edulis, 507

F

Fern corridor at Mr. May's nursery, 323
Finches, Lindfield, the, 625, 629
Finocchio, or tuberous rooted Fennel, 109
Fly, the Pansy, 726

G

Garden of Iris in Japan, a, 169
Ghent, exhibition buildings at, 204, 205; ground-plans of, 453, 455
Gladiolus (hybridus) Nanceianus, 131; G. oppositiflorus, 291
Glæosporium læticolor, spot in grapes, 753
Gooseberry caterpillar, 393; sawfly, 522
Grammatophyllum Sanderianum, monster mass of, p. viii. of Index to this volume
Grapes, spot in, 753

H

Hæmanthus Lindeni, 483
Holly-fly, the, 427
Hypoestes moschata, 77

I

Iris lævigata, 165; a garden of, in Japan, 169

J

Japanese garden, 575; of Iris, 169

K

Keele Hall, 9, 17, 19
Keir House and terraces, 545

L

Label, Wood's patent zinc, 236
Lælia × vitellina, 365
Lælio-Cattleya × Maynardi, 715
Lastrea, an aposporous, 549
Lee, Mr. Jno., 259
Ludovia crenifolia, 443

M

Madresfield Court, rockery at, 105
May's nursery, Fern-corridor at, 323
Moth, the winter, 177

N

Narcissus, hybrid, 423
Nepenthes mixta, 47

O

Onion-fly, the, 670
Orchid scale insect, 548
Oreopanax Sanderianum, 451

P

Pansy, a show, 723
Parrottia persica, 335
Parsnip eaten by vole, 301
Peach-blister, 726
Phaius amabilis ×, 229; P. tuberculosus, 237
Pieris japonica, 325
Pine-beetle, the, 54
Pritchardia Vuylstekeana, 331
Prosopophora Dendrobii, 548
Pyrus angustifolia, fl. pl., 43

R

Ramsgate public park, plan of, 269
Rockery at Madresfield Court, 105

S

Saintpaulia ionantha, 685
Salmia Laucheana, 481
Sarracenia, early figures of, 11
Say, M. Léon, 657
Schizocodon soldanelloides, 415
Scopolia carniolica var. Hladnickiana, 419
Senecio sagittifolius, 355; in Uruguay, 357
Sirex gigas, 370
Smilax argyrea, 475
Spot in grapes, Glæosporium læticolor 753

T

Thuris folium cucullatum, 11; T. Limpidi folium L'Obely, 11
Tomato-disease, Cladosporium lyco persici, 753
Tradescantia reginæ, 477
Tsuga Pattoniana, cone, &c., 659
Tubercularia species, 113
Tulip, a florist's, 667

U

Utricularia longifolia, 713

V

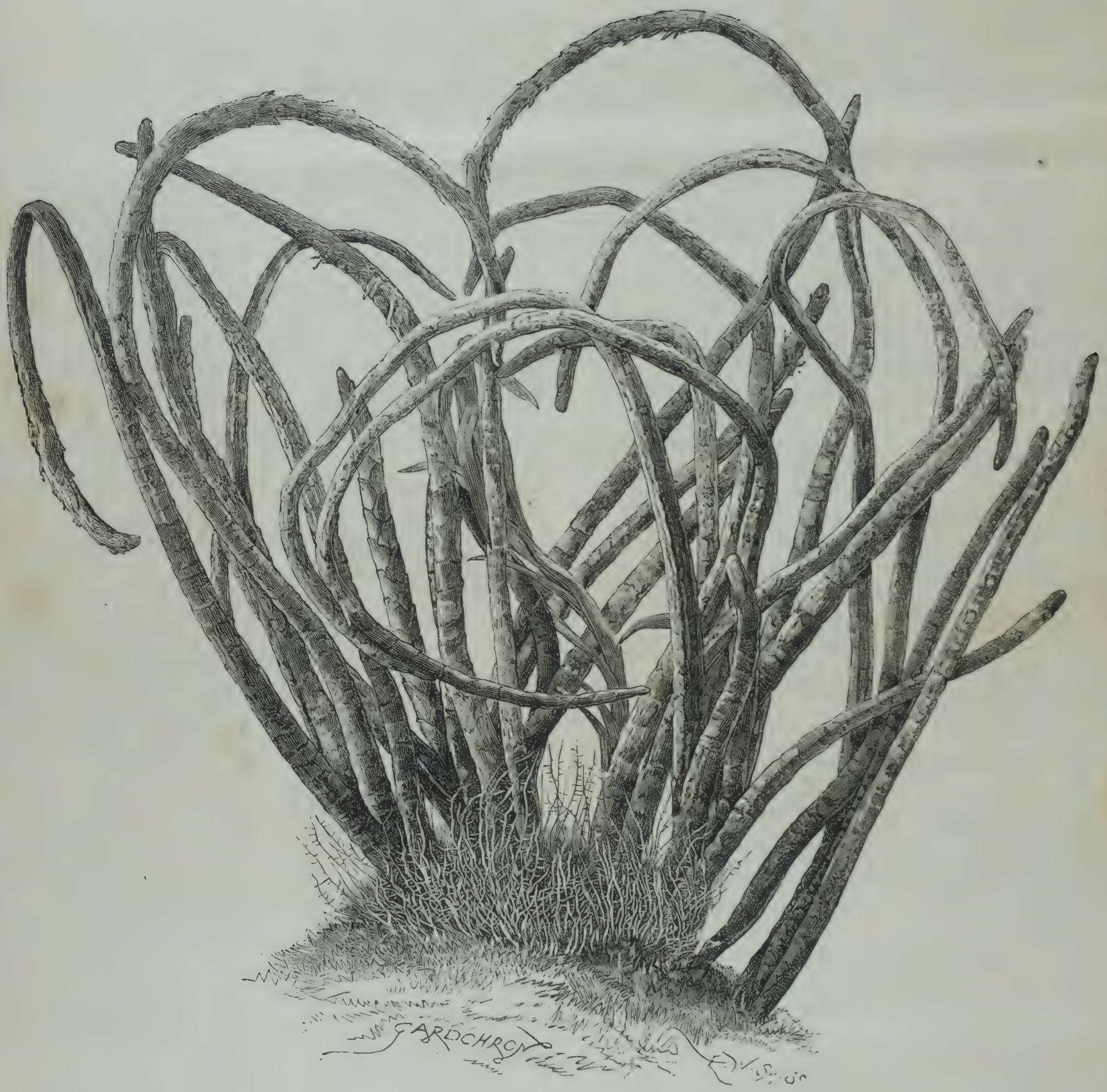
Vinsonia stellifera, 548
Vole eaten Parsnip, 301

W

Weathers, Mr. Jno., portrait of, 637
Westwood, Professor J. O., portrait of the late, 21
Winter Moth, the, 177
Wistaria sinensis in Japan, 233

SUPPLEMENTARY ILLUSTRATIONS.

Baker, F.R.S., Mr. J. G., Portrait of, June 24.
Cocoa-Nut, double, at Kew, January 21.
Dioon pectinatum, at Kew, June 17.
Fairlawn, Wimbledon, views in garden at, March 4.
Fuchsia-house at the Nursery of James Veitch & Sons, February 18.
Macrozamia spiralis, January 21.
Sander, F., & Co., St. Albans, Corridor at, February 4.
Trentham, Flower Garden at, May 27.



MONSTER MASS OF GRAMMATOPHYLLUM SANDERIANUM.

(Showing the long stems or pseudobulbs curved at the extremities, and the curious roots ascending from the base.)

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CONTENTS.

Apple-models 22
Begonia cinnabarina (Hybrida) var. Albo-vittata 19
Book Notices—
Geographical Journal ... 17
Handbook to the Flora of Ceylon 18
Odorographia 20
Cacao 24
Chrysanthemum grafting 18
Cypripedium Albertianum × 19
Foreign correspondence—
Forget-me-Not in California 13
Sunny Italy 13
Washingtonia filifera ... 13
Gardeners' examinations 22
Gardeners' Orphan Fund 16 and 22
Glasnevin Botanic Gardens 18
Grapes, English, in America 24
Hybrids 16
Ireland—
The Lough Nurseries, Cork 23
Keele Hall 10
Law note—
King *v.* End 24
Leaves, the colouring matter of... 18
Novelties of 1892 7
Obituary—
Newberry, Dr. 16
Westwood, Professor J. O. 21
Pea, Sutton's Bountiful ... 23
Phloroglucinol in plants 19
Pitcher-plants and frankincense..... 11
Plants, new or noteworthy
Adiantum Duale ... 10
Oncidium Saintlegerianum 10
Railway rates, the new ... 16
Respiration of plants, and lessened oxygen ... 19
Rose grafting 23
Sarracenia, history of ... 11
Scotland—
Orchids at Oswald House 23
Society—
National Chrysanthemum 24
Spruce, the American Weeping 12
Stenandrium Beeckmannianum 19
Streptogloxinia × ... 19
Syon House, winter flowers at 20
Technical education ... 18
Vine, origin of the colouring matter of the ... 24
Week's work, the—
Apiary, the 15
Flower garden, the ... 14
Forestry 13
Hardy fruit garden ... 14
Kitchen garden, the ... 15
Orchid-houses, the ... 15
Plants under glass ... 14
Worsted *v.* Jute 24

ILLUSTRATIONS.

Keele Hall, Staffs. 9
,, ,, Holly hedge at 17
,, ,, lake at 19
Thuris folium cucullatum 11
Thuris Limpidi folium L'Obely 11
Westwood, the late Professor J. O. 21

ADVERTISERS will greatly assist our efforts to get to Press earlier, by forwarding their favours as EARLY IN THE WEEK as possible.

"Paxton's Calendar," New Edition, "The Cottagers' Calendar of Garden Operations," Price 3d., post-free, 3½d. 41, Wellington Street, Strand, London, W.C.

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E. HILL, The Gardens, Belmont Castle, Grays, Essex, May 16, 1892: "The seeds I had from you are far superior to those of other seedsmen, and I will give you a further order another season."

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Trade Price Current, 1893.

PETER LAWSON AND SON, Limited, Edinburgh, have posted to their Customers their CATALOGUE of KITCHEN GARDEN and FLOWER SEEDS for the present season, and if any have been inadvertently omitted, copies will be forwarded on application.

To the Seed Trade.

H. AND F. SHARPE have posted their GENERAL WHOLESALE LIST to their customers and others, and shall feel obliged if those who have not received it will inform them, and another copy will be sent.

SEED GROWING ESTABLISHMENT, WISBECH.

CHOICE GERMAN FLOWER and VEGETABLE SEEDS.
CATALOGUES free on application.
FRED. RŒMER, Seed Grower, Quedlinburg, Germany.

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DAFFODILS, HYACINTHS, TULIPS, POLYANTHUS, NARCISSI, SCILLAS, SNOWDROPS, SNOWFLAKES, Early GLADIOLI, WHITE LILIES, IXIAS, &c.
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G. A. WILLIAMSON, NURSERYMAN and FLORIST, Smithfield Market, Manchester, is open to RECEIVE CONSIGNMENTS of CUT FLOWERS and MAIDENHAIR FERN ON COMMISSION. Cheques as desired.

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Our business connections being amongst the best houses in London, we are in a position to secure the highest prices for all choice goods. Account Sales forwarded daily, and cheques weekly, or daily if required. Empties and labels supplied. Reference, London and County Bank, Covent Garden Branch.

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December, 1892.

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600 SPIRÆA JAPONICA, 250 dwarf PEARL TUBEROSES, a large quantity of LILY OF THE VALLEY, Berlin Crowns; 200 lots of DUTCH FLOWER ROOTS in variety; SNOWDROPS, CYCLAMEN HEDERÆFOLIUM, LILIUM HARRISII, GLADIOLUS BRENCHLEYENSIS, DIELYTRAS, LILIUMS in variety; HARDY BORDER PLANTS, CARNATIONS, choice-named TULIPS, double and single BEGONIAS, SOLOMON'S SEAL, surplus BORDER BULBS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, January 9, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Wednesday Next.

5900 LILIUM AURATUM
648 ,, ,, MACRANTHUM
2230 ,, SPECIOSUM RUBRUM
1549 ,, ,, ALBUM
250 ,, CORDIFOLIUM
350 ,, ELEGANS
2000 ,, LONGIFLORUM, in twenty cases.

Just received from Japan being the contents of 250 cases.

Also LILY OF THE VALLEY Berlin Crowns; 5000 English-grown and other LILIES; six cases of LILIUM HARRISII; HARDY BORDER PLANTS and BULBS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, January 11, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Blenheim Palace Gardens, near Woodstock.

Important CLEARANCE SALE, absolutely Without Reserve.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions from the Executors of His Grace the Duke of Marlborough, deceased, to SELL by AUCTION, on the Premises, Blenheim Gardens, near Woodstock, on TUESDAY and WEDNESDAY NEXT, January 10 and 11, at 12 o'Clock precisely each day, the whole of the choice

STOVE and GREENHOUSE PLANTS,

comprising 1000 PALMS, consisting of several fine Specimen Kentias, also a large number of smaller plants in No. 48 and 32-pots, and other kinds.

700 SPECIMEN CARNATIONS, SOUVENIR DE MALMAISON,

consisting in equal proportions of the Dark and Pale varieties now coming into flower—the finest lot of plants ever offered; 1000 smaller Plants; also—

5000 TREE CARNATIONS,

comprising all the finest varieties in cultivation; 250 AZALEAS, 300 CYCLAMEN, quantity of EUCHARIS, ASPIDISTRAS, POINSETTIAS, BOUVARDIAS, 150 PANCRATIUMS,

5000 POT ROSES,

Fine POINSETTIAS in Flower; ASPARAGUS PLUMOSA; 1000 CHRYSANTHEMUMS, BOUVARDIAS, Specimen IMANTOPHYLLUMS, some enormous examples of the finest variety of ANTHURIUM SCHERZERIANUM; fine pieces of LAPAGERIA ALBA.

3000 DOUBLE WHITE PRIMULAS,

In flower, a grand lot of plants, and embracing the best varieties; a large assortment of

3000 EXOTIC FERNS,

Comprising the choicest varieties in cultivation, some fine pieces of Stephanotis floribunda, and a great variety of other plants.

May be viewed any day prior to the Sale. Catalogues may be had of Mr. T. WHILLANS, the Head Gardener, on the Premises; and of the Auctioneers, Estate Agents and Valuers, Central Sale Rooms, 67 and 68, Cheapside, London, E.C.

Friday Next, Jan. 13.

ODONTOGLOSSUM EDWARDI,
ODONTOGLOSSUM HALLI,
ODONTOGLOSSUM CIRROSUM.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. Charlesworth, Shuttleworth & Co., Heaton, Bradford, and 213, Park Road, Clapham, S.W., to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY NEXT, January 13, at half past 12 o'Clock, a large and healthy consignment of

ECUADORIAN ORCHIDS,

just received in the best possible condition, consisting of—

ODONTOGLOSSUM HALLI, one of the grandest and best Odontoglossums grown, well adapted for cutting and showing purposes. It is a variable species, and several extraordinary fine forms have been flowered from our previous consignments. There are two distinct varieties—one with beautifully deep-spotted flower and pure white lip, leucoglossum; the other with a yellow lip, larger flowers, but less coloured, xanthoglossum—both varieties are found growing together.

ODONTOGLOSSUM EDWARDI.—The violet-coloured Odontoglossum, a very distinct beautiful species, discovered by our collector, Mr. Ecklaboch. The flowers are produced on large panicles; though individually small, they are nevertheless very effective, on account of their number. Sepals and petals violet-purple, lip of same colour, with sulphur-yellow apex; deliciously-scented; flowering season, end of January to March.

ODONTOGLOSSUM CIRROSUM.—A most charming, elegant species, equally as useful as O. crispum. Flowers creamy, white spotted, and blotched with maroon-crimson; they are borne in great number, on long panicles. This species is very variable, both in form of their flowers and marking of the segments. Many pretty and valuable forms have flowered out of our previous consignments. The plants offered are the large-bulbed type, and the best-conditioned ever offered; they can be recommended with every confidence.

On view morning of Sale, and Catalogues had.

Thursday Next.

IMPORTANT SALE. TO THE TRADE AND PRIVATE BUYERS.

7000 extra-fine AMERICAN PEARL TUBEROSES, Second Portion, just to hand, in splendid condition; 2000 GLADIOLUS LEMOINEI HYBRIDS (the Blotched Butterfly Gladiolus), 1000 GLADIOLUS BRENCHLEYENSIS, extra large roots; 300 very fine Clumps LILY OF THE VALLEY, 300 VALLOTA PURPUREA, 200 DIELYTRA SPECTABILIS, 100 AMARYLLIS JOHNSONII, large Bulbs; 100 CALADIUMS in dry Tubers, very large; CANNAS (Madame Crozy), 3000 JAPANESE LILIES, including auratum, rubro vittatum, rubrum cruentum, album Kraetzeri, Melpomene elegans and longiflorum, all good varieties for Show and Cut Bloom; Lilium umbellatum, L. tigrinum, three varieties; SPIRÆA COMPACTA MULTIFLORA, AZALEA INDICA, amongst them large plants; PALMS in variety; together with the SURPLUS STOCK of DUTCH BULBS from a large London Seedsman.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, January 12, at 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

The Studley Castle Collection of Orchids, Palms, FERNS, STOVE and GREENHOUSE PLANTS, &c.

MR. J. C. STEVENS has received instructions from the Official Receiver in Bankruptcy to SELL by AUCTION, EARLY in FEBRUARY, the valuable COLLECTION of ORCHIDS formed by T. Walker, Esq., of Studley Castle, Warwick, including, amongst others—

Cypripedium Spicerianum, best variety	Dendrobium thyrsiflorum, fine specimens
,, cardinale	Cattleya Warocqueana
,, Schroderæ	Cœlogyne cristata, fine specimen
,, Hincksianum	Lælia anceps alba
,, Haynaldianum	Cypripedium insigne
,, Elliotianum	Lycaste Skinneri alba
,, bellatulum	Maxillaria Lehmannii
,, œnanthum superbum	,, picta
,, Measuresianum	Cymbidium Lowii
Dendrobium prismatocarpum, fine plant	Stanhopea tigrina
	Cœlogyne Massangeana, &c.

Also the well-grown PALMS, FERNS, and other STOVE and GREENHOUSE PLANTS.

Auction Rooms & Offices, 38, King St., Covent Garden, W.C.

Heston, Middlesex.

On the main Bath road, near Cranford, Whitton, Hounslow, Isleworth, &c.

VALUABLE FREEHOLD PROPERTY, comprising about 12 Acres of prolific MARKET FRUIT GARDENS, in a high state of cultivation, and planted with a profusion of the finest Fruit-bearing Trees, together with all the requisite appliances for carrying on the Business of Fruit and Vegetable Growing on a large and profitable scale; also a capital brick-built and slated Residence of 8 rooms, with the usual outbuildings and a Foreman's Lodge, the whole enclosed within fences, and having an extensive frontage to the old Great Bath Road, about 1¾ mile from the L. & S.W.R. Station at Hounslow, within half-a-mile of Hounslow Barracks Station on the Metropolitan Extension Railway, and about 12 miles of Covent Garden Market.

MESSRS. SAMUEL B. CLARK AND SON will offer the above important FREEHOLD PROPERTY for SALE by AUCTION, in one lot, at the Mart, Tokenhouse Yard, E.C., on TUESDAY, January 31, at 1 o'Clock precisely.

Particulars, with Conditions of Sale, may be had of the Solicitors, Messrs. BIRCHAM AND CO., 46, Parliament Street; and of the Auctioneers, at their Offices, 8, New Cavendish Street, W., and 10, Hanover Square, W.

WANTED to RENT, on Lease, about 1 Acre of LAND for a NURSERY, within 15 miles of Covent Garden, with a small Cottage adjoining.—G. H., Mr. James Wingfield, Wedmore Nursery, Bromley, Kent.

WANTED, to RENT or LEASE, GENTLEMAN'S GARDEN or NURSERY, with plenty of Glass. Near good Market Town.—M. T., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, to RENT, about half-an-acre of GROUND, for Flower Culture, either with or without Houses. Neighbourhood of Isleworth preferred.—Address, X. Y., Mr. J. Picknell, 4, Earl's Court Road, Kensington Road.

Cheltenham.

TO FRUIT GROWERS, MARKET GARDENERS, and OTHERS.

TO LET, one of the most valuable MARKET GARDENS in the county. The Property extends over an area of about 11 acres, and is well stocked with the choicest Fruit Trees. The extensive Vineries and Peach-house, together with a pretty Villa Residence, Stabling, Shedding, Piggeries, &c., are all most conveniently arranged upon the property. Ingoing by Valuation. To a moderate capitalist the above offers an exceedingly rare and lucrative investment. Possession at once.

For further particulars apply to S. P. VARDER, Estate Agent, Auctioneer and Valuer, Albion Chambers, Clarence Parade, Cheltenham.

FOR SALE, the prettiest little VILLA RESIDENCE in Brighton; about 140 rods of Ground, Greenhouse, Chicken-runs, &c., Freehold. Well adapted for Greenhouses and Poultry Rearing. Splendid Views. Quite private. Central.—Apply to E. W. CHESTER, 49, Dyke Road, Brighton. No agents.

FRUITERERS, FLORISTS, and GREENGROCERS' BUSINESS for DISPOSAL in first-class suburb, West. Family trade at best prices. Lease, Goodwill, Fittings, and all Trade Utensils, Four Vans, Four Horses, and Two Trucks. Lowest Price, £500. Compact house in capital repair, and Stabling for four horses on premises. Apply, by letter, in first instance, to Mr. W. J. SMITH, House and Business Agent, 232, King Street, Hammersmith.

FOR SALE, a FLORIST'S BUSINESS, with House, at £92 per annum. Same hands 15 years. Double-fronted Shop, West End, doing £1000 a year. Tools included; shop nicely fitted up. Business to be had for £200.—G. LONGHURST, 18, St. Anne's Road, Notting Hill.

FRUITERER'S and FLORIST'S.—Leading position in flourishing West of England Town, doing £1500 yearly, on Lease. Also, the FREEHOLD NURSERIES in connection with the above, being about 4½ acres, including large Dwelling-house, 450 feet run of Glass, and useful Outbuildings. Main Road. Trams pass entrance. Above, together or separate.—Apply, C. C., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

To Nurserymen and Florists, New Southgate.

BUSINESS of a FLORIST.—Greenhouses, Frames, Stock of Bedding Plants, Ferns, &c. Going concern, with Eight-roomed House and Ground. HOUSE to LET. Stock and Fixtures to be SOLD.—For particulars, apply to H., 49, Spencer Street, E.C.

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TO BE DISPOSED OF, the GOODWILL and LEASE of an old-established FLORIST and FRUITERERS' BUSINESS, situate in a Central Position in one of the Foremost Watering Places in England. There is a large Garden in connection with the business, with 300 feet of Glass, nearly all of which is heated, and Stocked with Vines, Peach Trees, &c. More land may be had if required. The Owner, who is retiring, is desirous of selling the Goodwill, and will grant a fourteen years' lease; or he will be disposed to consider offers for the Purchase of the Property. The premium required would include the business plant and fixtures, stock and growing crops as at the time of transfer. For particulars address T. L., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

Fifty Nurseries, Market Gardens, Florist and Seed BUSINESSES to be DISPOSED OF.

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50,000 EUONYMUS, Green and Golden, all splendid bushy plants.—GREEN: 9 in. to 12 in., at 25s. per 100; 12 in. to 15 in., at 35s. per 100; 15 in. to 18 in., at 50s. per 100; 18 in. to 21 in., at 70s. per 100; 21 in. to 24 in., at 95s. per 100; 30 to 40 in. at special prices.

GOLDEN: 5 in. to 12 in., at 4s. to 9s. per doz. Cash with Order. J. J. CLARK, Goldstone, Brighton.

BEGONIAS A SPECIALTY. — Awarded Four Gold Medals, Gold Cup, and only Gold Medals for Begonias at the International Horticultural Exhibition.

Seed saved from Prize Plants. Choicest mixed, single or double varieties, 1s., 2s. 6d., and 5s. per packet. Collections (Seed), single, twelve named varieties, separate, 5s. 6d.; six ditto, 3s. Tubers, named singles, from 18s. to 42s. per dozen. Choicest Seedlings, 4s. to 21s. per dozen; bedding, choicest, 4s., 5s., 6s., and 9s. per dozen; choicest name doubles, from 24s. per dozen; choicest seedlings, 12s. to 30s. per dozen; choicest mixed, for bedding, 9s. and 12s. per dozen. Catalogues gratis.

JOHN LAING AND SONS, Begonia Growers, &c., Forest Hill.

BARR'S SEEDS, BULBS, AND PLANTS.

VEGETABLE SEEDS.—The best sorts only. Much valuable information. CATALOGUE FREE ON APPLICATION

FLOWER SEEDS.—Upwards of 2000 species and varieties, all decorative kinds. CATALOGUE FREE ON APPLICATION.

BULBS.—Gladioli, Lilies, Anemones, Ranunculus, Hyacinthus candicans, Tigridias, &c., for Spring Planting. LISTS ON APPLICATION.

PLANTS.—Michaelmas Daisies, Perennial Sunflowers, Double and Single Pæonies, Irises, Oriental Hellebores, Carnations, &c. LISTS FREE ON APPLICATION.

BARR AND SON, 12, King Street, Covent Garden, London.

FERNS! FERNS!!—Trade.—Greenhouse and Stove, 25 saleable sorts, in 2½-in. pots, 12s. per 100; 10 best market sorts, in 48's, 6s. per doz.; stores, 6s. per 100. Large Adiantum cuneatum, value in fronds, 6s. and 8s. per dozen. Cyperus, Aralias, Solanums, and Grevilleas, in 48's, good value, 6s. per dozen. Palms, Ficus, Erica hyemalis, Cyclamen, and Dracænas, in 48's, 1s. each. P. tremula and A. cuneatum, for making large plants quickly, 16s. and 20s per 100, well packed, put on rail free for cash with order.—J. SMITH, London Fern Nurseries, Loughboro' Junction, London, S.W.

THE LIVERPOOL HORTICULTURAL CO

(JOHN COWAN), Limited,

THE VINEYARD AND NURSERIES,

GARSTON, NEAR LIVERPOOL.

Have this season splendid stocks of the following:

GRAPE VINES,

For fruiting in pots and planting Vineries.

TEA and other ROSES, in pots.

ERICAS, AZALEAS, PALMS,

FERNS, &c., &c.

CATALOGUES, with full particulars, post free on application.

Special Quotations to the Trade.

Fruit, Vegetable, and Flower Section,
LONDON CENTRAL GENERAL MARKET, SMITHFIELD.

NOTICE is HEREBY GIVEN, that with a view to give a further impetus to the Trade of this Market, the COLLECTION of the TOLLS, as set out in the Bye Laws of the Bye Laws, will, except in certain specified cases, be SUSPENDED for a period of twelve months, commencing on MONDAY, January 2, 1893.
Guildhall, E.C., December, 1892. MONCKTON.

Enoch White, deceased.
Pursuant to the Statute 22 & 23 Vict. c. 35.

NOTICE IS HEREBY GIVEN, that all persons having any claims or demands against the estate of Enoch White, late of No. 23, Holdenhurst Road, Bournemouth, in the county of Southampton, Nurseryman and Florist, deceased (who died on the 4th day of January, 1890, and whose will was proved in the Principal Registry of the Probate Division of Her Majesty's High Court of Justice, on the 15th day of May, 1890, by John James Dacombe, of Bournemouth aforesaid, Decorator, and Henry Pratt Moore, of the same place, Coachbuilder, the executors), are hereby required to send the particulars, in writing, of their claims or demands to us, the undersigned, the Solicitors for the said executors, on or before the 31st day of January, 1893; after which date the said executors will proceed to distribute the assets of the said deceased amongst the persons entitled thereto, having regard only to the claims and demands of which they shall then have had notice; and that they will not be liable for the assets of the said deceased, or any part thereof, so distributed, to any person or persons of whose claims they shall not then have had notice.—Dated this 23rd day of December, 1892.
J. AND W. F. DRUITT, Borough Chambers, Bournemouth, Solicitors for the Executors.

The Bournemouth and Victoria Nurseries,
SPRINGBOURNE.

MR. F. A. WHITE begs to announce, that having PURCHASED the ABOVE NURSERIES from the Executors of his Father, the late Mr. Enoch White, he now proposes to CONTINUE there the BUSINESS for so many years carried on by his late Father, and to solicit a continuance of the support for so many years accorded to the late Mr. Enoch White. The business will be carried on under the style of "ENOCH WHITE AND SONS."

FOR ORCHIDS and GARDENERS to Grow Them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—20 minutes from St. Pancras.

FRUIT TREES. — Apples, Pears, Plums, Cherries, per 100 or 1000. Prices on application.
FLETCHER BROS., Ottershaw Nurseries, Chertsey.

20,000 PRIZE COB FILBERT TREES in full bearing. Apply to—
Mr. COOPER, F.R.H.S., Western Elms (late of Calcot Gardens), Reading.

Novelty for 1893.

VARIEGATED HOP.—Most ornamental and fast-growing climber. See report of the *Gardeners' Chronicle* of Oct. 8, 1892. Descriptive LIST free on application.
FRED. BOEMER, Seed Grower, Quedlinburg, Germany.

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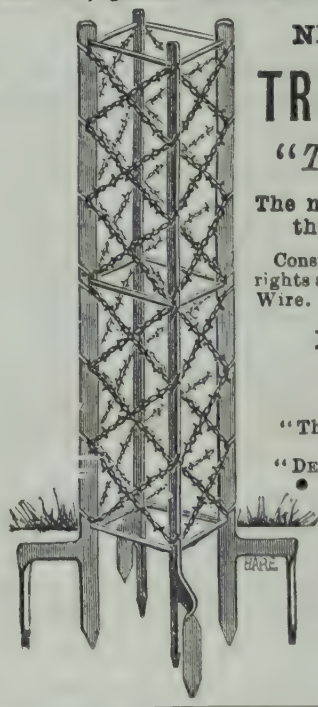

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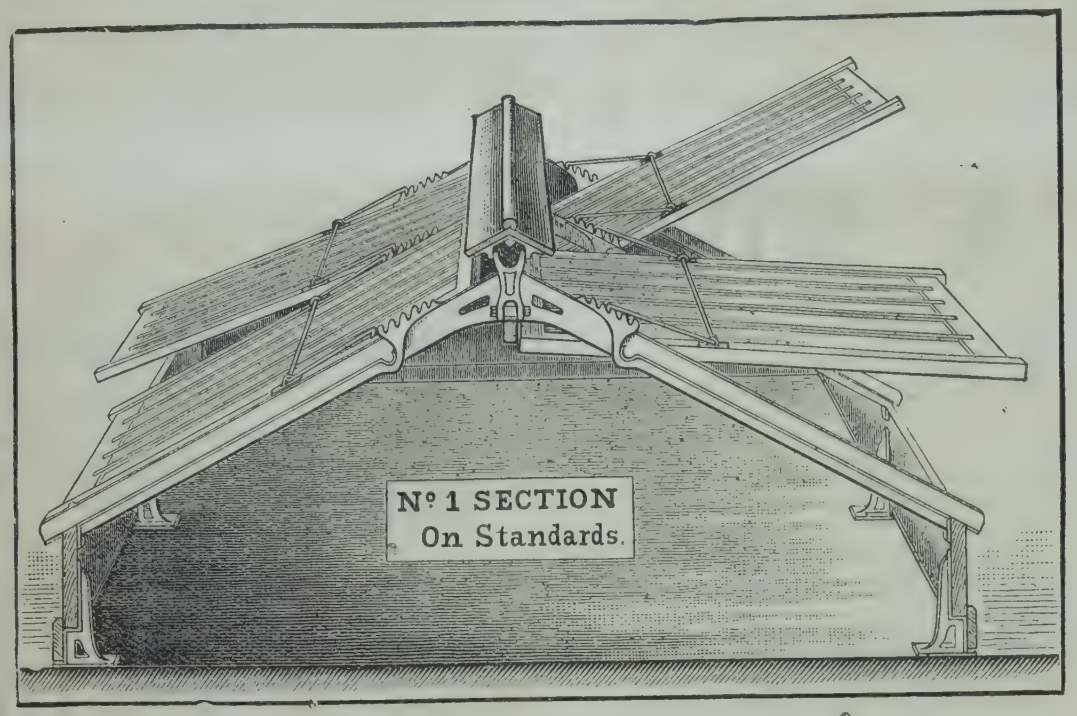

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THE
Gardeners' Chronicle.
SATURDAY, JANUARY 7, 1893.

NOVELTIES OF 1892.

THIS year, as in some former ones, before sitting down to make our usual review of the plant gains to our gardens during the past year, we harboured the notion that the task would be light, but on looking over our running notes we find producers and introducers of novelties have not been idle during the interval, and the leading trade firms especially have well fulfilled the demands of progress.

The Orchids, as usual of late years, present themselves prominently in their two main divisions, viz., the imported novelty and the home-raised hybrid or cross-bred plant. In both these classes, the seeker after that which is excellent, is confronted by some difficulties; in the case of imported plants, through description based often on imperfect material, or on the collector's estimate of his discoveries; and in the matter of the hybrids and cross-breds, by the same results having been attained by different persons each of whom gives a different name to his novelty. Nevertheless, plants of excellence, both imported and home-raised, are soon singled out from the worthless or indifferent, and do not, as a rule, fall into the ranks of those of small value. Let us touch on our home industry first, and note some of the results of the hybridist's work.

Messrs. Jas. Veitch & Son stand well to the front; their hybrids of Cattleya, Lælia, Sophronitis, &c., would each of them make glad the heart of a collector of wild specimens in the tropics, and they are not the less acceptable that they are our own garden products. Indeed, the cost of raising and rearing good hybrids is equally as great as that of importing from the distant tropics, if the time, patience, skill, and expense on the one hand, are put against the sums staked on short-time ventures in the other.

Around the various crosses made with Sophronitis grandiflora as one parent, at Messrs. Veitch & Son's, much interest centres, as out of them large and gorgeously beautiful flowers, of glowing tints, are obtained on plants comparatively dwarf in stature. Following their charming Sophro-Cattleya Batemanniana and Epiphronitis Veitchi, they have flowered for the first time Sophro-Cattleya Veitchi × (S. grandiflora ♀, L.-C. elegans ♂), a lovely thing with showy flowers of a clear rosy-red, slightly orange-tinted and beautifully veined; and S.-C. Calypso × (S. grandiflora ♀, C. Loddigesi ♂), a glowing rose-pink flower with orange centre, both first-class novelties; Lælia Latona × (cinnabarina ♀, purpurata ♂) is another great acquisition, the bright yellow of

its sepals and petals and glowing purple of its beautifully-veined lip being very attractive features. All crosses with Lælia and Cattleya are sure to be acceptable, and the Lælio-Cattleya Cassiope× (L. pumila ♀, L.-C. exoniensis ♂), with large bright rosy-crimson flowers; Cattleya Philo ×, and C. P. albiflora ×, both the result of crossing C. Mossiæ with the singular and extremely rare C. iricolor; C. Minucia ×, (C. Loddigesii ♀, labiata var. ♂); C. leucoglossa × (Loddigesii ♀, Fausta ♂), with wax-like rose and white flowers, with rich yellow base to the lip; and the pretty little Lælia Aurora ×, have all been much admired by those who have seen them, and may be relied on to develop greater beauty when strong, for it is one of the difficulties which rare and difficult crosses have to contend with, that they have to pass under judgment with the first, and often imperfect flowers. In the great genus of Cypripediums, which are being worked by the hybridist on every hand, Messrs. Veitch have contributed during the past year some fine varieties in C. Adrastus × (Leeanum ♀, Boxalli ♂), C. Brysa × (Sedeni candidulum ♀, reticulatum ♂), with charming blush-coloured flowers, having a pale green tinge, and which, like the curiously-tinted C. Cleola ×, has many admirers; C. Ianthe × (Harrisianum ♀, venustum ♂), C. Telemachus × (niveum ♀, Lawrenceanum ♂), a fine improvement on its relative, C. Aphrodite; C. Evenor × (Argus ♀, bellatulum ♂), a grand variety resembling a massive C. Marshallianum ×; C. Arète (concolor ♀, Spicerianum ♂), beautifully spotted, and somewhat resembling C. microchilum ×; C. Tityus × (Spicerianum ♀, œnanthum superbum ♂), C. Perseus × (Sedeni porphyreum ♀, Lindleyanum ♂), C. Arthurianum pulchellum ×, and C. Eurylochus × (ciliolare ♀, hirsutissimum ♂).

Among other fine hybrids of the year raised by Messrs. Jas. Veitch & Son, specially remarkable are Epidendrum Endresio-Wallisii × (Endresi ♂, Wallisi ♀), a charming novelty with the violet tint finely developed in the blooms; Dendrobium Euryclea × (lituiflorum ♀, Wardianum ♂), a pretty companion to the favourite D. micans ×; Zygopetalum leucocheilum × (Burkei ♀, Mackayi ♂), in which the large white labellum is a distinct feature; and Phalænopsis Artemis × (amabilis ♀, rosea ♂), a pretty rose-coloured hybrid, bearing some resemblance to P. intermedia ×, which, as has been proved by seedlings raised by Mr. Seden, is P. Aphrodite × rosea, and thus the P. Artemis × of Messrs. Veitch has the true P. amabilis, Bl., for one of its parents, instead of P. amabilis, Lindl. and Hort. (P. Aphrodite, Rchb.).

Messrs. F. Sander & Co., of St. Albans, have long ago taken the lead as importers of Orchids, and in the matter of home-raised hybrids they come well to the front, their imported novelties and their hybrids during the past year equalling each other in excellence. Cypripedium Chamberlainianum, one of the most distinct, beautiful, and easily cultivated of all Cypripediums, is among their best; C. exul and other species or new varieties were also introduced. Cattleya Victoria Reginæ comes next, its large wax-like, clear rose-coloured flowers being superb. Unfortunately the importation was mixed, and although the C. Leopoldi Pernambuco var. imported with it, brought some grand varieties, it would have been better if a greater proportion of C. Victoria Reginæ had appeared; probably the next batch to flower will be all right. Messrs. Sander also share with M. Linden, the honour of having introduced C. Alexandræ. From both sides of the water the introduction was heralded with a great flourish of trumpets, but on the plants flowering, the music dwindled to the veriest squeak. Out of these large importations some fine varieties are sure to be found; but, on the whole, it would have been better to have selected something more ornate with which to honour our favourite Princess.

The St. Albans strain of Cattleya labiata vera was fortunate during the past year in producing grand novelties, the best of which are C. l. Sanderæ, C. l. albanensis, and the pure white C. l. alba, exhibited recently from the collection of M. Wells, Esq. Cattleya Amesiæ is a grand white Cattleya, and C. speciosissima Sanderiana, a noble white and fragrant variety; C. Oweniana, like a cream-white petalled C. Hardyana ×, but distinct enough to warrant a separate name; and the various new varieties of the St. Albans importations of C. granulosa and C. g. Schofieldiana, and notably the almost entirely purple-petalled C. g. princeps and C. Batalinii are all fine gains to our gardens, and admittedly new and pretty.

Of the genus Odontoglossum, which it was prophecied long ago as getting near to the end of its tether, so far as showy novelties were concerned, Messrs. Sander have belied the prediction by exhibiting several grand novelties during the year, the more remarkable of which were the large richly-spotted O. crispum Sanderæ, O. c. Wellsianum, some fine forms of O. Pescatorei, the beautiful O. Louryanum, O. Owenianum, O. Amesiæ, and O. Wendlandianum, all of which are probably natural hybrids which have been accorded specific rank. Of the allied genus, Miltonia vexillaria, M. Roezlii and their crosses; M. Bleui splendidissima, M. Roezlii, Sander's var., and eight varieties of M. vexillaria were awarded First-class Certificates when shown. Other new things of 1892, hailing from St. Albans, were Aërides Balfouri, a curious white species; Angræcum O'Brienianum, with large thick leaves and long racemes of white fragrant flowers, larger than those of A. Chailluanum; A. polyurum, Sobralia xantholeuca rubra, Schomburgkia Ericssoni, Phaius Sanderiana, the noblest of Phaius; Oncidium Rolfeanum, O. Gravesianum, and several other Oncidiums; Lycaste Skinneri var. F. L. Ames, and L. S. Mrs. F. L. Ames, a very handsome couple; several new Epidendrums; and out of their importation of Dendrobium Phalænopsis Schroderianum, D. P. Rothschildianum, a fine white variety with blush tinge; Cymbidium Humblotii, with stout erect spikes of emerald green and black flowers, as showy as those of Cœlogyne pandurata, which they much resemble; Calanthe Sanderiana, the showiest of the Calanthes of the C. veratrifolia section; Vanda Arbuthnotiana, some Cyrtopodiums, Disa Cooperi (new to cultivation), and other things, about which more will be known during the present year.

Of the St. Albans hybrids, Cattleya Burberryana × (C. intricata ♀, C. superba ♂), which was awarded a First-class Certificate at the Royal Horticultural Society on April 19, 1892, is a very showy plant; Lælia Oweniana (L. pumila Dayana ♀, L. xanthina ♂), a pretty hybrid; Calanthe orphanum, a variety with unrecorded parentage; Cattleya Parthenia nobilis ×, the best of its class; and Phalænopsis Amphitrite × (Stuartiana × Sanderiana) and Lælia Gravesiæ, both good.

Of the genus Cypripedium, Messrs. F. Sander & Co., during the past year, have flowered no less than two dozen distinct new hybrids, all of more or less beauty, but whose respective merits space forbids us to attempt to define.

In Baron Schroder's famous garden at Egham, many fine new plants have flowered, and among them, perhaps, the most beautiful has been his hybrid Cattleya × Baroness Schroder (C. Trianæ ♀, Jongheana ♂), a most beautifully-formed flower, of a clear rose-pink, with white and yellow throat, and finely-crimped lip. Three magnificent new forms of Odontoglossum crispum have there appeared, in the heavily-spotted beautiful O. c. var. nobilior, O. c. Rex, and O. c. var. Wolstenholmæ, the last variety having been exhibited before, but never in such superb condition as seen at the first June meeting of the Orchid Committee of the Royal Horticultural Society in 1892.

Sir Trevor Lawrence, Bart., has, as usual, flowered and exhibited many new Orchids, the Burford-raised hybrid Cypripedium Lawrebel × (Lawrenceanum ♀ × bellatulum ♂), in the front rank of hybrid Cypripediums. The beautiful hybrid Calanthes, too, raised in the same gardens, have culminated in a variety with blooms of the purest white, and also in C. × sanguinaria, whose blooms are of the richest crimson. Dendrobium Burfordiense × (Linawianum × heterocarpum) is a pretty Dendrobe, and as shown towards the end of last year, Cypripedium Morganiæ Burfordiense × is the finest form of a very fine hybrid. Among novelties in botanical Orchids the Burford collection has always a store; and among the Bulbophyllums, of which there is a fine collection there, the handsome citron-yellow B. Sillemianum has found a home as a rescued species, the type-plant described by Reichenbach for Mr. Sillem having nearly departed, when another plant was imported by Messrs. Hugh Low & Co., and was fortunate in going into the Burford Collection. The beautiful Spathoglottis rubra also flowered at Burford.

As a raiser of fine hybrid Orchids, Norman C. Cookson, Esq., of Oakwood, Wylam-on-Tyne, is a leader among the amateurs, and among his last year's contributions, Lælio-Cattleya Phœbe × (C. Mossiæ ♀, L. cinnabarina ♂), is a charming plant, the rich Indian yellow of its sepals and petals, and the glowing purplish-crimson of the front lobe of the lip, making these valuable additions to a class of colours in Orchids which only the practical hybridist appears able to evolve. Cypripedium Bryan × (philippinense ♀, Argus ♂) is a noble flower, and C. Youngianum superbum and C. Calypso × Oakwood var. great improvements, while the charming white Dendrobium Cassiope × (moniliforme ♀ (japonicum) nobile albiflorum ♂) rivals in favour the more showy D. Venus × of the same raiser. Charles Winn, Esq., of Selby Hill, Birmingham, gave evidence during the past year that he is now about to reap the reward for his years of intelligent intercrossing of Orchids. His Cypripedium Cleopatra ×, C. Edith Winn ×, Dendrobium Nestor, and others being good, but the finest hitherto is the magnificent Cymbidium Winnianum × (giganteum ♀, eburneum ♂), a specimen of which, with fine spikes, bearing together about forty flowers, was shown in November last. In size and form, the flowers resemble those of C. giganteum, but they are of ivory-white with purple spots and lines on the lip.

Messrs. B. S. Williams & Son, of Victoria and Paradise Nurseries, Upper Holloway, have in the beautiful groups regularly staged by them at the Royal Horticultural Society's meetings, often displayed the beauties of their handsome Cypripedium Pitcherianum, Williams' var., by far the finest of its class; and also others, including the new yellow Lycaste Youngii, a fine form of the white Lælia Perrinii nivea, &c.

Chas. Ingram, Esq., of Godalming, has flowered several new hybrid Orchids, of which Lælio-Cattleya Ingrami × (L. pumila Dayana ♀, C. Dowiana aurea ♂); and Cypripedium gigas × (Lawrenceanum ♀, Harrisianum nigrum ♂), are worthy to take their place among the best; Drewett O. Drewett, Esq., of Riding Mill-on-Tyne, another hybridist, has the pretty Cypripedium Juno × (Fairrieanum ♀, callosum ♂) and C. Ceres × (hirsutissimum ♀, Spicerianum ♂).

between L. albida and L. anceps Sanderiana; and G. D. Owen, Esq., Selwood, Rotherham, late in the year flowered Lælia anceps Oweniana, a grand flower with flaked segments; and Cattleya amethystoglossa, Selwood var.

Messrs. Hugh Low & Co., are continually importing Orchids, and they frequently get novelties sent to them—one of the most extraordinary of which was their Cattleya Schilleriana Lowii, in which the labellum is white veined with blue,

Lælia elegans, viz., L. e. superbissima and L. e. excellens.

R. Brooman White, Esq., of Arddarroch, whose collection of Cattleyas is very complete, has reached perfection of beauty in C. Mendeli Mrs. R. Brooman White; and C. J. Lucas, Esq., of Warnham Court, flowered the large new Sobralia Lucasiana, Lælia furfuracea, Lucas var., and the extraordinary Lælia grandis, Warnham Court variety.

FIG. 1.—KEELE HALL, NEWCASTLE-UNDER-LYME. (SEE P. 10.)

Sir Wm. Marriott, of Down House, Blandford, has produced a most extraordinary plant in Lælio-Cattleya Marriottiana × (L. flava ♀, C. Skinneri ♂). Messrs. Heath & Son, of Cheltenham, a taking variety in Cypripedium Swinburnei × (insigne Maulei ♀, Argus Mœnsii ♂); Captain Vipan a welcome novelty in Cyripedium Vipani × (lævigatum ♀, niveum ♂); W. Thompson, Esq., of Stone, the pretty hybrid Masdevallia between tovarensis and Veitchii.

C. W. Fincken, Esq., of Barnsley, has been fortunate enough to flower out of an importation by the Liverpool Horticultural Co., Lælia × Finckeniana, a supposed natural hybrid much like that of Zygopetalum Mackayi. Messrs. Low also flowered the new dwarf crimson Sobralia Lowii, the singular Stanhopea Lowii, Low's variety of Cypripedium Volonteanum, Lælia claptonensis (Dormani × elegans) and Phalænopsis Schilleriana purpurea.

Thos. Statter, Esq., of Stand Hall, Whitefield, Manchester, who grows only good things, sent good samples of them to the meetings of the Royal Horticultural Society last year, specially fine being the magnificent white-petalled Cattleya Statteriana, which is a worthy companion to the bright yellow C. aurea Statteriana; and two superb forms of the Turneri section of

Messrs. Linden, of l'Horticulture Internationale, Parc Leopold, Brussels, have, among other fine new plants exhibited the beautiful white Zygopetalum Lindeni, the richly purple-spotted Odontoglossum Pescatorei Lindeniæ, O. P. maculatum, the clear yellow O. triumphans chrysanthum, and O. Insleayi Lindeni, the singular-looking Coryanthes leucocorys, Cyrtopodium Aliciæ, Cycnoches peruviana, Mormodes Rolfeanum, &c.

Messrs. Charlesworth, Shuttleworth & Co., famed for fine Odontoglossums, have a very handsome novelty in O. Wilckeanum nobilius; a grand thing in Lælia præstans, Heaton var.

(which, however, they say is closely approached by others in their importation of it), and they have during the past year flowered several new botanical Orchids, amongst them Pleurothallis teretifolia.

Messrs. Pitcher & Manda of the United States Nurseries, Hextable, a great store of rare Cypripediums, &c., flowered Cypripedium Stonei candidum almost entirely ivory-white; C. Niobe, Shorthills var., &c.

Messrs. Lewis & Co. of Chase Side, Southgate, N., exhibited three fine plants in Cypripedium Southgatense ×, a bellatulum cross; the clear greenish-yellow Cymbidium Lowianum viride, Disa incarnata, with scarlet and yellow flowers; R. I. Measures, Esq., of Camberwell (who also first flowered Cypripedium exul, and the charming C. insigne, Cambridge Lodge var.), was fortunate enough to bloom Odontoglossum platycheilum; and the handsome Moorea irrorata, from the Royal Botanic Gardens, Glasnevin, Dublin, received a merited First-class Certificate; while various other novelties are the white Masdevallia Harryana Gravesiæ, of Mr. H. Graves of Orange, New Jersey, U.S.A.; the beautiful Bulbophyllum O'Brienianum, Vanda vitellina of Messrs. Seeger & Tropp, Coryanthes Wolfiana and Lælia anceps Wellsiana of the Liverpool Horticultural Company, the pure white Vanda teres alba, of Lord Rothschild; the massive Cypripedium Cowleyanum ×, of F. G. Tautz, Esq.; and many curious botanical Orchids.

The following novelties in Orchids have been illustrated in the *Gardeners' Chronicle* in the past year:—

Cattleya Victoria Reginæ, June 25, pp. 808 809.
Cypripedium Chamberlainianum, Feb. 20, p. 241.
Cypripedium exul, April 23, p. 523.
Cypripedium Lawrebel ×, April 30, p. 560.
Disa incarnata, May 14, p. 618.
Disa Cooperi, September 3, p. 269.
Lælio-Cattleya Phœbe, June 18, p. 791.
Masdevallia Gravesiæ, July 30, p. 131.
Moorea irrorata, April 16, p. 489.
Mormodes Rolfeanum, February 13, p. 203.
Odontoglossum crispum var. nobilior, February 20, p. 235.
Odontoglossum platycheilum, May 7, p. 587.
Oncidium Gravesianum, May 21, p. 651.
Zygopetalum Lindeniæ, February 6, p. 172.

(To be continued.)

New or Noteworthy Plants.

ADIANTUM DUALE, *Jenman, n.sp.*

Root-stock woody, oblique or decumbent, clothed with dark scales; stipites tufted, strong, stiff, dark, channelled, naked, or with a few small scales at the base, rachis similar; fronds oblong-lanceolate, pinnate, firm and stiff, dark glossy green, paler beneath, glabrous, ½ to 1¼ feet high, 2½ to 5 inches in width; the base truncate, gradually reduced at the top to the lobate-serrate acuminate apex; pinnæ spreading obliquely, oblong-lanceolate, acuminate, 1½ to 3 inches high, ⅓ to 1 inch in breadth, the base cut away shortly on the inferior side, the upper side expanded and often auricled, petiolate, the lower freely so, the margins conspicuously lobate-serrate, incised; veins once or twice forked, curved, the inferior fascicled or again pinnatiform; sori linear, ¼ to ¾ inch, in length, forming a single or double series on each side, diverging from the mid-vein at a narrow angle, single or double; involucres narrow, firm, even—Jamaica, locally frequent in the central parishes at the mean and higher elevations; gathered in St. Ann and Clarendon. The large fronds only have the sori diplazioid, and this character with the sharp and uniformly grouped teeth of the margins, readily characterise it from A. falcatum (A. crosum, Nutt.), which of local species it most resembles, and its other near allies A. macrophyllum, Swartz; A. Gardneri, Baker; and A. caudatum, Forst., of the eastern and southern hemispheres. *G. S. Jenman, Demerara.*

Oncidium Saintlegerianum.

I fear the figure of Oncidium spilopterum, *Bot. Reg.*, xxxi., t. 40, has been overlooked when this plant was described. When I saw the plants recently imported as a new species, I was sure I had grown it before. Later, Mr. C. J. Lucas sent me two flowers which I at once recognised as the plant I had years ago as O. spilopterum (a species which I think has been erroneously included by some in O. Batemanianum). At all events, so far as I can see, the plant described as O. Saintlegerianum is exactly that figured as O. spilopterum. As tending to show the inadvisability of making a specific difference in a slight but not constant feature, I may say that the two flowers sent by Mr. Lucas had in the one the small yellow-tipped side lobes to the labellum as in the *Bot. Reg.* figure, while in the other the side lobes were very large and brightly coloured. *James O'Brien.*

Orchid Notes and Gleanings.

ORCHIDS AT BYSTOCK, EXMOUTH.

Among the many Orchids now in flower at Bystock, under the able management of Mr. Swan, I observed, during a visit last week, a very fine lot of Calanthes, mostly of C. vestita, in 7-inch pots, carrying six to eight grand spikes, with upwards of forty flowers each on a large proportion of the spikes. For compactness and general good quality, it is seldom that a finer lot is seen. Cypripediums, of which there are many unflowered seedlings, looked in the highest health. Lælia anceps, and two large plants full of flower, of Restrepia elegans, were very fine. *Hy. J. C.*

KEELE HALL.

(see figs. 1 & 4.)

The first authentic owners of the Manor of Keele were the Knights Templars. When that order was abolished, it became the property of the Knights Hospitallers. At the Reformation, Henry VIII. sold it to Sir William Sneyd, of Bardwell. His son, "Raufe Snead" built there, according to Erdeswick, "a very proper and fine kind of house." The same quaint old historian attributes to this same fine old gentleman every virtue "in all good sort increasing his patrimony." The date of the sale was 1581, so the Sneads, or Sneyds, as the name is spelt now, have held Keele over 300 years; the family, however, can be traced back to Edward I.'s time. It was not the fault of Cromwell's Ironsides that Keele escaped, for the then owner (to use a Græcism) was Colonel Ralph Sneyd, who was heart and soul a royalist. In 1855 the present hall was built by another Ralph Sneyd, of red sandstone, in the same style as the former, namely, Elizabethan. There are some fine Old Masters in the house, also two of Sir Joshua Reynolds; but the picture that interested me most was the picture of the builder of the first house, "Raufe Sneade." The hall is situated on rising ground, and commands a view of pleasantly diversified parkland. Everything that could be thought of to make the grounds beautiful has been done. Indeed, Erdeswicke's words about the county of Stafford, "*terra sua contenta bonis*" might very fitly be applied to Keele.

The beautiful pleasure-grounds at Keele are divided, like omnis Gallia, into three parts—the first part near the house, the second above the kitchen garden, and the third beyond the kitchen garden. It is very surprising, as well as charming, to have fresh beauties thrust upon you in the way these are here. The windows of the south-front of the house look out upon a geometrical flower garden with clipped Yews at the salient angles, and a tastefully-designed fountain. A well-kept lawn divides this from the park. The west side causes one to linger a much longer time, because below the eyes at the foot of a sloping green sward, lies glittering the pretty lake. For its size this is the most tastefully designed piece of artificial water I ever saw, and this opinion was strengthened on descending the green carpet from the terrace to walk round it. The mantling with trees, with vistas cut through them of the further side, contrasted prettily with the shaven lawn on the nearer, and the meandering outline of both banks gave a river-like appearance. It was hard at last to tear oneself away, and one did so only with many fond looks.

To get to pleasure-ground No. 2, one has to go through what is called the Fern-drive. It is so-called because a deep cutting has been driven through the new red sandstone, to avoid making a *détour*. The sides of this cutting are so thickly clad with hardy Ferns, that the rock is quite obscured by their green fronds. Above the kitchen garden is a long straight terrace-walk, with a line of gaunt ancient Spanish Chestnuts the whole of the length of it. These wind-tossed seasoned trees must have seen come and go many generations of Sneyds. For about 50 yards at the end of the walk a line of tall Scotch Firs, with bare, brown, tapering trunks, form an avenue with the Chestnuts. The contrast between the habits of these trees was very striking. In the background and on the way to the last of the pleasure grounds were plantations of Rhododendrons, which, if they do not grow so luxuriantly as at Trentham, are evidently quite at home.

I was quite ready to admit at this point that Keele had a right to be content with its good and pretty things, but I had yet to see what will ever distinguish Keele in my mind, i.e., the third and last of our divisions. The first sensation was one of wonder, coming suddenly as we did on the "Great Holly Hedge." The reader must try to imagine a long dark green ridge of Holly, 10 yards thick, and about 25 feet high, closely clipped, with scarcely a break or flaw the whole length. Its evenness for such a long distance is very wonderful. A short hedge, right angles to the main one, has a high archway cut in it. But it is well worth the trouble taken to keep it in such splendid condition, for a Holly hedge of this size does not exist anywhere else, and it is very doubtful if one again could ever be grown to the same perfection. A broad walk goes the whole length of the hedge. At the start on the left, is the Italian garden, a parterre with beds of Pelargoniums and the other usual bedding-out plants, and "relieved from dryness by statuary" (to quote Sir William Temple). The view will give the best idea of what succeeds, and further on comes a broad expanse of lawn covered with Conifers, and here and there groups of choice shrubs. An avenue of Deodars, about 20 feet high, are at the age when they look most beautiful in our climate, on account of their fresh glistening foliage. When exposed to cold winds they soon look sad and weary, but at this stage they are exquisitely pretty, especially in the early morning, when "dew-diademed, they salute the sun." A circle of conical Cupressus Lawsoniana are slightly higher than the Deodars, and this tree also has a bright vivid hue all its own. The fact of their all being of the same height creates the idea that trees must have some sense of rivalry. In a wood they all grow fast to get an equal share of the light; but the same explanation would not hold good here.

Conifers, standing on a lawn as here, and each showing its separate mould and features, produce a very beautiful effect. This effect is still more noticeable with our own indigenous trees when growing in the park; for, as one star differeth from another in glory, so do the trees.

A grass-walk is constructed down the middle of this part of the grounds; at the end, for a considerable distance, is a herbaceous border on both sides. It was as gay and varied as it well could be made. Hydrangeas, Lilies, Tritomas, Phloxes, Asters, Rudbeckias, Helianthus, and other bright flowers, were all glancing in the sunlight. The prevalence of yellow flowers suggested Campbell's lines—

"Yellow flowers of autumn, how beautiful ye are,
Shining from your glossy stems like many a golden star."

As Mr. Wolley Dod and Mrs. Sneyd are great friends, it is only natural that this border should be a great success, for no one could give better advice on its management than Mr. Dod.

The kitchen garden is not large, but it is very well cultivated. The houses are very interesting, and are not merely filled with small Palms and plants for decoration. What a world of contempt some gardeners put into the word "decorative stuff!" The most notable houses are a large lean-to show-house, where the flowers are tastefully grouped; a high conservatory, in which are some specimen Azaleas and Camellias, and two high plants of Fuchsia Beacon, which partly covered the roof at the time of my visit; and a fernery, which, if it had been formed by Mr. Birkenhead, could not have been made any prettier than it is.

The houses for fruit-growing—well, as Mr. Wallis is in charge of them, I need say nothing as to their well doing; that can be taken for granted. I was very sorry that I was too late to see the Peaches, as except some late varieties like Sea Eagle, they had all been gathered. The vineries, however, were at their best for all varieties except Hamburgh. Golden Queen—a very apt name for it—was producing a heavy crop of large perfectly-finished bunches. The deep colour and heavy bloom on Black Morocco was a great contrast to the golden hue of the Queen. A seldom-grown Grape was Muscat Champion; it is said to have been a cross between a Hamburgh and a Muscat, and colour and flavour bear out this idea. It was raised by the late Mr. Meredith. An amusing anecdote is told with regard to this Grape. At dinner one night, a guest remarked to his host, observing a dish of this Grape, "Those Grapes are not ripe, or else they were very badly grown and finished." "They are neither," replied the host. "I have grown Grapes all my life, and I ought to know." "Taste and see," was the host's second reply. The guest did so, and had to confess they were almost, if not quite, the best variety for flavour he had ever tasted. A large Fig-house will soon be entirely filled by one very vigorous Fig. *Vagabond.*

PITCHER-PLANTS AND FRANKINCENSE.

The History of Sarracenia.—Sarracenias are wonderful enough as insect-trapping plants, singular enough in leaf-form, and beautiful enough in their flowers to attract attention from many quarters, but what connection there can be between the Olibanum, or Frankincense of Arabia, and the Pitcher-plants of North American swamps, it is not easy to see. Nevertheless, some of our forefathers seem to have thought there was such a connection, as we shall presently indicate.

The French botanist Tournefort has the credit of having introduced the Sarracenia to the notice of botanists, and although we shall show that something was known of the plants long before his time, we are not going to detract in any way from the merit pertaining to him for having given the first accurate account of the genus accompanied by excellent figures of the flower.

As it is not under Sarracenia that one must look for the early history of the plant, but under "Thus," or under "Limonium," it is only by accident that the student gets upon the right track. When once started, progress is not difficult, and the history is curious enough to interest the plant-lover. We shall, therefore, allude in chronological order, to the history, so far as we have been able to unravel it. The earliest notice we have lighted on is in Pena and Mathia de Lobel's *Stirpium Adversaria nova, Londini*, 1570. In this volume, at p. 430, is a figure, showing two leaves, which are without doubt those of what we now call Sarracenia, but which were then attributed, doubtfully, to the Frankincense tree: "Thuris limpidi folium aiunt." It is expressly stated that the leaf had not been figured previously, and that it differed from others in being double, or made up of two coats from the stalk upwards to the hood, the resemblance to the flowers of Napellus [Aconitum] and Lonchitis [?] being pointed out. We quote the exact words, the meaning of which is obvious, though we do not find it easy to construe them satisfactorily:—

"Rupelle occidui maris quadrienniu fermé est cum doctus medicus Launatus nos gummi istius glebis, arboris fructu et folio donavit. Asserabat nihil tamen, sed sibi relatum a nautis utrinque, trunci Pino similis sobole esse. At folium,

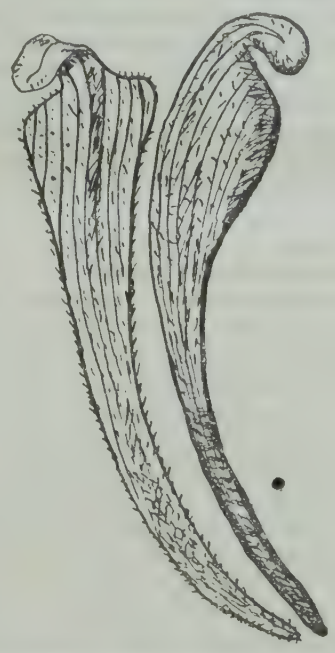


Fig. 2.—"Thuris Limpidi folium L'Obely. The supposed leafe of the bright shining Frankincense tree." Gerard, *Herbal*, p. 1247 (after Tabernæmontanus).

quia valde quàm rarum neque dum ab ullo depictum hic dedimus magis sciscitaturi, sit ne Resiniferæ plante quam asserturi est namque, quod raro contingit aliis, ab imo pediculo, ad summum usque cuculæ verticem, duplicatum quasi ex geminis conflatum, tenuibus tunicis vagina sesquipalmum longa, instar infundibuli, hiantis histrionis speciem præ se ferentis; superne galeata videtur, quod de floribus Napelli et Lonchitide non de foliis ullis memorant auctores."

Fig. 3.—"Thuris folium cucullatum," from Chabræus' *Stirpium Icones* (1666), p. 73; the same figure as in John Bauhin's *Historia*.

In 1575 was published the *Cosmographie Universel*, by Thevet. In the first volume of this work, at p. 119, is an account and a figure showing the mode of extracting the "encens" by means of incisions into the bark, the gum-resin being afterwards scraped off and packed in jars. A Palm tree and some pyramidal trees which may be meant to represent Cypresses or Junipers, are shown in the background, but nothing in the least like a Sarracenia. Thevet, then, the great authority of his time on Frankincense and similar things, is not answerable for the collocation of two such diverse things as the Pitcher-plants and the Frankincense.

In *Dodoens, Stirpium Pemptades* (1583), we have not discovered anything relating to the matter under consideration.

Dalechamp's Historia Omnium Plantarum was published in 1586, and in it we find mention of the "Arbor thurifera Theveti," just mentioned, and a figure of the "Thuris limpidi folium Penæ," the whole copied from L'Obel.

In 1588 was published the first edition of *Jacob Theodor Tabernæmontanus neue Vollkommene Krauterbuch*, an edition of which was published at Basle in 1664, by Caspar Bauhin. In the original edition, vol. ii., p. 642, cap. iii., under the head "Weyrauch, Thus," is a figure showing a portion of the stem of a tree with lumps of gum or resin exuding from it; and, on the right, two leaves, which appear to be those of Sarracenia, but which are provided, probably, from the artist's imagination, with fine hairs. In 1597 the first edition of Gerard's *Herbal* was issued. In this volume, p. 1247, under the heading "Abor Thurifera, the Frankincense tree—Thuris Limpidi folium L'Obely—the supposed leafe of the bright shining Frankincense tree," the same illustration as that given in Tabernæmontanus before referred to is given, and a copy of which we append at fig. 2, omitting, however, the resin-bearing trunk. Gerard gives a translation of the passage in Pena and De L'Obel, which we have cited before. Says Gerard, "Pena writeth that he hath seene the cleere Frankensence called Limpidum, and yeelding a very sweete smell when it is burnt, but the leafe hath beene seldome seene, which the Physition Laumanus [spelt Launatus by L'Obel], seemeth to set out thus, although it be not certain whether it be the leafe of the Frankincense, or of some other Pine tree, yeelding the like juice or gum. It is, saith he, which doth seldome happen in other leaves, from the lower part or foote of the leafe to the upper ende, as it were doubled, consisting of two thinne rinds or coates, with a sheath a span and a halfe long at the top, gaping open like a whoode or fooles cockscombe, and as it were covered with a helmet, which is a thing seldom seene in a leafe, but is proper to Leekes or Lonchitis as writers affirme." As we have seen, L'Obel compares it more appropriately with Napellus.

In Johnson's edition (1636) of *Gerard's Herbal*, at p. 1435, the history given in the first edition is repeated, with a few amplifications. It is pointed out that the Physition Laumanus gave to Pena and L'Obel a leaf, "together with some pieces of the Rosine which he had of certaine mariners, but he could affirme nothing of certainty, whether it were the leafe of the Frankincense, or of some other Pine tree yeelding the like juyce or gum." Johnson also compares the leaves to the flowers of Napellus or Lonchitis; and not to Leekes, as Gerard originally did. The woodcut in Johnson's edition is different from that in the older one; the Sarracenia leaves represented are smaller, and in a reversed position, as if they had been copied from the older woodcut.

It is rather singular that Johnson did not take note of the important account published by Clusius more than thirty years previously; *Clusius' Historia* dates from 1601. In that work, at lib. iiij., cap. lv., p. lxxxij., we find an excellent representation of a plant of Sarracenia purpurea taken from a drawing of a living plant, and showing a tuft of leaves surrounding the remains of the flower-stalk. Clusius having no flower before him did not know exactly where to range these leaves in the system, but referred them to the neighbourhood of Limonium, speaking of the plant as "Limonio congener." Limonium is now what we call Sea Lavender, or Statice, and we fail to see any connection between Sarracena and Statice beyond what arises from their both being found in

muddy (limus=mud) places, like the "Ostreæ limicolæ" of the classical writers. It may be well to cite exactly what Clusius says in the original Latin, a translation of which will be found later on :—

"Peregrina prorsus et elegans est hæc planta cujus iconem et resiccatū folium Lutetia usq ; ad me mittebat humanus vir et diligentissimus Pharmacopoeus Claudius Gonier qui siccam eâ et confracto caule mutilâ Ulysipon, veluti ad me scribebat acceperat. Sunt verò huic plantæ (Claudio teste), folia novem decem aut plura a summo radicis capite prodeuntia quorum forma ab omnium quas unquam viderim stirpium foliis diversa est quia cava sunt, florū Aristolochiæ instar tumente alvo et veluti paleari prædito gibba dorso, infima parte angusto. . . . Natales non indicati neque quo tempore flores det notandum."

The description given by Clusius is accurate, so far as it goes, and, assisted by the excellent woodcut, there is not the slightest difficulty in recognising what we now know as Sarracenia purpurea. Clusius knew nothing of the native locality, and says nothing about Frankincense.

Bauhin's *Pinax* (1623), p. 192, has "Limonium peregrinum foliis forma floris Aristolochiæ;" but Bauhin adds nothing to what was previously known to Clusius.

Parkinson (1640) in his *Theater of Plants*, p. 1235, copies Clusius' figure under the title, "The hollow-leaved strange plant of Clusius." . . . . . "This strange plant hath such strange leaves, as the like are seldome seene in any other that we know growing, for they are nine or ten or more rising from the head of a small long roote, each by itselfe, being small below, and growing greater upwards with a belly as it were bunching forth and a bowing backe, hollow at the upper end with a peece thereon like a flappe and like unto the flower of Aristolochia or Birthwort, and round at the mouth like a half circle full of greate darke purplish veines on the inside; the whole leafe is of a thicke substance almost like unto leather; among these leaves sprang a stalke, but was broken short of, so that what flower or seed it bore could not be observed. This was sent to Clusius from Paris by one that received it from Lisbone in the same manner. But of late, Master John Tradescant the younger found this very plant in Virginia, having his toppe thereon, which he brought home, and groweth with him, which I here shew you with Clusius his figure."

Here we have the first indication of any member of the genus being in cultivation, and that in England, but from what will appear later on, the species grown by Tradescant appears to have been S. flava rather than S. purpurea. Parkinson's account is a paraphrase from that of Clusius, and to it he adds the just remark: "It seemeth to mee that L'Obel's Thuris limpidi folium is this (i.e., Clusius' Limonio congener)."

In John Bauhin's *Historia Plantarum Ebroduni* (Yverdun), 1650, we also find a copy of L'Obel's account, and figures of three leaves, two similar to, but not identical with, those given by Tabernæmontanus and Gerard, and a third, which we see for the first time, and which evidently represents the Sarracenia variolaris of Carolina and the Southern States.

In Chabræus *Stirpium Icones et Sciagraphia* (1666), at p. 73, the three figures just alluded to are repeated. Chabræus' figure is entitled "Thuris folium cucullatum" (fig. 3), and he goes on to tell us that this hood-shaped and beautiful leaf was occasionally brought from Florida. "Speciosum cucullatum et canaliculatum hoc folium, quod e Florida adferri solet, pingunt etiam Adversaria et Thuris limpidi folium inscribunt." The "Adversaria" being, of course, the work of Pena and L'Obel before alluded to. Chabræus goes on to say that his *Icon* was taken from Thevet's book, already alluded to, but Thevet gives no figure of a Sarracenia leaf, nor so far as we can find, any reference to it.

Plukenet, in his *Almagestum* (1696), 72, and in his *Amaltheum* (1705, t. 376), f. 6, figures Sarracenia purpurea; and at t. 152, f. 3, of the latter work, under the name Bucanephyllon elatius Virginianum e limonio congeneris altera species elatior foliis triplo longior, gives a figure of Sarracenia flava. S. purpurea is also figured in the *Amaltheum*, pl. 5, f. 45.

Morison, in his *Plantarum historiæ Universalis* (1680), Part III., sect. xiii., p. 533 (we quote from Bobart's edition of 1699), refers to our plant under the name "Coilophyllum virginianum folio breviore, flore purpurascente, nobis—" and cites the synonyms of Clusius and Bauhin previously mentioned. Morison's specimen was received from Virginia through Banister. Morison is also said to mention in 1680, a Coilophyllum virginianum, longiore folio erecto luteo, a description which applies to S. flava.

We now come to the first adequate publication of the genus, accompanied by excellent representations of the flower. This was in Tournefort's *Institutiones*, tom. i., p. 657, t. 476, we quote from the third edition published in 1719 (the first was issued in 1700). Tournefort describes his Sarracena canadensis foliis cavis et auritis, and goes on to tell us that he named the genus Sarracena [not Sarracenia as usually written], in honour of Dr. Sarrazin, a doctor of medicine, and regius professor of anatomy and botany, who out of his great kindness sent the plant to Tournefort from Canada.

What we now call Sarracenia purpurea was therefore the first of the race to receive a name in modern form. It extends, according to Macoun, from Labrador, Newfoundland and Nova Scotia to the Rocky Mountains, and as far north as Bear Lake, but is quite unknown as a wild plant in Arabia, indeed in the Eastern hemisphere.

In 1756 a summary of existing knowledge on the subject was given in Hales' *Compleat Body of Husbandry*, as follows : — "Leaves long before the flowers were seen in Europe were sent over from America as curiosities ; with these the old English botanists became acquainted, and figured them, though without any account of the flower. They call it in their own language the strange hollow-leaved plant, and after Clusius, who from the imperfect account he had been able to obtain of the herb, supposed it related to the Sea Lavender, Limonio congener . . . . Bauhine supposing it of the Limonium kind, called it Limonium peregrinum foliis forma floris Aristolochiæ. Plukenet, better acquainted with its nature, named it Bucanephyllum, and Morison, Coilophyllum. . . . . That there were two species of the plant was not understood at first, and thence Clusius, by whose means we became acquainted with the plant, suffered some censure. He had received a leaf, and a figure of more leaves, from an apothecary of another nation, Conier, to whom it had come through several hands from America. Our famous Tradescant brought over the other species (flava) from America soon after, and the leaves being much longer and narrower than in Clusius' figure, he was supposed to have given them imperfectly. Since his time we find Clusius was right, and Tradescant's the other species."

We cannot now pursue the matter further, it must suffice to say that we have shown that the Canadian species was known to Pena and de L'Obel as early as 1570. A second species, S. flava, was also brought over and grown by Tradescant before 1640.

A third, Floridan species, was also known as early as 1650.

In some way or another the Canadian and the Florida species became mixed up with the Frankincense trees, and their leaves were supposed to be those of a tree or trees yielding that substance.

Sarracenia, as now known, has nothing whatever to do with Frankincense. The association, such as it is, must be laid to the hear-say evidence retailed by the "physition" Launatus. L'Obel and those who followed him were rightly cautious in repeating his story, but they were good enough also to give illustrations which, as we have seen, push back the history of Sarracenia much further than is generally known. Sir George Birdwood, in his exhaustive paper on the genus Boswellia, in the *Transactions of the Linnean Society*, xxvi. (1871), iii., summarises the history of Frankincense, and of the plants producing it, even quoting Gerard, but apparently overlooking the statement and figure relating to the Sarracenia, as also do Fluckiger and Hanbury.

The first Sarracenia known was, therefore, that which we now call S. purpurea, figured in *Bot. Mag.*, t. 849, and which we have traced back to 1570. It was introduced to cultivation, according to Aiton's *Hortus Kewensis*, by Mr. John Tradescant, jun., before the year 1640.

The second was S. flava, figured in *Bot. Mag.*, t. 780, also introduced by Tradescant.

The third was what we know now as S. variolaris, of Michaux, *Flor.* i., 310, *Bot. Mag.*, t. 1710, and which we have now followed to the time of John Bauhin (1650), but which was not introduced into cultivation till 1803. The other species, most of which have been figured in these columns, are of more recent introduction.

Some of our readers will probably care little for such old-time lore; hence, to bring the history down to our times, we may refer to our monograph of all the species and varieties known in cultivation in our volume for 1881; to Mr. Boulger's paper on the insect-catching propensities of these plants in the same volume, p. 627 ; while for their cultivation, we cannot do better than call the reader's attention to Mr. Baines' communication at p. 280 of the volume for 1878. *M. T. M.*

THE WEEPING SPRUCE.

IT had been my desire for the last three years to visit the group of Weeping Spruce (Picea Breweriana) growing on the summit of the Siskiyou Mountains, in Siskiyou County, California, and having learned this year that the other Conifers in the northern part of the state were seeding, I determined to visit the grove and obtain seed, if possible. In company with my father, Mr. Robert Douglas, of Waukegan, Illinois, we went to Grant's Pass, Oregon, the nearest railroad station to the grove, where we procured horses and drove the first day to Andersons about 20 miles from Grant's Pass. Owing to heavy rains we did not reach Waldo until about four o'clock next day, where we engaged a guide, saddle-horses, and pack-animals, and left for the trees early the morning after, reaching the "Big Meadows," on the summit of the Siskiyous, about four o'clock, having travelled about 21 miles in a horizontal direction and more than 1 mile in altitude. Waldo is about 1500 feet above sea-level, and our camping-place was about 7500 feet. The trail over which we came was made by a Spanish packer for the transportation of provisions from Waldo, Oregon, to Happy Camp, a mining town in California. It is a fair trail for such a rough country, but it is not a macadamized road. We slept that night with some evergreen boughs under us and the blue sky over us part of the night, and the most dense fog I have ever seen for the remainder of the night.

The next morning we walked up the trail about a mile and a half to the few scattering Weeping Spruces, about sixty in number, which had attained a height of 25 feet, at which size they begin to bear seed ; but we found that most of the trees under 50 feet had very imperfect seeds. The cones are from $2\frac{1}{2}$ to $3\frac{1}{2}$ inches in length and $\frac{3}{4}$ inch in diameter, of a fine purplish colour. They mostly grow on the extreme top and ends of upper branches. The beauty of the trees far surpassed my expectations. They have the true Spruce form, tall and symmetrical, with horizonal branches, and a beautiful green colour. In their general features they resemble a well-grown Norway Spruce, but their distinguishing beauty is in their long, pliant, pendulous branchlets, which hang straight down from the branches to a length of 6 or 8 feet on the older trees, while they are no larger round than a lead-pencil. They have a stately grace in calm weather, but their characteristic impressiveness is only seen when the long flexible branches are undulating in a light breeze, or streaming before a gale.

The bark of this Spruce is thin, smooth, and reddish in colour; the wood is white, and very tough. The tree felled several years ago by Mr. T. S. Brandegee for the Jesup collection, shows no sign of decay as yet. The largest tree in this grove—if grove it can be called, where the trees are scattered over a space of 50 acres, mixed with Firs and Incense Cedars — we found to be by actual measurement 121 feet 6 inches high,

with a trunk 2 feet 11 inches in diameter 7½ feet from the ground. Below that height the trunk swelled to a much greater size. Other trees were more than 90 feet high, with about the same diameter. My father left for San Francisco on the second day, but as the trees were seeding heavily, I remained ten days longer, and collected 800 lb. of cones, out of which we will get some 20 lb. of fine clean seed, the first, I believe, ever collected. I found another grove of about twenty trees some two miles from this one, but could see very few seedlings in either place. In both groves the trees were growing on the north side of the highest peaks, where the snow lies 15 or 20 feet deep, as the mail-carriers' signs show; and I can therefore believe the Weeping Spruce will be hardy in most parts of the East.

Later in the season I made another trip to these groves to get as many seedlings as I could, and hunt up more trees if possible. Mr. Orrin Russell, who has lived in this part of the country for more than twenty years, and who is exceptionally well-informed, reported that a few Weeping Spruces grew on the Coast-range in Oregon. I visited him at his mines after I had collected and shipped the few seedlings I could find on the Siskiyou Mountains, and in company with his brother, Mr. Joseph Russell, found the trees at the place indicated—on the summit of the Coast-range, on the divide between Cañon Creek and Fiddler's Gulch. This is the first time, so far as I know, that any record has been made of these trees in Oregon. We also discovered a few more about a mile south-west of the first grove. They are widely scattered, and in a dense forest of Firs and Douglas Spruce, and taller than those on the Siskiyou Mountains, but have a smaller trunk diameter. We spent two days collecting the seedlings. Mr. Orrin Russell informed me that he knew of about a dozen trees at the head of Sucker Creek, in the Siskiyous, which I would have visited had I not been prevented by heavy snow. *Thomas H. Douglas, in "Garden and Forest."* [A figure of the cone of this species is given in our volume for 1886, April 17, p. 497. Ed.]

Foreign Correspondence.

SWEET-SCENTED WHITE FORGET-ME-NOT.

Eritrichium nothofulvum, *Gray.*

It was a pleasure for me to see the other day this pretty Forget-me-not advertised in the novelty catalogue of a Pallanza (Italy) seedhouse. But few words of recommendation were given it, and it seems to me that I, who enjoy its beauty in its native home, ought to say a word more in its favour.

Though not a true Forget-me-not, it is a close relation of that old favoured flower, and not to be distinguished from it by a non-botanist. It has the same habit, unrolls its flowers in the same way as a Forget-me-not, and can be cultivated in any way you please. The flowers are a little larger than those of its relation, and of the purest white, being bright like varnish at the same time. The plants grow of all sizes. On dry hillsides, where the rain of our winter has no ground to soak in, it reaches the height of half an inch; and on the bank of the canal which runs through our place, it reaches 3 and even 4 feet, a great bush spreading with long and strong branches. The usual size, though, is about 18 inches to 2 feet, and as such it is prettiest. In January, when the first grass grows on our hills, and the warm sun stirs plant-life anew, then the seed germinates, and the young plant will have to suffer very heavy rains, and many a cold frost. In April and May, it is in bloom, and, like all our flowers, it covers the ground when its season has come. You do not see anything else where it grows, and delicious is its perfume, filling the air after the scorching sun has gone behind the hills. I cannot say whether the scent resembles most that of a Heliotrope, or a Stock, or a Wallflower. But whichever it is, it is very sweet, and I appreciate it most when I take a walk after sunset. While you are gathering Poppies and Batchelor's-buttons walking in the fields, we pick a bouquet of sweet Forget-me-nots and pretty-eyed Nemophilas and Eschscholtzia.

Messrs. Hillebrand and Bredemeier, the introducers, recommend it for cut flowers. I hardly think they could put a better novelty before the gardener and plant-lover. But they have not recommended it for the purpose which I feel sure it will most be put to in England. Of all the countries I have seen, England is the only one in which herbaceous flowers are put to the use which they ought to have. There is hardly a group in any of the parks, public or private, which is not bordered with pretty flowers, perennials, or bulbs. That is where the new white, scented Forget-me-not ought to find its place. It is hardy, and, though an annual, is sure to seed itself, and stay where once put. The many conditions under which it is satisfied here in its home prove that it will do anywhere, care or no care. *Geo. Hansen, Palo Alto, California.*

Washingtonia filifera.

In reply to "W. W.'s" criticism, December 3, p. 677, in regard to the photograph you published of my Washingtonia filifera, I would like to state that my Palm is undoubtedly the true form of W. filifera, commonly called here the Californian Fan Palm, and it is quite distinct from any of the Sabals, of which I have plants of three varieties growing—Palmetto, Adansoni, and umbraculifera; and whereas the petioles of the Sabals are quite free from spines, the plant illustrated possesses both these, and the thread-like filaments which "W. W." states are sufficient to distinguish it from other Palms. The plant in question, and the Sabal alluded to, are about of the same size. The Sabal was planted twenty-three years ago, and the Washingtonia just seven years, so that even if I had any doubts of it, "W. W." has made it quite clear. I might also state that the petioles on the Sabal are persistent, but in the Washingtonias they fall off with age. As regards both Washingtonia filifera and W. robusta, I have what we consider the two varieties growing side by side. Washingtonia filifera does not grow as fast as W. robusta, and the leaves last longer on W. robusta, and are not so filamentous as in W. filifera. The W. filifera has longer stem, and the leaves are larger than those of W. robusta. I quite agree with "W. W." saying one can be made to do duty for the other in a young state, there being very little difference between them. *H. Papworth, New Orleans.*

Sunny Italy.

How glorious it is to spend the winter in Italy. While those at home are experiencing fogs, frosts, and snow, we may stroll under the shade of the Olive trees and Palms, fanned by soft sea-breezes laden with aromatic perfumes, while the golden fruit of Oranges and Lemons hang temptingly in view. Then how unique and interesting in their total newness are the gardens and towns, the latter all along the coast here are built on the steep hillsides, and with their narrow alleys, tunnelled passages, curious gables and corners, give ample material for the brush of the artist.

But at present, thinking it might be interesting to some of your readers, I wanted to say a few words on the large and ever-increasing export cut flower trade carried on along these sunny shores.

The summers here are so excessively hot, that vegetation is literally scorched up, and in the autumn many things present the appearance of having braved the vicissitudes of an English winter, the Roses having only a few yellow leaves on them. The seasons are quite reversed, and autumn means re-awakening, and the autumn rains call all into fresh life.

An English gardener if transported to the flower nursery of one of these southern growers, take that of Messrs. C. Riva & Son, would be somewhat surprised. Away as far as the eye can reach stretches the blue Mediterranean Sea, with the blue, blue sky above; behind, run up for hundreds of feet the steep rocky mountains, the lower parts clothed with Olives. One would never imagine these hills could be cultivated, but centuries have mellowed the softer stones into a soil of fair quality. It is interesting to examine the stones in their various stages; at first it requires a hammer to break some, and finally, when in its last stage as a stone, you can crumble it between your fingers. The hills are so steep, however, that the fertile parts cannot be utilised as Nature leaves them, so man steps in with his art and terraces the mountain-sides. As you gaze up, a series of about forty terraces rise one above the other, until they seem to reach the sky, and the workmen above look like mites. On these terraces are cultivated the Roses, &c., for exportation all over Europe. As may be guessed, the making of such a garden entails much labour and expense; the stones to form the walls have to be quarried, and carried up the mountains by men and mules; then the soil has to be worked to a depth of 5 or 6 feet, to allow the roots of the Roses to descend—their only chance of surviving the summer drought. Huge tanks are also made to catch the rain-water required for the Carnations and smaller plants in summer. Here are grown thousands of Roses, great bushes, which have to be hard pruned to keep them within bounds. September and October are the pruning months, those first pruned giving the first flower. After pruning, the ground is all dug over, the Roses mulched with manure and night-soil, and everything made trim and tidy for the season; save an occasional dusting with sulphur, all that remains to be done is to cut the flowers. As the winter advances, the flowers increase, until mule-loads of Roses, Hyacinths, Jonquils, &c., are brought down from the mountain-sides, and conveyed to the large and commodious packing-rooms newly erected, where busy fingers pack the flowers carefully in papered and wadded boxes, for these flowers go long distances to Austria, Germany, Denmark, Holland, and even Russia. England is also marked for invasion as soon as the new plantations are in full enough bearing to supply the extra demand. A great number of varieties of Roses are grown here; among them are found in large numbers Marie van Houtte, Maréchal Niel, Souvenir de la Malmaison, Safrano, Gloire de Dijon, Madame Bernard, Lamarque, Paul Nabonnaud, Papa Gontier, &c. *James Macfarlane, Ventimiglia.*

The Week's Work.

FORESTRY.

By J. B. Webster, *Fairview, Stangmore, Dungannon.*

Subjects for underwood in game coverts.—In planting coverts for ornament and utility combined, Kalmia in its several attractive species and varieties, is well worthy the attention of the planter. They are, however, rather expensive to be planted in large quantities, but they may be planted with good effect here and there in the form of groups, or mixed with other plants where they can be seen from the walks and drives. I have employed Kalmias as ornamental covert plants for many years, and not only are they quite hardy as well as attractive, but also game-proof, which is another great recommendation. All Kalmias thrive best on a loose open soil, the better if well mixed with peat; but where peat cannot be obtained except at great cost, thoroughly decayed leaf-mould may be used as a substitute for it. Although the species is evergreen, yet when the plants are planted in very exposed positions, some of the species will occasionally shed part of their leaves during exceptionally severe winters; but this never prevents their flowering at the proper season. Amateurs living in suburban villas and elsewhere should grow these plants, as they form nice tidy, compact specimens, that seldom require to be pruned to keep them in shape, and on which account they are exceptionally well-suited for small gardens and the centres of flower-beds. They are likewise suitable for pot-culture, which is another point in their favour, and when placed in halls, or on a balcony, when in full flower, they have a clean, tidy, charming appearance, which never fails to attract attention. The following are a few of the best for coverts and for ornament:—The glaucous-leaved Kalmia, K. glauca, is a native of Canada and different parts of the United States, and was introduced into this country in 1767, and has not only proved to be thoroughly hardy, but it is also one of the freest flowering species. Its contour is that of a compact

round-headed bush, some 20 inches high, well-clothed with leaves of a glossy green colour above, and silvery on the under side. The flowers, which are produced in great abundance, generally appear in April, and are arranged in terminal corymbs of a reddish-pink colour, and as exact in form and outline as if cast in a mould. There are several varieties of this species, the flowers of which exhibit different tints of colour, and as they are all remarkably handsome and require but small space, they are very suitable for planting in the front line of plants of a more robust habit of growth. The bush or mountain Laurel, K. latifolia, is likewise a native of Canada and some parts of the United States, and is said to have been introduced into this country about the year 1734, and it is proved to be hardy in most situations. It is, however, of a larger size than the former species, and in Ireland I have had plants which attained the height of some 6 feet. The flowers are the largest of any of the genus to which it belongs, of a fresh pink colour, and produced at the terminal points of the branches and twigs in the month of June. It makes a remarkably handsome specimen, and is well adapted for planting here and there along the margins of woods where it has the advantage of shelter and sunlight. There is a variety of this species known as K. myrtifolia, and although it is of a miniature size in every respect as compared with the species, yet it is remarkably handsome, and well worthy of a place among ornamental covert plants. It is also well adapted for pot culture, and amateurs can get no prettier little plant for their small gardens. The narrow-leaved Kalmia, K. angustifolia, is a very distinct species from North America, where it is said to be found principally in boggy ground in the low country, as well as in upland districts of that country. It was first introduced into this country in 1736, and has proved to be thoroughly hardy. The finest plants which I have ever grown of this were planted on reclaimed Irish peatbog, and when fully established, it forms a close round-headed bush some 30 inches high. As its name implies, its foliage is of a lesser size than that of any of the former species, of a glossy light green colour, and when loaded with its pretty pink flowers in early summer, it is remarkably handsome and attractive. There are several varieties of this species in cultivation, all of which are very handsome and ornamental. K. var. pumila has a great resemblance to the species in flower and foliage, but is of a less robust habit of growth, and requires less space for its development. The contour of K. var. rubra is similar to that of the species, but the flowers are of a deeper red colour, and on which account, when planted along with others, it shows contrast and variety.

PLANTS UNDER GLASS.

By BAILEY WADDS, *Gardener, Birdsall Gardens, York.*

SWEET-SCENTED FLOWERS.—Where there is a demand for sweet-scented flowers, Gardenia florida and G. radicans, that may be in pots and are full of roots, should receive a top-dressing of rich loam and sheep-dung, and waterings of tepid liquid manure made from one of the many plant foods now in use. Posoqueria grandiflora and P. multiflora want attention at this season, or cockroaches and woodlice will devour the young buds and leaves; if growing in pots, set them on an inverted flower-pot in a pan filled with water, and place phosphorus-paste about for the pests. Posoquerias bloom profusely when planted out into a bed where they can obtain a nice bottom-heat; their long white bell-shaped flowers are useful for many purposes. The plants are gross feeders, and like a well-drained pot or border. The compost should consist of good loam, dry cow-dung, and silver-sand, with a good supply of chemical food. Pergularia odoratissima, so seldom seen in good flowering condition, should be planted into a bed, and the shoots allowed to ramble freely, the delicious fragrance of its Primrose flowers will repay the care given. Give good loam, leaf-mould, and sand, and drain well. Stephanotis floribunda growing in bottom-heat and showing flower, should have abundance of water. Stove temperature should be 60° to 65° by night, 70° to 75° by day; syringe the plants once during the day if sunny, and well damp the floors. A water-tank in the house with hot-water pipes passing through is an excellent contrivance.

FORCING HOUSE.—Continue to introduce fresh plants as required of Freesias (which should be kept as near the glass as possible, and at the cooler end of the house), also Lily of the Valley, Sweet Briar, Azalea indica, A. mollis, Lilacs, Callas, Hyacinths, Tulips, Narcissus, &c. Plants of Toxicophloea spectabile that were grown well in heat during the past season and rested for a time in a cool house, if placed in heat will soon be a mass of sweet white flowers.

CONSERVATORY.—Re-arrange this as often as often as possible to obtain sweetness and freshness; during severe frosts keep the floors as dry as possible. The temperature should be 45° to 50° by night, and 55° to 60° by day, and give air when practicable. Old plants of Luculia gratissima on walls or pillars should be well pruned-in after flowering, and kept rather dry for a time. The American Smilax in borders or boxes allowed to twine itself on strings from the floor to the roof, is very sweet and delicate. The different varieties of scented Geraniums should be well represented, there is nothing more useful.

ZONAL PELARGONIUMS. — When required for decoration during the winter months, they should be grown in 6-inch pots in good loam and fresh horse-dung. If grown, rested, then pushed on in heat in batches of about fifty, they will well repay the trouble. The best varieties for this purpose are John Gibbons, Henri Jacoby, and A. E. Raspail. The temperature should be at night 50° to 55°, and during day from 65° to 70°; give plenty of air on fine days.

VIOLETS IN FRAMES.—The severe weather of the past week has been bad for these. Cover well at night with dry mats, and remove the covering as soon as possible every day. Give air if the weather permits, by wood chocks at the back of frame; shut up early, and cover up early. When the severe weather is over they will require to be picked over.

CHRYSANTHEMUMS.—Take cuttings of these as soon as they can be obtained, and strike in 5-inch pots in a frame or cool-house; make selections of each sorts required to be grown in 10-inch pots for decorative purposes. For early work there is nothing better than Madame Desgranges, white and yellow; Mrs. Geo. Rundle, Mr. Geo. Glenny, Mrs. Dixon, and Elaine. For Christmas-work—Madame Lacroix, Ethel, Julie, Lagravère, and Peter the Great; a good batch of these, grown without training or disbudding, are most useful for house or church decoration. Cuttings taken from young strong plants at the end of June, and struck singly in 6-inch pots, filled with good soil, and a layer of sea-sand on the top, results in splendid little plants covered with foliage to the pots, many of these producing two and three blooms fit for the exhibition-table, and most useful for grouping purposes. When the cuttings have been inserted, place the pots in a frame, and shade well; they will soon strike, and may be placed in the open air in August.

THE HARDY FRUIT GARDEN.

By T. TURTON, *Gardener, Maiden Erleigh, Reading.*

OLD ORCHARD TREES.—Where these exist, and have been in any way neglected in the matter of thinning of the branches, advantage should be taken of every opportunity given by the wintry weather we are now getting, and may reasonably expect to continue, by stopping work among the trees in the kitchen garden and on garden walls, to examine and carry out necessary work among these. See that the branches are well thinned-out of the centre of the crown, and any other part where they have become at all dense. The reason for this thinning-out of branches must be obvious to all, as without a free circulation of air and exposure to the sun, the fruit cannot ripen thoroughly, and hence not keep so well. Most of these remarks are as applicable to Plum and Damson trees as to Apple and Pear, and especially so as regards Damson trees, which, if left to themselves, become quite as dense as do Thorn trees, and more especially that now popular sort, Farleigh Prolific, or Crittenden. Trees that have become grown over with lichen should have their stems and thick branches well scrubbed with a stiff brush, and afterwards dressed over with fresh slaked lime and soot, in the proportion of two parts lime, and one part soot, this being sufficient of the latter to tone down the glare of the lime, which might otherwise be considered objectionable. For the stems and larger branches the whitewash-brush should be used, and the same dressing, diluted and passed through a fine sieve, should be applied to the remainder of the tree with a syringe. For trees infested with American blight, since the introduction of the Stott syringe with spray-nozzle, the matter of exterminating this, the most harmful of all pests infesting fruit trees, is now a simple matter, and must be dealt with at once. Petroleum is a sure remedy, and in careful hands may be used with perfect safety in the proportion of half a pint of the oil to 3 gallons of water, great care being taken to keep the mixture well stirred up whilst using it. The "Killmright" insecticide may likewise be used without any risk, in the proportion of 4 oz. to the gallon of water; or, with the Stott syringe, by an arrangement made in the same for holding the insecticide, a second application of the Killmright may be necessary.

YOUNGER ORCHARD TREES.—Trees which may have been planted from eight to twelve years, or even longer, and consequently have now begun to bear fruit freely, should be attended to in the matter of pruning and thinning the shoots and branches on the inside of the heads, so as to keep the latter well open; and also in each case take off one of two crossing branches, and smooth off all sawn parts with a strong pruning-knife. Much assistance may be afforded orchard trees growing in unsuitable soils by top-dressings. Where the soil is shallow, and of a light and hungry nature, top-dress such soils forthwith with clay, or any heavy soil comeatable which the frosts will pulverise, and the earth-worms work, or prepare channels for it to pass down to the roots. But if the soil is of a heavy nature, the top-dressing should be charred soil and burnt garden refuse, a plentiful supply of which should always be in readiness for use in the hardy fruit garden.

THE FLOWER GARDEN.

By T. W. CRASP, *Gardener, Canford Manor, Wimborne.*

LAWNS AND WALKS. — Work in the flower garden is at the present time at a standstill almost; still every opportunity should be seized of doing anything that requires attention, with a view of lightening the work when it recommences. If the weather is not too frosty, the cutting back and thinning the heads of shrubs, especially Laurels, Rhododendrons, Hollies, &c., which are apt to get very unsightly if they are allowed to become overgrown. The branches if cut back to the hard wood will look rather bare for a time, but they will break again very readily in the spring, and a neat and shapely appearance will take the place of their former ragged ones. In mild weather, lawns will claim a share of attention, in the matter of sweeping and rolling, and all weeds spudded out or destroyed by means of one of the weed-killers now sold for the purpose. Care must be taken in using these "weed-killers" not to allow the stuff to fall where it is not wanted, or the lawn may look more unsightly than before. In the event of the turf being very weedy, and the soil impoverished, a top-dressing of sifted wood-ashes, soot, and a small portion of quicklime in powdery condition should be used after the weeding is finished, and the holes made by spudding filled in with stiffish loam, trodden level and firm. Grass-seeds may be sown on turf which is sparsely furnished with grasses in March or April; if sown earlier, it is very apt to be eaten by the birds. The present is a good time to mend gravel walks, frequently rolling them after rain or a thaw. Plenty of attention to rolling at this season will help very much to keep the walks in good condition in the summer-time, by forming a level hard surface.

PROPAGATION OF BEDDING PLANTS.—It will soon be time to commence the propagation of some of the more tender bedding-plants if sufficient cuttings were not taken in the autumn. To obtain the cuttings which will strike easily, it is necessary to place the stock plants or autumn-struck cuttings of zonal Pelargoniums, Verbenas, Heliotropes, Iresines, and others used in summer bedding in an early Peach-house or vinery at work, where in a fortnight growth will commence, when and not previously, cuttings can be taken. These, after suitable preparation, and without exposure in cold sheds, should be dibbled into shallow pans containing friable sandy soil, and placed in a gentle bottom-heat; and in the case of Verbenas, Heliotropes, and Iresines in a close frame, or if in a house, they should be covered with hand-glasses or *cloches*. When rooted, pot them off singly, or box them. As the month advances, seeds of Acacia lophantha, Grevillea robusta, Melianthus major, and Canna indica in variety may be sown in warmth. They require a considerable time to germinate. When the plants are up, pot them off in 60's, or pots a trifle larger than thumbs, eventually shifting them into small 48's or large 60's. The frost kills in most winters a large number of the planted Antirrhinums and Pentstemons, and should no cuttings have been taken in the autumn of these plants, seeds may now be sown in a greenhouse, which if suitably treated when they have germinated, will come into flower as early and be as useful as the old plants would have been.

HERBACEOUS BORDERS.—Where the formation of new herbaceous borders is contemplated, the work may be proceeded with during mild weather, when frost is out of the ground, affording the soil a good coat of manure, and digging it to the depth of at least 12 inches, or trenching it still deeper, and loosening the subsoil, but not throwing it up to the top. It is a well-known rule in planting to set the tallest plants at the back of the border, assuming that it has one face only, and grade the other plants according to the height to which they grow down to the edge, but this rule should not be too strictly adhered to, as an occasional Lily or any other plant not growing very strong when planted at intervals near to the edge of the border not only adds to the effect of the plants at the back, but breaks the formal outline of an evenly graded bank of plants. A good effect is produced at once by setting out herbaceous plants in large clumps, whereas if single specimens of Phloxes, Asters, Eryngiums, &c., are planted in a border, it takes nearly two years before they become conspicuous. Old herbaceous borders and beds should be tidied and made neat when the weather allows, so that the early bulbs and plants, as these come into bloom, will have a nice effect.

THE ORCHID HOUSES.

By W. HOLMES, *Gardener, Pickering Lodge, Timperley.*

GENERAL REMARKS.—It may be said truly that 1892 was not an Orchid-grower's year, so changeable was the weather, and so very little sunheat. We shall find that a great many of the plants will not have ripened up their pseudobulbs sufficiently to flower so freely this year as we might expect, but the Dendrobiums and Cattleyas have ripened fairly well under the circumstances. We had a very severe frost on December 25, after a week's mild weather, when we had only to keep the pipes in the houses just warm to maintain the proper temperatures at night; following that, we commenced with 15° of frost, and on two nights 22°. The large amount of artificial heat that we were compelled to use was a great change for plants which had hitherto not had a great deal this winter. The new year commenced with 12° of frost, but fine sunny weather allowed us to give air to the houses. As a plant that fills a place admirably at this season, Cattleya labiata vera is a great addition to collections. The flowers afford at the opening of the year as fine a show as May and June can boast of, and too much praise cannot be given it, flowering, as it does, from October to January. There are several forms or varieties of C. l. vera, with light and very dark-coloured flowers, and all are worthy of cultivation when many cut flowers are required. In spite of the variety of colour in this plant, we should welcome more white ones. I should like to draw the attention of Orchid growers to the fact that the recently-imported Cattleya labiata vera, as I find them, have the same complaint as the original autumn-flowering labiata, viz., that if you do not keep a sharp eye on the pseudobulbs which have flowered, and cut clean away the sheath and flower-spike close to the bulb, the spike and sheath will decay, and carry decay to the new leaf and part of bulb. I used to find this to be the case years ago with the old variety, and perhaps this is due to the season at which the plant flowers; but anyone noticing this will find it best to cut the affected parts away, dusting the wounds with lime or powdered charcoal. Keep the plants moderately dry for a time at the roots at this season, but on no account allow any part of it to shrivel, as I find that if once it shrivels, it never does well again. Wetting the stage and the pots will keep the plants in good order for a time, and affording as much air as is prudent by the bottom ventilators of the house in suitable weather, is good for them—ours have never been closed on both sides as yet. The temperature of the Cattleya-house may remain at 55° by night, and 60° by day. Cattleya Bowringiana is another Cattleya to which I should like to draw attention, it being another of the autumn-flowering species, its season extending from the month of October to the end of December. The plant is now passing out of flower, and it should be kept on the dry side, but I am no advocate for a great amount of drying-off being practiced on Cattleyas; what I mean by the dry side is to water the plants once in ten days or a fortnight, according to the kind of weather that may obtain. Keep this species at the cool part of the Cattleya-house until signs of new growth are observed, then remove it to a warmer part, and when in a growing state afford plenty of water. In potting C. Bowringiana, good peat and a little sphagnum should be used, and the plant kept high up above the rim of the pot, as its growths proceed downwards, and very often comes from beneath the previous year's pseudobulb, and sometimes get crippled before they get away.

THE APIARY.

By EXPERT.

THE NEW SYSTEM.—So much attention is now centred on the new system of working hives with two queens, that next season will probably result in an universal trial of its merits. To those bee-keepers who do not feel disposed to go to the trouble, or expense, of making a hive specially for the purpose of experiment, the introducer of the system, has drawn attention to the fact that ordinary storyifying hives can be utilised with little trouble, all that is necessary is to have two body boxes of an ordinary hive devoted to the brood nest instead of one, a perforated division board being fixed in the centre of the lower one, and an ordinary division board in the centre of the upper, to ensure that the queens are kept apart. By this means each queen will be provided with from ten to twelve frames in which to lay her eggs. A sheet of queen excluder zinc should, of course, be placed on the top of the frames in the upper body box, over which the super will be put. It must not be forgotten to give plenty of super room (double the ordinary space at least), or swarming cannot possibly be prevented. The entrance to the hive must be divided so as to make two separate ones, or failing this an addition to the ordinary entrance must be provided elsewhere. Mr. Wells has lately given some useful information as to his treatment of swarms issuing from double hives. This is especially welcome, as the question of what to do when a double swarm issues, weighing 14 lb. or more, so as to restore the former order of things, and get a queen back again on each side of the perforated division, presented difficulties that appeared almost insurmountable. He states that if he is present when the swarm issues, he watches for the spot where the bees intend to settle, and, if possible, captures one of the queens and cages her. When the hive is prepared for returning the swarm, the caged queen is let loose in one half of the hive and the entrance to that portion blocked up. He then lets the whole double swarm run into the other half to which the entrance is open. The bees pass up through the excluder zinc and so populate both sides of the hive, with the result that it is queened as before swarming took place. If one queen cannot be captured as described, these double swarms, having two queens, generally settle in such a way as to show where each one is, by hanging in two lumps or clusters. If this be the case, each cluster should be separately shaken into two skeps. The skeps are then stood on the ground for a few minutes, and if the bees remain in them it may be taken for granted that there is a queen in each, and they can then be put back without trouble. Should this plan fail, Mr. Wells introduces a strange queen, if on hand, to one portion, blocking up the entrance as before mentioned, or failing that leaves a ripe queen cell on one side of the hive, which is also blocked up, and returns the swarm to the other.

THE KITCHEN GARDEN.

By H. C. PRINSEP, *Gardener, Buxted Park, Uckfield.*

WITH the advent of a New Year it will be well to take a review of the work in this department, in order to see how we are to proceed during the coming seasons. Those especially should pause to consider their plans who have to provide a constant supply of culinary vegetables, &c., for a large family, and have but a comparatively small piece of ground to cultivate. It would materially assist young gardeners, and those who have recently changed their situations, if they were to make a plan, on paper, of their kitchen garden, and indicate on it where each and every kind of vegetable and fruit is to be grown, and where it is intended to sow and plant others at the proper season. Having done this, the next thing is to make out the seed-list, and send it in to the seedsman, for the sooner this is done the better will it be for all parties concerned. Seedsmen, as a rule, can more conveniently attend to orders sent in thus early than they can when the press of business comes on; and gardeners, on the other hand, will have their supplies, so that they can sow seeds when they please. Making out a seed list is not so easy as some might imagine, especially for beginners, as there are so many points to take into consideration.

SALADS.—Where a constant supply of these has to be kept up, Endive should now be in readiness for blanching, having been protected from frost by straw, mats, or other means. Until the present frost set in, Cos Lettuce was plentiful in the open garden, but owing to the recent severe weather, this has had to be protected, so that it might be ready when required. Chicory and Dandelion roots should be put into heat to blanch the new growth, which starts on this being done, either lifting and placing in the Mushroom-house, or by covering the plants with fermenting material in the open. Sow Mustard and Cress, to form a succession as required.

HERBS.—Tarragon and Mint are so often wanted in the early spring, long before there are any signs of growth outside, and a few roots should be taken up and planted in pots or deep boxes. If these are placed where a gentle heat can be afforded them, young growth will soon make its appearance. Chervil is also much in request for flavouring purposes, so that a pan or two of this should be sown to succeed that in the open ground. Very little heat will be required after the seed has once germinated, and the pans should be kept as near the glass as possible to prevent the plants from becoming drawn. Basil should also be sown and treated in like manner to that recommended for Chervil.

FRENCH BEANS.—Where these are swelling off their pods, an occasional watering with weak liquid manure will be beneficial, but it should not be allowed to touch the foliage. Those in flower should have a drier atmosphere for a few days, to allow the pollen to dry, or they will not set; but they should not be allowed to become too dry at the root, or red-spider will soon make its appearance. A succession must be kept up by making fresh sowings at fortnightly intervals, or when desired.

SMALL SEEDS.—Where large bulbs of Onions and Leeks are required early in the autumn season, a small sowing of some quick-growing kind should now be made in pans or on a slight hot-bed; the latter is preferable, as the plants will be kept in a more uniform temperature. But these hot-beds have their drawbacks, as the glass must be covered at night to exclude frost, so that the plants often become drawn, and much labour is entailed.

CAULIFLOWER.—There is now such a large number of varieties of this much esteemed vegetable, that with care it may be had nearly all the year round. For very early work, we have found none to equal Early Forcing or Sutton's First Crop. Seed of these varieties sown early in January has usually given us a supply of fine heads in May, or about a month earlier than the Walcheren sown in the autumn and protected in cold frames during the winter. Care must be taken to see that the plants do not receive a check, for if this happens, they often bolt, and are useless.

STORE-ROOM.—In bad weather, see that Carrots, Beet, Parsnips, Jerusalem Artichokes, Potatos, and Onions are looked over, and if there be any signs of growth, remove this without delay from all but the last-named, and spread the roots out thinly. Potatos for planting in the open ground should have a light airy position, so as to cause their growth to be strong and sturdy. If frost is just excluded, it will be sufficient, as it is not well to have the growth too forward so early in the season.

FORCED VEGETABLES.—Keep a supply of crowns of Seakale in readiness for starting, either by having them covered up in the open, or by lifting in mild weather and laying them in till wanted, being careful to protect them from frost. If they are lifted when the soil is frozen on the top, this often pulls off the crown, so that they are of no use for forcing. All small roots of the size of the finger should be saved and laid in soil, to be made into sets for planting later on.

ASPARAGUS.—This should also be taken up, or so covered that in the event of the continuance of the present frost, it can be lifted as required. On no account should the roots be allowed to become dry; for if this happens, they do not start so readily into growth. Asparagus is best forced on a slight hot-bed, without the use of fire-heat, for it is then more tender when cooked. Great care must be exercised in making up the bed, or the roots will get burnt, and it should preferably be made chiefly of tree leaves. A bottom-heat of about 60° F., will be sufficient, the top-heat being afforded by means of dung-linings.

EDITORIAL NOTICES.

LETTERS FOR PUBLICATION.—*All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

PLANTS, &C., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be carefully packed and numbered, and not more than six should be sent at one time.*

LOCAL NEWS.—*Correspondents will greatly oblige by sending be the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Advertisements should be sent to the PUBLISHER.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

MONDAY, JAN. 9—Linnean Society.
WEDNESDAY, JAN. 11—East Anglian Horticultural Club.

SALES.

MONDAY, JAN. 9 { Plants and Bulbs, at Protheroe & Morris' Rooms.
WEDNESDAY, JAN. 11 { Lilium auratum and other Lilies, &c., at Protheroe & Morris' Rooms.
THURSDAY, JAN. 12 { Important Sale of Tuberoses, Gladioli, Lilies, Palms, Dutch Bulbs, &c., at Protheroe & Morris' Rooms.
FRIDAY, JAN. 13 { Consignment of Ecuadorian Orchids, from Messrs. Charlesworth, Shuttleworth & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—36°.4.

Hybrids.

IT is sometimes said by those who are not familiar with a gardener's work that, considering their opportunities, gardeners have contributed relatively little to the advance in our knowledge of systematic botany or vegetable physiology. If this were wholly true, the answer would be, of course, that gardeners have their practical duties to perform, and that the proper fulfilment of these leaves no time or opportunity for anything outside the ordinary routine. But it is not wholly true, and we might cite many names of practical gardeners who have contributed in no slight degree to the advancement of systematic botany. At first sight, it might seem as if physiological botany or the study of the life-history of plants would offer the most congenial and the most accessible opportunities to the gardener who has to pass his life among plants, and daily watch over and regulate their growth.

The true foundation of all physiology, says SACHS, is the direct observation of vital phenomena. The all-important discovery that the food essential to the growth of plants is manufactured or elaborated in the green leaves, was made long before chemists knew anything about either carbonic acid or oxygen. Direct experiment alone showed that gravitation is the cause of the downward growth of the root. "Our best knowledge of the life of plants has been obtained by direct observation not deduced from chemical and physical theories."

But with some exceptions, the study of physiology demands means and apparatus which are not at the gardener's disposal. Minute anatomical investigations, and accurate physical experiments, must continue to be conducted by skilled experts in the laboratory. But whilst this is so, there is ample field for the gardener in the careful observation of the more obvious phenomena of growth, and in the study of the influence of external conditions upon it, and he has abundant facilities for doing some kinds of experimental work. In particular, he can render great service alike to practical gardening and to botanical science by the practice of hybridising and crossing, particularly if he has a definite aim in view, and faithfully records alike the details as well as the results of his experiments. In this department a practical gardener was the first in the field. FAIRCHILD, a nurseryman of Hoxton, raised, about 1719, not only the first hybrid Pink (between D. caryophyllus and D. plumarius), but the first artificially-produced hybrid on record. As the pioneer in this department, FAIRCHILD'S name deserves to be remembered with honour. THOMAS ANDREW KNIGHT and DEAN HERBERT, both eminent practical gardeners, take rank with GÆRTNER, KOLREUTER, SPRENGEL, and other botanists. In later times, NAUDIN may especially be noted as a gardener-botanist, who has specially contributed to the unravelling of the phenomena of hybridisation.

Results obtained with a practical aim only, without direct thought of scientific research, are of course abundantly familiar to all interested in gardening. Here the gardeners have it all their own way, and the results they have obtained are very remarkable. We need not do more than mention the hosts of Orchid-hybrids that have been produced of late years exclusively by the gardeners; but in this connection we cannot overlook the history of the tuberous Begonia, the production of which is certainly one of the greatest feats ever accomplished in practical horticulture.

We have been led to the consideration of this subject by the receipt of a remarkable paper by Dr. MUIRHEAD MACFARLANE, in the *Transactions of the Royal Society of Edinburgh*. In this paper Dr. MACFARLANE carefully details the results of the microscopic examination of the following hybrids as compared with that of their respective parents, viz.:—Philageria Veitchii (a cross between Philesia buxifolia and Lapageria rosea); Dianthus Grievei (D. alpinus × D. barbatus); Geum intermedium (G. rivale × urbaneus); Ribes Culverwelli (R. grossularia × R. nigrum); Saxifraga Andrewsii (S. Aizoon × S. geum); Erica Watsoni (E. ciliaris × Tetralix); Bryanthus erectus (Menziesia empetriformis var. Drummondi × Rhododendron chamæcystis); Masdevallia Chelsoni (M. amabilis × Veitchiana); Cypripedium Leeanum (C. insigne × C. Spicerianum). The Philageria and the Ribes have been described and figured in our columns. The Bryanthus is noteworthy because many amongst them, if we remember rightly, the late Dr. ASA GRAY, have doubted its hybrid origin. The doubt is set at rest by Dr. MACFARLANE'S researches.

With reference to the Philageria, Dr. MACFARLANE thinks its two parents, Lapageria and Philesia, may have had a common origin, and that the two genera as we now know them are the result of adaptation to different circumstances; and further suggests the possibility that sooner or later on the southern Cordilleras an intermediate form may be encountered, similar to the artificially-produced Philageria. Such cases are not unknown among Orchids. "I can scarcely doubt that some of our hybrids are artificial pictures of what once flourished as the progenitors of our present day species."

In addition to the eight seed-hybrids described in his paper, Dr. MACFARLANE has investigated the microscopical structure of the marvellous Cytisus Adami, of which so much has been written. The minute structure proves to be as remarkable as the external conformation, and to afford equal evidence of its composite origin. Dr. MACFARLANE then, contrary to the opinion of VOCHTING, supports the notion that C. Adami is a graft-hybrid, that ADAM'S account of it is correct. There are many points in Dr. MACFARLANE'S paper of the highest interest, both to physiological botany and to practical hybridists and grafters. For the moment we must content ourselves with the mere mention of them, but in the meantime we may say that, had Dr. MACFARLANE'S paper reached us sooner, it would certainly have been included in our review of the publications of the past year as the most important contribution to horticultural science that has been made in the period under review. On a future occasion we may have another opportunity of again alluding to some among the many points suggested by this remarkable record of microscopical work.

THE NEW RAILWAY RATES.—The disturbance in trade caused by the revised tariffs of the railway companies, and the consequent complaints which have reached the Mansion-House Association on Railway and Canal Traffic, have decided that body to hold, early in the new year, at the Mansion House, London (by permission of the LORD MAYOR), a conference to which traders and agriculturists generally will be invited. Meanwhile, the numerous communications which the Association has received are being collated, with the view of ascertaining the effect of the new rates on the trade of the country. The elaborate table given in our number for April 20, 1889, should be consulted with reference to this subject.

THE GARDENERS' ORPHAN FUND.—The monthly meeting of the committee of the above took place at the Hotel Windsor on the 29th ult., Mr. H. HERBST in the chair. Among the special amounts sent in during the last month were the following:—Reigate Chrysanthemum Society, per Mr. J. Brown, secretary, £20; Rugby Chrysanthemum show, per Mr. W. Bryant, secretary, £9 2*s.* 6*d.*; sale of flowers at the Edinburgh Chrysanthemum exhibition, per Mr. Tod, £20; the Midland and Birmingham Carnation and Picotee Society, per Mr. R. Sydenham, £5; from Mr. Harvey, The Gardens, Stanton-in-Peak, Bakewell, per Mr. Bolas, £2 10*s.*; collecting boxes, Mr. H. Herbst, £3 10*s.*; Mr. G. W. Cummings, the Grange Gardens, Carshalton, £2 6*s.*; Mr. William Marshall, £1 7*s.* 3*d.*; Mr. C. Gibson, The Gardens, Morden Park, 18*s.*; Mr. A. Waters, Hopwood Hall, Middleton, 15*s.*; Mr. R. Scott, Bradford, 5*s.*; Mr. A. Read, Grittleton, Chippenham, 5*s.*, making a total of £61 19*s.* 1*d.* Hearty votes of thanks were passed to each of the foregoing. The secretary, Mr. A. T. Barron, reported that six applications on behalf of children qualified to receive the benefits of the Fund had been received in answer to the advertisements, and this number added to the nine unsuccessful ones of last year, brings the number up to fifteen, from which eight have to be elected. The rules of the Fund provide, that in the case of one of last year's candidates having died in the interim, the votes received at the last election by the deceased child can go to another of the family, if one be qualified. It was resolved that the annual general meeting and election of children should take place at the Cannon Street Hotel on Friday, February 3; and the committee will meet on the 20th inst., instead of the last Friday in the month, to make the necessary arrangements. Various cheques were drawn, including one of £159 5*s.*, the allowance to children for the first quarter in the new year.

DR. NEWBERRY.—From *Garden and Forest* o December 14, we learn that Dr. JOHN STRONG NEWBERRY, Professor of Geology in Columbia College, died at Windsor, Connecticut, in his seventieth

year. In 1855 Dr. NEWBERRY, in order to gratify his taste for science, obtained an appointment as Acting Assistant-Surgeon in the United States Army, and accompanied the expedition under Lieut. R. S. WILLIAMSON which explored the territory lying between San Francisco and the Columbia River, acting as surgeon and geologist. In 1858 he was attached in the same capacity to the expedition which, under command of Lieut. J. C. IVES, made the first exploration of the basin of the Colorado River of the West. In 1859 Dr. NEWBERRY explored

FIG. 4.—KEELE HALL; LAKE AND VIEW IN THE GROUNDS. (SEE P. 10.)

e country bordering the upper Colorado and San ian Rivers, and during the war of secession ren- red important service to the army as a member of e United States Sanitary Commission. In 1860 published a catalogue of the flowering plants and rns of Ohio, but his most important contributions botany are found in the sixth volume of the *cific Railroad Reports*, in which is printed his port of the plants collected on the WILLIAMSON pedition, with remarks upon the geographical tany of the region traversed, followed by a descrip- n of the forest-trees of northern California and egon, a paper which contains the fullest and most act information upon these trees which has yet been published. Professor NEWBERRY's service to botany is commemorated in Newberrya, a genus of leafless Ericaceous plants, dedicated to him by TORREY, which he discovered in the Cascade Mountains of Oregon.

ANCIENT SOCIETY OF YORK FLORISTS.—The annual dinner of the Society was held on Dec. 21, at Harker's Hotel. Alderman Sir JOSEPH TERRY, J.P., presided, and was supported by Mr. J. G. BUTCHER, M.P. (senior member for the city), and many other influential gentlemen. This long-established association now numbers 600 members, and has a favourable balance of something like £180.

THE ROYAL GEOGRAPHICAL SOCIETY has begun the publication of the *Geographical Journal*, the first number of which has just appeared. This journal, while retaining the official and responsible character of the old *Proceedings*, will contain several new features, which should render it the most popular, as well as the most authoritative, geographical publication in the English language. The greatest interest of its readers will, for many years to come, be centred in the narratives of adventurous or scientific travel told by the explorers themselves at the evening meetings of the society. These will be published in full in the journal, with the discussions which take place after the papers are read. Many of these papers will be illustrated from photographs and sketches made by the explorers. Original maps compiled from the observations and measurements of travellers, will be a prominent feature of every number, and small block-maps will be introduced freely in the text. Papers on scientific geography by the leading physical geographers in the world will occasionally be published. Applied geography, i.e., the practical aspects of the science, relating to such important interests as commerce, industry, communications, colonisation, and agriculture, as well as to the public events of the day, will receive adequate attention. The journal is, of course, primarily scientific. The utmost care will be taken to avoid any national exclusiveness. The society has in the past honoured distinguished explorers of every nation with perfect impartiality, and the journal will record the geographical work of the world in a similar spirit. Under the head of the Monthly Record will be given a series of short carefully-selected and classified notes and comments

on matters of general geographical interest. The notices of geographical literature of the month will give a brief non-critical summary of the additions to the library, including not only books, but also all the important articles in British, colonial, and foreign geographical publications. New maps, atlases, and photographs added to the map room, will be dealt with in the same manner as new publications. Correspondence on geographical subjects will be encouraged, and free interchange of opinions on contested points invited. The *Geographical Journal* will appeal, therefore, not only to geographers, but to all interested in public affairs, commerce, colonisation, foreign missions, in literary work, and especially in education. Its offices are at No. 1, Savile Row.

"A HANDBOOK TO THE FLORA OF CEYLON."—The first part, about to be published by Dr. HENRY TRIMEN, M.B., F.R.S., Director of the Royal Botanic Gardens, contains a full account of all the native plants found in the colony which are members of the Natural Orders from Ranunculaceæ to Anacardiaceæ inclusive; and is illustrated by twenty-five coloured plates, representing some of the most interesting species. The publishers are Messrs. DULAU & Co., 37, Soho Square, London, W.; and the price is £1 1*s*. It is intended to publish the book at intervals, in four similar parts, and it will, when complete, consist of two volumes of text (in 8vo) and an Atlas of 100 coloured plants (in 4to). The subscription price for the whole work, in one payment in advance, is £3 13*s*. 6*d*., and subscribers' names should be sent at once to the publishers in London or to Dr. TRIMEN, at Peradeniya. This *Flora of Ceylon* is issued under the authority and with the assistance of the Government of the Colony, and has been written with special reference to local use; one principal object being to enable observers to ascertain readily the name of any tree, shrub, or herb they may meet with growing wild in the country. For this purpose copious analytic keys and full descriptions are given; as well as the Sinhalese and Tamil names, the distribution of each species through the Island, its period of flowering, and varied information as to its history, properties, and uses. An endeavour has also been made by references and quotations to embody all previously published information on the botany of Ceylon, so that the book will form a comprehensive work of reference for everything relating to the plants of the colony.

THE COLOURING-MATTERS OF LEAVES.—Herr N. MONTEVERDE in the *Ann. Agronomiques* (xviii., pp. 268—270), discusses the interesting question of how many different pigments are contained in an alcoholic solution of chlorophyll extracted from the leaves of plants. We note that he has obtained from dead leaves the pigment carotin which occurs largely in the Carrot. He confirms BORODIN'S observation that leaves contain xanthophyll in their chlorophyll. The etiolated leaves of Wheat contain only very small quantities of carotin; but after a short daily exposure to light, crystallisable carotin can be obtained from them. Both carotin and xanthophyllin exist in the yellow autumnal leaves of many ligneous or woody plants. From the leaves of Scrophularia nodosa, MONTEVERDE has extracted a third pigment, agreeing with the "golden-yellow" of BORODIN. The young leaves of Potamogeton natans are yellow-brown, the colour cells containing, in addition to the yellow and green pigments, a red one, which disappears later on; when dissolved in alcohol, it gives the solution a cherry-red colour. By careful treatment MONTEVERDE succeeded in isolating a beautiful green pigment, and in demonstrating that KRAUS' cyanophyll is composed of this pigment mixed with carotin. He also noticed what he terms an "inferior green pigment," "inferior chlorophyllane," and "inferior phyllocyanin," and came to the conclusion that the first of these exists only in living leaves. Altogether the chlorophyll pigments in leaves seem to consist of a rather complex mixture.

TECHNICAL EDUCATION.—A course of a dozen lectures was delivered on the "Action of Manures," at Aldbrough, Hull, by Dr. J. CLARK, of the Yorkshire College, Leeds, under the auspices of the East Riding County Council. On Thursday the 22nd ult., the lecture was devoted to the action of manures on garden vegetables. The lecturer dealt more particularly with the action of farmyard and artificial manures upon Peas, Beans, Cabbages, and their allies, Onions and Leeks. Special attention being paid to the *rôle* played by phosphates and potash in the plants. The lecture was illustrated by the limelight, and there was an encouraging attendance of eighty-six in spite of the inclemency of the weather. Mr. J. W. FELL acted as Honorary Secretary.

ROYAL BOTANIC GARDENS, GLASNEVIN.—Under the management of Mr. MOORE, says the Official Report of the Science and Art Department, the gardens maintained during the past year their position as one of the principal centres of scientific horticulture in the United Kingdom. The continued interest in the operations carried on there is amply testified by the support which plant growers still afford by their contributions of novelties. It was hoped that the public would have taken more advantage of the sanction of My Lords to the delivery by Prof. JOHNSON of courses of lectures on Botany in the gardens during the past year, but as yet public interest does not appear to be sufficiently aroused on the subject. The morning lectures on Botany, which used to be delivered by the late Prof. WM. HARVEY many years ago, are still vividly remembered by some, at least, of those who used to attend them, and in spite of the great migration which has taken place in the last twenty years from the north side of Dublin, it seems possible that a fair measure of success might again attend lectures delivered under similar circumstances. Mr. MOORE, keeper of the gardens, reports as follows:—

"*Conservatories.*—The conservatories are in excellent order and repair. The addition to No. 1, the desirability of which was mentioned in my last report, has been made, the glass structure being extended outwards 14 feet over a shed at the rear. The appearance of the house inside has been much improved, and the space gained is a great acquisition. The space between No. 1 and the Aquatic-house, No. 2, was also roofed over, and a shelf erected. A useful little house thus replaces what was formerly a waste corner.

"The Aquatic-house and the entire of the curvilinear range, with the exception of the central compartment, have been painted inside.

"The large Palm-house, No. 7, has been painted both inside and outside. This was a very troublesome undertaking, both for the gardeners and for the contractor's men, as most of the plants had to be moved to make space for the scaffolding which was put up inside. Owing to the care exercised by the Board of Works' officials and the contractor's workmen, all the scaffolding was erected and taken down again without any accident happening to workmen or plants. The large Palm-house is now in every way in good order, and the plants show no sign of injury from exposure and dryness of the atmosphere, which could not be avoided while painting the interior.

"*Outdoor Department.*—Many important works, alterations, and renewals were last year carried out in the outdoor department. The new works alluded to in last year's report have all proved to be satisfactory. These were, where necessary, added to or altered during 1891. The plants in the herbaceous borders, in the new Pæony border, in the new bog bed, and on the island have all grown well, and the collection of wall plants has been largely added to.

"The 'Grant' collection of Kniphofias, alluded to in a previous report, had hitherto been cultivated in the private nursery ground. As the plants had grown strong enough to divide, a sheltered corner was prepared for them, and all the most distinct sorts were planted out in small beds in the grass, where they will be accessible to the public for notes and comparison, and will, I trust, form a pleasing and useful group.

"The new offices are a great convenience, and greatly facilitate the work connected with the administration of the garden. Much care has been given to the improvement of the library, and a large number of new works have been purchased, as well as works required to complete imperfect sets.

"Two great and pressing wants still remain. Before the garden can be considered complete these must be provided for—

I. A new house for succulent plants.

II. A house for tropical Ferns.

"The necessity for the first of these I have repeatedly urged. I now do so again. In Ireland no such house exists, nor is there a good collection of succulent plants to be seen. Glasnevin is beyond doubt the proper place for such a house, and were it once provided not much difficulty would be experienced in getting together a fair collection of plants to fill it."

HORTICULTURAL JUBILEE.—M. L. G. GILLEKENS, Director of the École d'Horticulture et d'Agriculture of Vilvorde, has just celebrated the twenty-fifth anniversary of his appointment to that position. On the occasion, the professors, pupils, and friends, sent many gifts and expressions of sympathy. M. GILLEKENS is the author of many works on horticulture and agriculture, is an excellent teacher of much originality and knowledge.

ORCHIDS IN BELGIUM.—At the Horticulture Internationale (Director, M. L. LINDEN) we saw in full bloom Epidendrum stenopetalum grandiflorum, Catasetum barbatum, as rare as curious; and Odontoglossum præstans with two fine racemes. M. VAN IMSHOOT has at Mont St. Amand a Brassia, unknown but excellent. The petals were from 10 to 11½ inches long, exceeding even those of B. brachyata. *Ch. de B.*

GRAFTING CHRYSANTHEMUMS.—We have already mentioned the results obtained by M. ALEXIS CALLIER, of Ghent, in grafting Chrysanthemums on to Pyrethrum or Chrysanthemum frutescens (Marguerite), and it may be interesting to give now some further particulars concerning this mode of procedure, which attracted great attention from all at the November exhibition of the Ghent Société Royale d'Agriculture et de Botanique. M. CALLIER is no inventor in the proper sense of the word, for he does but imitate the Chinese growers who customarily employ this system, according to FORTUNE, as noticed by BURBIDGE in the Chrysanthemum, making use also, it is said, of a species of Artemisia. The idea was suggested to M. CALLIER by seeing the great vigour shown by certain Pyrethrums when manured. Pyrethrum being perennial, or at least retaining its stem and branches, it should therefore be beneficial to the grafts of the Chrysanthemum, which should profit by the food stored up by the stock, and especially by the vigour already attained by it at a time when the shoots of the grafted Chrysanthemum are only beginning to move. This vigour represents the work of weeks, months, or even years. In two years the Pyrethrum, highly cultivated, forms a small bush. In the South of France, where it grows in the open ground, and survives the winter out-of-doors, very large plants of it may be seen. The variety, Etoile d'Or, recognisable by its beautiful flowers, which resemble those of the large yellow Marguerites which, during winter, are sent from Nice and Cannes, is the best stock for grafting upon. Next in order of merit is another variety with large white flowers, which is also grown along the Corniche. The results obtained from these were very similar. Experience will doubtless show us that certain Chrysanthemums have more affinity with certain varieties of Marguerite than others. In the first experiments of M. CALLIER, all varieties of Chrysanthemum did not appear to lend themselves equally well to grafting, as far as had been tried. He succeeded well with the following:—Val d'Andorre, Paul Fabre, Ernest Fierens, Mélanie Fabre, Etoile de Lyon, Hiver Fleuri, Mdlle. Paule Dutour, Madame Eliza Neyd, Source d'Or, Cinna (seedling of 1891),

Cavour, Marie Fierens, Sirius, Hermann (all also seedlings of 1891). The following varieties were not successful:—Mrs. Parnell, George Glenny, Mrs. Dixon, Edwin Molyneux, Mrs. Haliburton, Vital (seedling, 1890), Massalia, Maiden's Blush, Osaka, Guernsey Nugget, Madame C. Audiguier. Even with these the union was effected, but was afterwards more or less a failure, owing to the weak growth of the plant. The La Huart, or La Pontoise, method of grafting was adopted, with a ligature of raphia, covered or not with cold grafting wax. In this method a V-shaped wound is made in the stock, into which the graft is inserted. The union of the stock and graft must be as close as possible, bark to bark, branches of the same size being chosen. The plant should be kept closely under glass for about three weeks, more or less, according to circumstances, and air gradually admitted as the buds appear. The temperature should be 12° to 15° C. (53° — 59° F.) of artificial, 15° to 20° C. (59° — 68° F.) of natural heat. Shade against the direct rays of a hot sun should be given. Grafting may be accomplished at any time from the beginning of December to the beginning of May, according to circumstances and the results desired. Early and late grafting have each their advantages. In grafting early, on a Pyrethrum having but few stems, a very few shoots of Chrysanthemum are enough to produce a large plant by the following November. A plant of Ernest Fierens, grafted in January, 1892, on a Pyrethrum raised in August, 1891, bore only nine grafts, which by careful pinching were made to produce more than 300 flowers. By grafting late—in March, for instance—the operation is more sure and convenient. In this case there is no great care needed, as during the winter months; on the other hand, the Pyrethrum is left to shoot and grow apace like an ill weed, the object being to obtain, by pinching, as many stems as possible. As the growth is much more vigorous than that of the Chrysanthemum, the multiplication of the stems is also more rapid, and in spring the stock is in full vigour and health. At the same time, either by the buds or by allowing the old stools to shoot, as many growths of Chrysanthemum are encouraged as are deemed necessary for the supply of grafts, and these also should attain full vigour. At the proper time—in March, for instance—the stock and graft are both in full vigour, and the ultimate success of the plant is assured. The rapidity of the growth of the Pyrethrum is such that the grafts made in April on cuttings of Pyrethrum grown in January give plants even larger than are obtained from cuttings of Chrysanthemums taken in December. By selecting Pyrethrum of one or two years' growth, and grafting upon it in February or March, a hundred or more grafts, specimens may be produced with one or two thousand flowers, and with a diameter of 10 or 13 feet. To achieve such a result, it is necessary to prepare in advance both the stock and a sufficient number of grafts.

EMPLOYÉS SOCIAL DINNER. — On Friday, December 30 last, the employés of Messrs. DOBBIE & Co., seedsman, Rothesay, N.B., held their annual social dinner. The company consisted of about ninety persons, and included the members of the firm. Mr. CUTHBERTSON, who presided, said that the request which their work-people had preferred during the last year for a Saturday afternoon holiday, and which the firm had been able to grant, though at a pecuniary loss, he believed the firm had no reason to regret.

MR. G. A. DICKSON.—We notice that Mr. GEORGE A. DICKSON, Senior, of the old and well-known Chester firm, has been placed on the Commission of the Peace for the county of Cheshire, having previously, for some years, been a magistrate for Chester, of which city he was Mayor, 1885—1886.

THE DEVON AND EXETER GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—Spring Programme, 1893.—Wednesday, January 11, Mr. J. WEEKS, Stoke House Gardens: Subject, "Begonias, Tuberous-rooted, for bedding and for conservatory decoration." Wednesday, January 25, Mr. E. SPARKS, Pynes Gardens: Subject, "Zonal Pelargoniums." Wednesday, February 8, Mr. W. SWAN, Bystock Gardens: Subject, "Orchids." Wednesday, February 22, Mr. W. ANDREWS, Duryard House Gardens: Subject, "Kitchen Gardening." Wednesday, March 8, The Rev. Dr. DANGAR, Principal of the Training College: Subject, "Insects Destructive of Fruit Crops." (N.B.—This lecture will be illustrated by limelight transparencies on a large screen, and may possibly be given at the Training College, Heavitree Road.) Wednesday, March 22, Mr. W. CONNETT, foreman at Messrs. VEITCH's Nurseries: Subject, "Roses." Wednesday, April 5, Mr. A. C. BARTLETT, foreman gardener at Dropmore (son of Mr. BARTLETT, of Knightleys Gardens): Subject, "The Conifers at Dropmore."

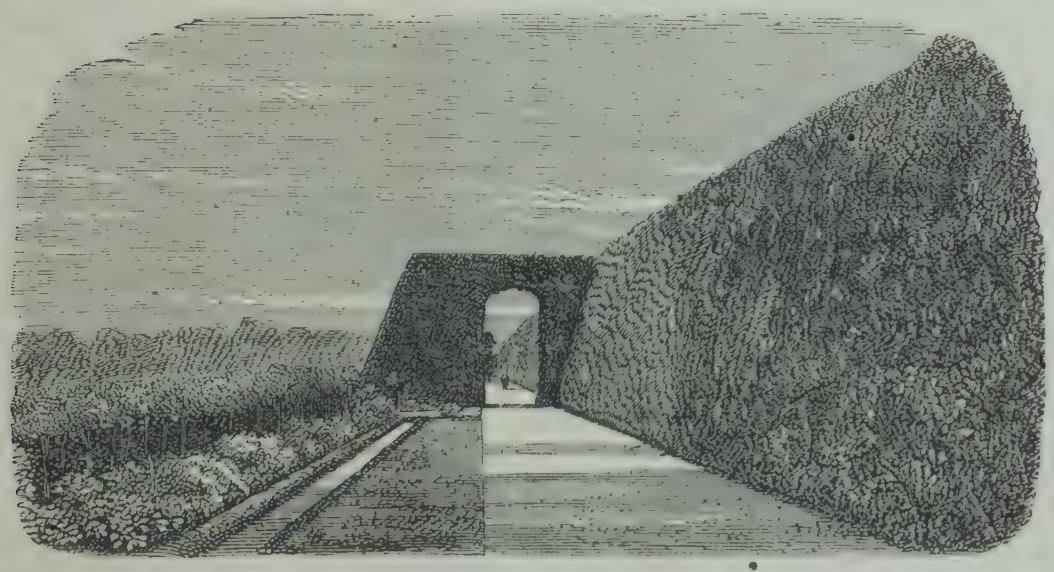


FIG. 5.—THE BIG HOLLY HEDGE, KEELE HALL. (SEE P. 10.)

THE RESPIRATION OF PLANTS UNDER LESSENED OXYGEN TENSION. — The production of carbonic acid gas by plants appears to be independent of the atmospheric oxygen between rather wide limits. Herr STICH has been growing plants in an atmosphere containing less than the normal amount of oxygen, but there was no striking diminution in the output of carbonic acid even when the experimental atmosphere only contained 10 per cent. of oxygen. In the case of many plants, as, for instance, the seedlings of Ricinus communis, Vicia faba, and Lupinus albus, the production of carbonic acid was not appreciably influenced by the amount of oxygen present, and was as great in an atmosphere of hydrogen as in ordinary air. For further details, consult *Biedermann's Centralblatt*, xxi., p. 350.

STRAWBERRIES.—We have received from Mr. A. BRADSHAW, gardener at Davenham Bank, Malvern, two Strawberry fruits—one La Grosse Sucrée, almost ripe, and the other Laxton's Noble, which is much the larger, and less ripe, although it has had a temperature 5° higher. It is rare so early in the year to see such well-developed fruits.

THE PRESENCE AND FUNCTION OF PHLOROGLUCINOL IN PLANTS.—In the course of some recent researches on this subject, Herr T. WAAGE examined no less than 185 different plants. His conclusions are that gymnosperms are rich in phloroglucinol, monocotyledons and gamopetalous plants are poor, whilst polypetalous plants contain none of this substance. Woody plants contain more than herbaceous; the distribution is almost the same in root, stem, and leaves. When cells containing phloroglucinol divide, the new cells contain it also. WAAGE considers that this substance is an accessory or bye-product of plant-growth; it enters into the composition of the glucides and glucosides in the plant, and take part in the formation of certain of the colouring matters. Plants which contain tannin invariably contain phloroglucinol also. The original paper by WAAGE is in the *Ann. Agronomiques*, xviii., pp. 204—206.

CYPRIPEDIUM ALBERTIANUM ×.—This is a cross effected by M. JULES HYE between C. Spicerianum and C. insigne Wallacei. It comes of a good stock, closely similar to that which has yielded C. Lesanum × and C. L. superbum ×. The distal or upper sepal is very large, white, with numerous purple rays and spots, the lower sepal pure white, the lateral petals olive-coloured, with a central purplish midrib, and numerous similarly-coloured spots in the lower two-thirds; the tips are white, the labellum is like that of insigne, brownish-green, shining, and flushed with pink along the free edge. It is well figured in the *Revue de l'Horticulture Belge*.

BEGONIA CINNABARINA (HYBRIDA) VAR. ALBO-VITTATA.—Under this inconvenient name is figured and described, in the last number of the *Illustration Horticole*, t. 165, a tuberous Begonia, with its red flowers marbled and streaked with white. It is a singular and inexplicable fact that the same kind of variation occurs suddenly and simultaneously in widely separated places. Thus, we have seen instances of the same thing during the past summer, and others have been recorded from Belgium and Germany. M. RODIGAS, in describing the plant, assigns it to B. cinnabarina of HOOKER, *Bot. Mag.*, t. 4483, and yet the article and the plate bear the qualification "hybrida," probably by oversight.

STENANDRIUM BEECKMANNIANUM ×.—This is a hybrid between S. Lindeni and S. pictum (alias Eranthemum igneum). Numerous variations were produced as a result of the cross, and one was selected for figuring in the *Illustration Horticole*, t. 166. In it the bright yellow of S. Lindeni is mingled with the bronzy brown of S. pictum. It is named in honour of the raiser.

STREPTOGLOXINIA ×.—The *Illustration Horticole* mentions the production of a bigeneric hybrid between one of the hybrid varieties of Streptocarpus and a Gloxinia. It appears that seedlings are "coming on," but they are not at present old enough to show their characters. To give them a generic name seems therefore almost as doubtful a proceeding as that of counting chickens before they are hatched. M. RODIGAS also tells us that he has fertilised Streptocarpus Kewensis × with the pollen of Isotoma hirsuta, and inversely.

PLANTING ALTERATIONS, ETC, AT SYON HOUSE, BRENTFORD.—A correspondent informs us, that in a walk recently round the pleasure grounds

of this fine ducal place, it was satisfactory to note that Mr. WYTHES is successfully endeavouring to bring into more prominent view its many fine arboricultural features. Huge groups of Laurel and other common shrubs are being cut away, thus giving a greater breadth of green sward for the eye to rest upon, affording also pretty landscape effects, and bringing into bolder relief many fine trees which had previously been hidden from effective view. Groups of Rhododendrons, Weigelas, and other choice flowering shrubs are also being planted in suitable positions.

PUBLICATIONS RECEIVED.—*Royal Institution Proceedings.—Californian Vine Disease;* United States Department of Agriculture.—*Liste des Graines recoltées par le Jardin Alpin d'Acclimatation*, 1892.—The *Botanical Magazine*, Tokyo.—*Report of Science and Art Museum, Dublin.—Botanische Zeitung.—Botanisches Centralblatt.—Pittonia.—The Pear Tree Psylla;* Cornell University Agricultural Station.—*Boletim da Sociedade Broteriana, Coimbra.—Agricultural Gazette of New South Wales.—Annales de l'Université de Lyon.—Die Sukkulenten-Prospekt*, Von Prof. Dr. SCHUMANN.—*Contributions from the Botanical Laboratory, University of Pennsylvania.—Die Natürlichen Pflanzen Familien*, ENGLER & PRANTL, 78, Lieferung.—*American Gardening.—Histoire des Plantes, Conifères, &c.;* H. BAILLON.—*Beissner's Einheitliche Coniferen-Benennung.—Tropical Agriculturist.—Grasses of the Pacific Slope*, by Dr. GEO. VASEY, United States Department of Agriculture.—*Dictionnaire Pratique d'Horticulture.*—Dr. J. M. MACFARLANE, *Minute Structure of Plant Hybrids, Trans. Royal Society, Edinburgh.—Ueber Transplantation am Pflanzen Körper*, Dr. H. VOCHTING.—*A Text-book of Agriculture*, by H. A. NICHOLLS, M.D. (MACMILLAN & Co.).—*The Geographical Journal* (1, Savile Row).—*The Ferns of South Africa*, by T. R. SIM (WESLEY & SON, Essex Street, Strand).

BOOK NOTICE.

ODOROGRAPHIA: *a Natural History of Raw Materials and Drugs used in the Perfume Industry, intended to serve Growers, Manufacturers, and Consumers.* By J. Ch. Sawer, F.L.S. (London: Gurney & Jackson, 1, Paternoster Row. 1892.)

NOT only is the cultivation of perfume plants an important industry, but the preparation and manufacture of the perfumes themselves is both important and interesting. Piesse and Rimmel have both done good service in popularising the perfume industry in publishing, as they have done, very readable books on the history and development of the perfumery trade; but the subject is such a large one, viewed in all its aspects, and considered in all its ramifications, that there is indeed plenty of room for such a book as *Odorographia*, and it goes far to supply a real want. Piesse's *Art of Perfumery*, a new edition of which was but recently published, appeals more to the general reader in giving an insight to an attractive trade, and imparts just so much information on the sources of perfumes and their preparation as would be required in a book of the kind; but Mr. Sawer's work goes much more deeply into the commerce, trade, and chemistry, not only of popular odours, but also of those about which but little, comparatively speaking, is popularly known, but some of which, at least, may yet become largely developed.

From his introduction, it would seem that Mr. Sawer has made himself thoroughly acquainted, not only with agreeable perfumes, but with those that are to be avoided rather than courted, such as the Carrion flowers (Stapelia spp.), Anagyris fœtida, Arum Dracunculus, Phallus impudicus, the stinkhorn, &c. These do not, however, come in for detailed consideration in the book before us, but as we learn from the preface, that "the author is still engaged upon studies in this department [i.e., odorous plants], and hopes to publish another volume in due course," we may perhaps expect some notes brought together on fœtid plants. As a further proof of Mr. Sawer's capabilities for research into the literature of perfume-yielding plants, we may refer to a list of some ninety odd of the principal works referred to in the book, a list which includes books and journals in most of the European languages. In the arrangement of the book, the author divides his subjects into different chapters. Thus, Chapter I. is devoted to "The Odour of Musk," and after referring to its source, and describing its character and properties, he proceeds to the consideration of Musk substitutes, in which is included such plants as Delphinium moschatum, Sumbul, or Musk-root (Ferula Sumbul), the source of which, though a well-known medicine in this country, was quite unknown till 1869, when the plant was discovered in the Maghian Mountains, south-eastward of Samarkand, from whence one was sent to the Botanic Garden, Moscow, where it flowered in 1871. The following history and description of Sumbul will illustrate Mr. Sawer's mode of treating his subjects. "The plant is," says the author, "a perennial Umbellifer, growing to the height of 9 or 10 feet, and has a branched, fleshy root, about 11 inches in circumference at the base, with numerous rootlets. In 1876 it was reported by Wittman that the plant was found in large quantities in the extreme eastern regions of Siberia, which border on the Amoor river. The word "Sumbul" seems to be employed in Arabic to designate various substances, especially the Indian "Nard," or root of Nardostachys Jatamansi (the true Spikenard), but when or why it was first applied to this root remains an unsolved problem (the word "Sumbul" appears to be an incomplete, or, rather, an abbreviated name). It is known, however, that the Sumbul was first introduced (imported as a drug) into Russia about the year 1835 as a substitute for Musk (which was at that time recommended as a remedy for cholera). It began to be known in Germany about 1840, and in England ten years later. It was admitted into the *English Pharmacopœia* in 1867. The root, as we know it in commerce, is usually cut transversely into slices of from 3 to 5 centimètres, and sometimes 12 centimètres in length, by about 3 or more centimètres in thickness, sometimes mixed with small inferior shoots not thicker than a goose quill. It is covered with a dark papyraceous bark. The internal surface of the slices is pale brown, marbled with white streaks; examined with a glass, an exudation of a large number of resinous drops is noticeable, especially near the circumference. The internal structure has a spongy fibrous farinaceous aspect. It exhales an agreeable odour of musk, and possesses an aromatic bitter taste. Professor Flückiger remarks that the Indian Sumbul root mentioned by Pereira is unknown to him, and that the root imported from China mentioned in Pereira's *Materia Medica* appears to be quite a different root to Sumbul, a fact confirmed by Dr. Dymock, of Bombay, who states that in China the root of Dorema ammoniacum [the source of some of the ammoniacum of commerce], is perfumed with musk, and sent to Europe as Sumbul. Microscopically examined, the internal structure of Sumbul root is very irregularly formed of wood and medullary rays, and the bark consists of a soft spongy parenchyma. The anatomical structure of the root becomes very apparent when a thick slice is moistened with a solution of iodine, the medullary rays acquiring an intense blue colour by reason of the starch contained in them. The irregularity of the structure resembles that of Rhubarb root, but this last has not the large resinous cavities observable in Sumbul root, and in many other Umbelliferous plants. Sumbul root contains about nine per cent. of soft balsamic resin, soluble in ether, and a small proportion of volatile oil (about 0·3 per cent.). When the resin is brought into contact with water it develops a musky odour. A solution of potash is said to convert this resin into a salt of potassium and Sumbulamic acid, smelling very strongly of musk."

The second and third chapters, on the "Odour of Rose," and the "Citrine Odours" respectively, are lengthy, and contain a variety of useful facts; for instance, it may be new to some Palm-growers that the flowers of Chamædorea fragrans have the odour of the Maréchal Niel Rose.

We prophesy that the book will be a valuable one for reference to all those who are practically interested in perfume-yielding plants, but we hope that the author will, in a future edition, make it still more useful, by adopting the latest and most recognised name of each plant, and doing away with all botanical synonymy, except in the case of any one well-known name. The spelling of the scientific names might also be revised with advantage, such slips as Auclandia for Aucklandia, Anethum for Anatherum, Oxycantha for Oxyacantha, hostilis for hastilis, being only too common. We may also appeal for that most necessary adjunct to all books of reference, a more accurate and extended index.

WINTER FLOWERS AT SYON HOUSE.

IN this large garden many species of plants are in flower, notably Calanthes, of which C. Veitchii, C. V. superba, and C. rubra oculata are the finest.

Two houses devoted to Cypripediums present a very gay appearance. The plants are grown "cool," being placed in July in cold frames on coal-ashes facing north or west, and the sashes left off them at night, and plenty of air is afforded during the day. The plants are housed in their winter quarters at the end of September, when they show their flower-spikes. Owing to this kind of treatment, the foliage is very dwarf and healthy, free from all insect attacks, and the blooms, which are of great substance, are produced in large quantities, each plant having from twenty to thirty spikes of flowers. Any dividing or re-potting is done early in the year, and small pots are used—8 to 10-inch for large plants. The varieties grown at Syon are C. insigne, C. i. Maulei, and C. venustum.

Some plants of the old favourite, Lycaste Skinneri, were exceedingly well-flowered. Carnation Winter Cheer, with its scarlet-shaded flowers, is much esteemed, the plants being vigorous, dwarf, and floriferous. A fine quantity (two houses full) was noted in flower of a new late decorative Chrysanthemum named Duchess of Northumberland. It is a sport of the Japanese type, has pure white flowers with a sulphur-yellow centre, and is wonderfully free-flowering. The almost indispensable Eucharis amazonica is grown in quantity; the plants were in bloom in September, and are now in flower again. These Eucharis are never thoroughly rested, but they are kept cool in the winter.

Plumbago rosea was flowering profusely on a wall. It is found useful for wreaths, vases, and other similar purposes. It was appropriate at this season of the year to see forced Christmas Roses in variety. Bouvardias are grown in quantity, and in all the approved varieties. Mr. Wythes speaks highly of the new variety named Purity. It is very pure and fragrant.

The fogs, when they appear here, play sad havoc with the zonal Pelargoniums, completely destroying the flower-buds—indeed, it has been almost determined to give up their culture, owing to this cause. The good old and useful Tropæolum Ball of Fire, of which we saw some good pot plants, is also a prey to the same disagreeable atmospheric conditions.

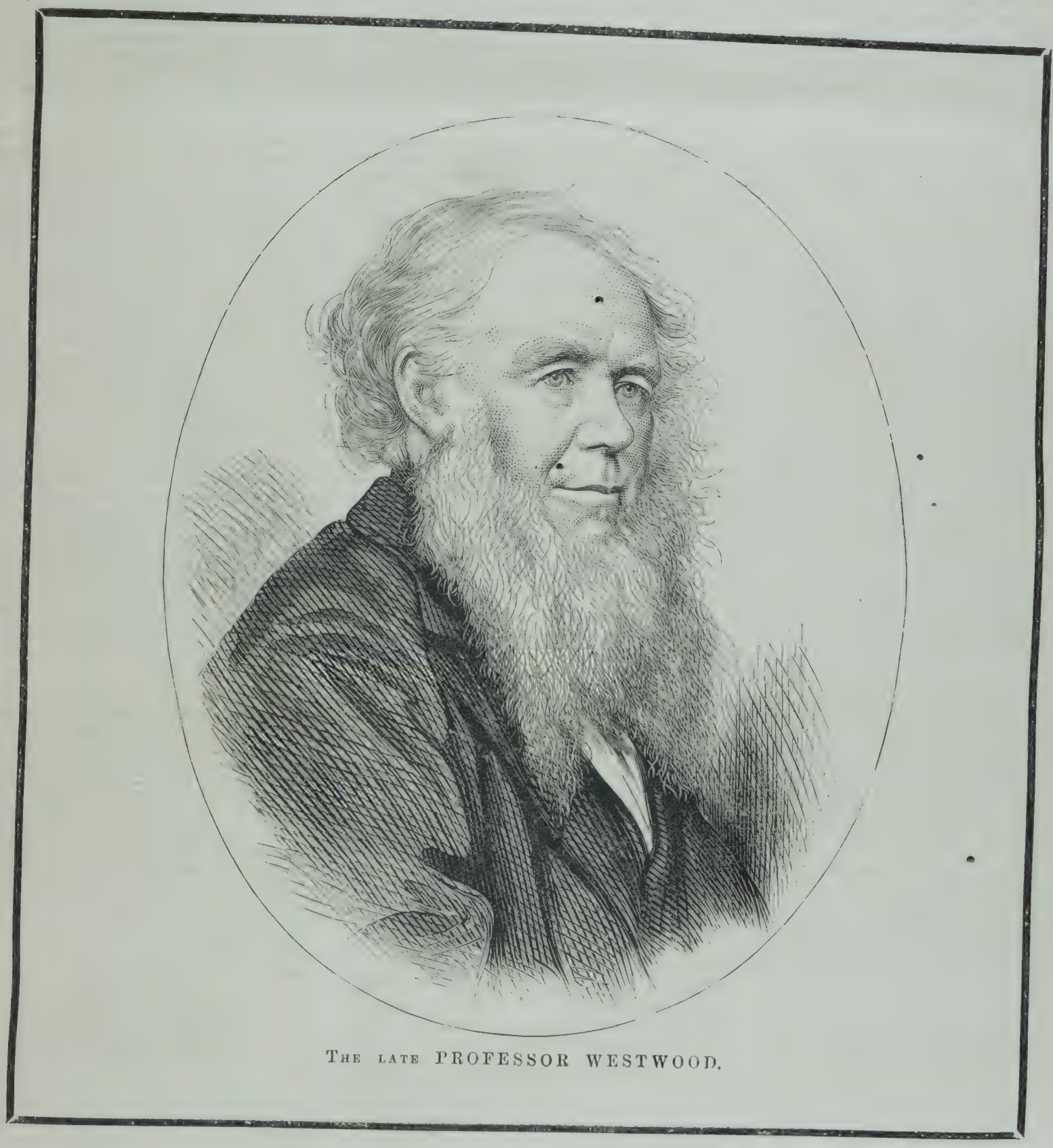
There are no more valuable winter-flowering plants grown than the Chinese Primulas; and a good strain is cultivated here, the flowers being distinct, and varied in colour. The Old Double White is represented by a good batch, the flowers being in much request for cut purposes, as they "last" better than the single forms.

These brief notes may fitly conclude with a reference to that gayest of all winter decorative plants, Poinsettia pulcherrima, which is in much demand at Syon. *J. B.*

Obituary.

PROFESSOR WESTWOOD.—It is only a short time since we had occasion to record the death of H. T. Stainton, a distinguished entomologist, and now it becomes our duty to announce the decease of a yet greater man. John Obadiah Westwood has long held rank as the leading entomologist of this country. His *Introduction to the Modern Classification of insects* is a classical book, whilst his detailed contributions are extremely numerous. A Royal Medal was awarded to him at the instance of the Royal Society, in recognition of his pre-eminence as an entomologist. Westwood was an archæologist as well. Fictile ivories, missals and illuminated manuscripts occupied much of his attention. Since 1861 he has filled the duties of the Hope Professorship of Zoology in the University of Oxford—duties which included the conservation and classification of the collections of insects.

His connection with the *Gardeners' Chronicle* date almost from its foundation to the present time, his last notice being published so lately as December 24, 1892. He succeeded John Curtis as our entomological referee early in the forties, and from that period up to within a few weeks it was a rare thing for a week to have passed without something being submitted to his examination. It would be impertinent for us to criticise the work of so great a man, but we cannot avoid noting one quality which was characteristic of him, and one which we need not say endeared him to the Editors. We allude to his prompt replies to questions put to him. If an insect were submitted to him for a name, an answer was sure to be forthcoming within a very short time.



THE LATE PROFESSOR WESTWOOD.

For the following details we are indebted to the *Times*:—John Obadiah Westwood was born at Sheffield, on December 22, 1805, so that he had just completed his 87th year. He was educated first at Sheffield in a Friends' School, where he early evinced a strong taste for natural history, and a remarkable native gift for drawing. Somewhat later his family moved to Lichfield, where they resided in Parchment Cottage, a house formerly lived in by Dr. Johnson. Here the cathedral with its services had a great attraction for him, and helped, perhaps, to lay the foundation of his taste and knowledge in ecclesiastical art. From Lichfield he went to London and was articled to a solicitor, but though he ultimately became a partner in the firm, he never gave himself to practice, but was more and more drawn off in the direction of science and literature. He was an original member of the Entomological Society, of which he was made life president. But he had another side on which he was equally distinguished. He was a specialist in the archæology and palæography of art. Books like the *Palæographia Sacra Pictoria*, and the *Facsimiles of the Miniatures and Ornaments of Anglo-Saxon and Irish MSS.*, are extraordinary monuments of his combination of knowledge, industry, perception, and skill. In this field, too, he was a pioneer. The

value of works like the *Book of Kells*, and its place in the history of art are now well known. When Westwood wrote and copied, nearly fifty years ago, this was not so. Allied to this was his knowledge of ivories and of inscribed stones. He was employed to make the catalogue of the ivories at South Kensington. His *Lapidarium Walliæ*, one of his later publications, is a monumental work. In the prosecution of his studies he was indefatigable, travelling through Germany or Russia to copy MSS., and keeping up a correspondence with all parts of the globe on points of entomology. In Oxford his hearty and honest disposition, his simplicity, his courageous industry and unflagging devotion to science, sustained long after his eightieth year, his warm kindliness and courtesy, endeared him to old and young. He was fond of relating that when he first came to Oxford some question was raised as to his religious opinion, but all was set at rest by a happy *mot* of the then public orator—that he was not a "sectarian" but an "insectarian!"

HOME CORRESPONDENCE.

APPLE MODELS.—I enclose a cutting from the *Daily News*, which seems to form an admirable text upon which to fashion a short discourse in relation to Apples:—"Of Apples alone it is estimated that there are over 600 varieties in New South Wales, a large number of which are Colonial seedlings of great merit. But, in the opinion of the authorities, it may be safely asserted that there is no one man in New South Wales who could recognise more than one-third of this number. The same may be said in a smaller degree of our Pears and Plums. In order to meet this difficulty to some extent, the Minister of Agriculture has authorised the formation of a collection of models of the varieties of fruit cultivated in the Colony; and to make this collection as complete as possible, the fruit-growers of the different districts have been asked to supply samples of fruit, with the names and details as to their most striking characteristics. The fruit-growers have responded heartily." How great is the need for some such action on the part of the Minister of Agriculture, or other authority here! Those who have been engaged in the work of lecturing on hardy fruit culture will know, when talking of fruit, the exhibition of living samples of varieties adds immensely to the interest the subject creates; but living examples cannot often be had, especially in the winter months, even of Apples. Let the samples be ever so good, soon suffer if carried far and are handled several times. But had all those engaged in this work, good hard, yet perfect models of the best varieties of Apples, Pears, Plums, &c., these would present to the audiences exactly the same characteristics that living fruits present, so far as form, colour, size, &c., are concerned, and would with ordinary care endure for many years. What a splendid opportunity was offered for the securing of fine clean living examples of such fruits at the Earl's Court shows, yet it was no one's business to collect samples and prepare models of them. Probably no private persons or firms have done so much for vegetables in the direction of permanent modelling as have the Messrs. Sutton & Sons, of Reading, for their museum of models is probably the best of its kind in the kingdom. We want one as complete, only public property, of fruits; but that can only be obtained by some public authority, such as the Department of Agriculture, which could, having obtained one complete set of models of the best Apples, Pears, and Plums, duplicate them and sell them to county councils, or any other bodies desirous of possessing them; and these could in turn place them at the disposal of their lecturers, &c., as needed. Drawings of fruits convey something, but models showing life-size are far more impressive. Still farther, these models are useful to enable either us or others following to compare the fruits of to-day with those of some future period, and thus determine how much advance, if any, may have been made. It seems very odd that we should find so much of energy in a matter of this kind in a youthful colony, whilst we at home are all behindhand; but it evidences, that whilst in New South Wales the colonists are alive to their own necessities, here at home there is too much disposition to cry for a slice of the moon, either in the form of a protective duty on corn, or some other impossibility. It is high time we woke up to the necessities of the case. We have no right to expect that the Royal Horticultural Society should undertake work which is so evidently the duty of the Government; but one is surprised that so demonstrative a body as the Fruiterers' Company, or the British Fruit Growers' Association, have not long since forced a matter of this sort upon public attention. *A. D.* [There was once a fine collection of such models at the Royal Horticultural Society, but it disappeared in the bad old times at Kensington. ED.]

GARDENERS' EXAMINATIONS.—In reference to the scheme of the Royal Horticultural Society, will you allow me to throw out an idea or two for bringing more prominently into view the strictly practical element in connection with this endeavour to raise the status of the gardener in this country? Anyone who has watched the progress of events in private gardening matters during the past, say twenty-five years, must have noticed the change that has been effected in, if one may so express it, luxurious horticulture. Do we at the present day see the specimens of plant culture that were observable on every hand in those days? The exhibitions now held, and evidence afforded in other ways, give an emphatic negative to the question. These are the days of utilitarianism and depression, from whatever cause it may have sprung, as a result of commercial losses, change of taste, and other causes which will readily suggest themselves, and need not be inquired into here, have left an ineffaceable mark on the "gentle art." It has been well said that the gardening of the future will be gardening in the fields. How are the rising generation of gardeners preparing for this mighty change? To many a young man it is considered so respectable, and as the height of his ambition, to get in the houses and remain there; and thus we are rearing a race of what have been not inaptly termed "glass-house gardeners," the productions from the kitchen garden being of quite a secondary consideration, and as coming only within the range of the garden labourers. How are such men fitting themselves for the time when they will have to undertake the direction of affairs in this, at the present day, all-important department? The man who can supply good Cabbages, Potatos, &c., for his employer's table, will be more esteemed than the one who only knows how to cultivate choice stove and greenhouse plants. In connection with these examinations, and as having reference to the particular branch of gardening, if some scheme could be devised by which the practical results of the competitor's efforts could be actually seen and appraised in the garden in which he is employed, it would be far preferable to any knowledge gained from mere book-cramming. To refer to one or two other matters. How often are gardeners, when they assume responsible positions, called upon to furnish plans for alterations in the gardens and pleasure grounds under their charge? A knowledge, then, of landscape gardening, &c., and being competent to commit ideas to plans, would seem to be essential qualifications to some positions in a gardening career. Could not the examinations encourage the gardener's efforts in this direction? Greater attention is being bestowed at the present day by owners of estates as to the beautifying of these by the wealth of choice trees and shrubs we now have at our command. Examinations, then, might stimulate a fuller and wider knowledge of arboricultural matters than at present seems to obtain amongst gardeners. *J. B.*

THE GARDENERS' ORPHAN FUND.—The above Institution was established for such a good purpose, and is doing such a great amount of good, that I often wonder how it is that more gardeners do not subscribe, especially as the minimum amount of subscription is so small that it amounts to little more than one penny per week. I believe there are hundreds of gardeners who can well afford that amount, and who might be induced to subscribe, if only asked by some friend who was interested in the good cause. It is a very easy matter to refuse to give a subscription to a stranger, but not so to a friend; at least, this has been my experience, and as I know that every man's influence is limited, and cannot, as a rule, reach far beyond his own immediate circle of friends, I think the idea of forming local committees as suggested by our friend Mr. Crump, a most excellent one. The word "councils" is becoming now so fashionable in towns, counties, and parishes, that we may be pardoned if we called them "district councils;" however, call them by whatever name you like, there would certainly be a vast extent of unexplored regions for them to roam in, and from which a lot of valuable help might be obtained. Take, for instance, my own district, which is a very wide and populous one, and one which it is impossible for any one man to canvass thoroughly, however willing. I believe if we had a committee, "not necessarily limited," but composed of representatives from every part of the district, the small amount I have hitherto been able to send to the fund would be materially increased, the reason for which may very easily be understood when we consider the number of people each committeeman must know and be able to reach in his own district, which it is impossible for any one man, however well known, to approach with the same results. In a society with which I have been officially connected for many years, we have a good working committee, of which four-fifths of the members are collectors of annual subscriptions, each one being supplied annually with a list of subscribers, from whom he is to collect, with a clear understanding that he is not to call upon any other subscribers except those on his list, but that he has a free hand in procuring new subscribers wherever he can; the result being that no subscriber is called upon twice. At the same time, all subscriptions are collected, and should any collector lose an old subscriber from death, removal, or any other cause, he invariably makes it up by adding new subscribers to his list. But the reason why this works so well is, that we are most careful not to introduce new members unless we are satisfied that they mean to be workers. No man should allow his name to appear as a local secretary or committeeman unless he is prepared at least to try and do something for the cause he represents. I know that districts vary immensely in the matter of population and wealth, and that where one produces shillings another ought to produce pounds, but it is a poor one, indeed, that cannot do something. However, as I expect others will have something to say upon the subject, I will simply conclude by earnestly recommending this new idea of my friend Mr. Crump's as being a matter worthy of the very serious consideration of the committee, whom I feel sure will gladly welcome any new departure that will be at all likely to augment the funds; and I, like Mr. Crump, will gladly avail myself of any new opportunity that can be afforded me in the way of adding to the very modest amount I have hitherto been able to send. *J. Hughes, Birmingham.*

A GOOD EARLY PEA.—Noticing several remarks on varieties of Peas, I venture to add another to the list in the form of Sutton's Bountiful, which is well worthy of a trial, and is especially good on light soils. I have not tried it on heavy ones, but I think it would answer, as it has a strong constitution, and is a heavy cropper, and much larger than the majority of early Peas. I sowed a row beside another of William I. the last week in January last year, both receiving the same treatment, and both withstood the severe weather experienced in the following month. The former was only a week behind the latter, and the well-filled pods were thought a great acquisition. I have mentioned the nature of our soil because a great deal is due to the soil in the cultivation of Peas. *W. G. Castle, Latchmere House, Ham, Surrey.*

SCOTLAND.

THE OSWALD HOUSE ORCHIDS.

THERE are so many interesting and rare Orchids in Mr. Buchanan's collection, that it will be better to describe them by genera, and not by the houses they happen to be in. Among "the curiosities" in flower, the fragrant Pilumna nobilis, Bulbophyllum Lobbii, Thunia Marshalli, sepals and petals white, yellow centre; Dendrochilum glumaceum, graceful drooping spike; Lily of the Valley Orchid; Restrepia antenniferæ, the three segments of perianth maculated and coloured identically, and two of the long antennæ, or tapering globular points, forming a St. Andrew's Cross. Rare and noteworthy Cypripediums are C. Sedeni, C. longifolium, C. Harrisianum, C. Chamberlainiana, C. species, oblong spots; C. niveum, C. Spicerianum, and C. cardinalis are in flower, the lobes of the lateral sepals of the former often curving back so as to

meet. Of the Oncidiums, O. ampliatum majus, the winter-flowering O. incurvum, and O. Sprucei have become fine healthy specimens; much larger as regards size are the two Dendrobes, D. fimbriatum oculatum and D. formosum giganteum. All the finest of the Lælias are grown, including L. superbiens, L. Schroderi, L. purpurata (a splendid form of it), L. anceps stella, and L. a. Hallii. Cattleya Lawrenciana, a variety of darker purple than usual; C. crispa superba, C. Sanderiana (a large plant of it) are perhaps most worthy of mention; C. Buchananiana is in the way of C. Percivalliana, but is larger, and of lighter shade of colour. Odontoglossum Pescatorei is grown in quantity; Mr. Wood evidently finds no difficulty in growing this Orchid. Two rare and valuable Odontoglots are O. brevifolium and O. Wilkeanum pallens. A spray of the former was sent to Mr. Sanders for Reichenbachia. There is also a distinct form of Uro-Skinneri with broader petals and deeper purple blotching. Some of the Vandas were 5 feet high. Six Angræcum sesquipedale filled the front of a stage. Large Cœlogynes and Cymbidiums are common enough, but the specimens here were really of unusual size, Cœlogyne flaccida and C. gigantea, and Cymbidium Lowii, C. giganteum, and C. eburneum all being represented. *Vagabond.*

IRELAND.

THE LOUGH NURSERIES, CORK.

The nurseries at Cork cover an expanse of 60 acres, and extend to the shores of the Lough, from which they derive their title, have long maintained a place of celebrity among the centres of fruit and floral production in Ireland.

It was in the year 1776 that the late Mr. Richard Hartland (grandfather of the present proprietor), with Arthur Young, first came to Ireland with the view of commencing the industry of which these nurseries are the centre. He enjoyed the favour of George III., and got appointed over "The White Knight's" estate of 100,000 acres, and then began those operations of forest and glen planting which have done so much to enhance the natural beauties of Ireland, to increase its timber resources, to provide covers for birds, and to open up the branch of work which it has been at all times the aim of the Hartland family to promote and extend. The present Mr. Hartland joined his father at the Lough Nurseries.

Of the extent of forest trees here developed an impression may be conveyed by the fact that in one kind alone, namely, Larch Fir, Mr. Hartland maintains a stock of 5,000,000. Here and there, at various parts of the grounds, are glasshouses, in which many of the rarest flowers and plants are being nurtured, while Roses, Begonias, Pelargonia, Camellias and Azaleas, Chrysanthemums, stove and greenhouse plants, and Coniferæ everywhere luxuriate. The proprietor's dwelling-house is encircled by flowers, and derives a feature of pleasing picturesqueness from such bright surroundings. Directly in front of the house is the far-famed Weeping Beech, whose pendent branches cover 300 feet. It commands the admiration of travellers and tourists, and probably the next feature of attractiveness is the grove of no fewer than thirty golden variegated. Wellingtonias 25 feet high.

In scarcely any department of fruit-growing has Mr. Hartland attained more pronounced success than in the growing of Plums, and for fruit-growing generally he has been the recipient of many prizes. At a recent Plum exhibition in Edinburgh, of the one thousand dishes put forward from the three kingdoms eighteen varieties from the Lough Nurseries were awarded "Extra Merit." The Royal Horticultural Society in Dublin awarded a special Silver Medal for a hundred dishes of home-grown Apples, Pears, and Plums; and the fact thus brought prominently before the public, that Ireland could produce fruit of a very superior quality came as a revelation to pomologists, hitherto unconscious of the prolific character of that country's soil, and its natural advantages for the development of all kinds of fruits. Among Irish horticulturists no subject is of greater interest at the present time than the extension of its resources of fruit and fruit-tree culture, and one has only to glance at the impressive range of productions with which the Lough Nurseries are favoured, in order to find a substantial emphasis of the fact (not so widely known as it should be) that Ireland possesses one of the finest climates in the world for the purpose. At one time in Irish history the south of Ireland was celebrated for its orchards, and, as a natural sequence, for the excellence of its cider, which obtained an extensive sale abroad.

A sum of about eight millions is, we believe, annually expended on imported Apples and fruits, and from this it is evident that, by a successful system of home cultivation, Irish growers would receive a considerable share of this vast yearly output, and at the same time would be promoting the prosperity of an industry largely calculated to ameliorate the present impoverished character of this and other branches of Irish work.

As an ardent collector of everything relative to the industry with which his name is identified, Mr. Hartland has a neatly-fitted apartment, in which he exhibits samples of Apples, Pears, Plums, Peaches, Apricots, Nectarines, Cherries, Strawberries, and Vines. Here also are one hundred and fifty different samples of Irish woods, and a part of the trunk of the famous Cork-wood Tree which grew at Somertown, a few miles from here, and whose branches, previous to its death some years ago, covered a large extent of ground.

A feature of interest to gardeners is presented in the preserved samples of the insects which attack the different trees, plants, and fruits.

GRAFTING ROSES.

This interesting operation is best carried out during the period between November and the end of January, a middle date being, in my opinion, the best. The first item is to have suitable stocks. It would be better if these had already been potted, but it is not yet too late to secure fairly good results. Both the Manetti and Briar are suitable stocks for grafting upon, but the latter needs to be potted some fortnight or so longer than the former, previous to being operated upon. Pot into as small a size as they can be accommodated in, and do not use a rich compost. A mixture in which the roots can work freely is much the best at this stage. I find leaf-soil and loam, with a little sand, makes an excellent compost. It is also advisable not to pot the stocks any deeper than can be avoided, as you are thus able to fix the graft nearer to the base of the roots, and with greater facility.

Many use established stocks; but there is little advantage gained by this, except in the case of working such strong climbing varieties as Maréchal Niel, William Allen Richardson, &c., and which need to make as long and forward a growth as possible. My own plan is to pot the stocks in September or October, plunging them in sand and cocoa-nut fibre, either in a pit or on the sheltered side of a hedge. If this be done at the time mentioned, the stocks will soon plump up again, and their roots commence moving. I do not care for the roots to be too active at the time of grafting, having found that when the tops of the stocks are cut off, and the bulk of the sap is checked for want of employment, the young roots are also severely checked, and often turn brown at their tips. In this case, they do not start into growth again nearly so healthily nor freely as if their roots had not been so forward. If the young roots are about a quarter of an inch long at the time of grafting, it will be quite sufficient, and the sap will be sufficiently on the move to form healthy callus around the graft. A second important item is to use well-matured wood of the previous season's growth. It is also far better if it can be procured from under glass, frost having a very injurious effect upon the callusing properties of Rose wood. In many cases where grafting is resorted to, it is because the variety is a bad grower or scarce, and in these cases it is often difficult to secure really suitable wood.

About a week previous to grafting, I like to get my stocks under cover. These few days cause the sap to move freely, and the roots are just ready to make a corresponding spurt. There are several methods of grafting Roses, but all are on the principle of bringing the severed portions of the scion and stock into as perfect juxtaposition as possible, and to also have both stock and graft in the same stage of growth, preference being given to having the former a trifle the forwarder. I propose briefly describing two processes. First, we have what is known as side or whip-grafting. This is the method most commonly used in grafting other subjects besides Roses, such as fruit trees, shrubs, Camellias, Azaleas, &c. In the case of the Rose, it is desirable to get the scion as near to the crown of the stock's roots as possible. First cut off the top of the stock about 3 inches from the bottom, and with a sharp knife slice off a portion of the wood, starting from the bottom and making the cut deeper as you reach the upper part. More or less of the stock must be cut away according to the size of it and of your graft. If they be of equal size, it is well to cut off two-thirds of the stock as your slanting cut reaches the top. It is usually only necessary to remove a third of the stock. Under any circumstances the two barks of stock and scion should come as nearly in contact with one another as you can arrange. They should also fit, plane, or be true all the way down. In preparing the graft or scion, you make the cut in an opposite direction to that upon the stock, starting from the upper part of the graft. Do not make one of the cuts longer than the other, and fit them together in such a way that the lower portion, or thin end of the scion, very slightly overlaps the bottom part of the cut upon the stock. This is of considerable importance, because the union generally starts from this point. When you have made the two cuts so that they both fit, make a slight downward cut in the stock about half an inch from the top, and a corresponding cut—but in an upward direction—upon the scion. The slight tongue formed upon the latter will fit into the slit of the stock, and hold it in position while being tied firmly together; do not bind them sufficiently tight to constrict the bark in any way.

The second method is usually adopted somewhat later in the season, when the sap of both stock and scion is in full work. It is the best plan for working wood that is only partially ripened; or what professionals style "green-wood." The top of the stock is cut off in the same manner as before, but a trifle closer to the roots, 2 inches being quite enough length to leave. In this case I much prefer to have the stock plunged rather deeply in some moist material like cocoa-nut fibre refuse. This gives a certain moisture and softness to the bark, causing it to lift much easier, and rendering it less liable to split. Make an upward cut through the bark with the point of a knife, and gently raise it somewhat in the same manner as during the operation of budding. Shave the scion down much thinner than in case of whip or side-grafting, and use wood of rather less substance. Now slip this underneath the raised bark, and tie altogether firmly.

In both of these operations it is very necessary to avoid any dirt, and to make the cuts with a sharp knife in as clean and unbruised a manner as possible.

Formerly it was the practice to use a mastic of some kind, both to keep the air from the cuts and to secure from any loss of sap. Now, however, they are simply stood in a close propagating case, and kept dark until callused, and the eyes upon the graft have commenced to grow. When these are some 1 to 2 inches in length, light is admitted gradually; and later on, as the young plants progress, air is also given in increasing quantities until they are able to bear full exposure to an ordinary greenhouse tempe-

rature. A gentle bottom heat of 65° to 70° is very beneficial while they are in the case, but the chief points are to do the work quickly and clean, and to keep them close and dark until a union is effected. *A. P.*

SOCIETIES.

NATIONAL CHRYSANTHEMUM.

DECEMBER 30.—A meeting of the General Committee took place at Anderton's Hotel, Fleet Street, on the above date, Mr. R. Ballantine in the chair. There was a good attendance of members, including the representatives of several affiliated societies. the Secretary brought up a report from the Floral Committee, recommending that as the business of the committee is increasing annually, that the number of elected members be extended from fifteen to eighteen, six to form a quorum, and one-third of the number to retire annually in rota, but to be eligible for re-election; also that a chairman of the Floral Committee be appointed at the commencement of each year. On consideration of this report, it was adopted, and it was also resolved that the General Committee should elect the chairman at their first meeting after the annual general meeting, and that such chairman shall be chosen from the members of the Floral Committee. It was also resolved that no Certificate shall be awarded to any new variety unless the proposal be supported by a majority of the members present.

The schedule of prizes for the three shows, and names of the judges nominated by the Schedule Sub-committee, were also presented for confirmation. The committee offer the sum of £20 for prizes at the Dahlia and Gladiolus Show held by the Royal Aquarium Company. Two new classes were added, viz., one for six blooms of Chrysanthemums, distinct, Madame Desgranges and its sports excluded; and one for a vase, epergne, or stand of Chrysanthemums, for table decoration, the competition in this case being open to amateurs only. Messrs. Gordon and Jones undertook to judge the Chrysanthemum classes gratuitously. The October schedule has also been revised and improved, in a direction calculated to bring a remarkable display of October-flowering Japanese. Two new classes are added; one for six plants of Chrysanthemums, distinct, introduced in 1891—92; and for six blooms of new varieties introduced in 1892 or 1893, not less three varieties to be shown, Mr. H. J. Jones offering a Silver Cup as a prize; and these two classes are also in the November and December schedules. The November schedule is considerably altered and improved, though the leading classes remain untouched. In the class for twenty-four blooms of Japanese, Major Collis Browne, of Broadoaks, Byfleet, gives a Silver Cup, value 5 guineas, as an additional first prize in this class. In the classes for twenty-four and twelve incurved blooms there are now four prizes instead of three as heretofore. Several new classes are added, one for six incurved blooms distinct put into commerce in this country in 1891-92, and another for six Japanese blooms of a similar date. It is expressly stated that no variety which is included in the centenary edition of the society's catalogue can compete in this class. Two new classes are offered for single varieties, one for twelve varieties, three blooms of each, and one for twelve sprays; in each case the varieties are to be distinct. In the amateurs' classes, a new class is added for a hand-basket of autumn foliage and berries, which should make a pleasing feature. In the plant classes, Mr. G. C. Paine, F.R.H.S., offers special prizes for six naturally-trained, large-flowered specimens, the height not to exceed 3½ feet, and there must be not less than twelve blooms on each; Mr. Paine's aim being to see if good specimens less formally-trained can be obtained. Valuable special prizes are offered by Mr. A. J. Godfrey, Exmouth, for Beauty of Exmouth; by Mr. R. Owen, for new incurved and new Japanese varieties of his own sending out; also for fimbriated and fragrant varieties, with a view of encouraging the culture of the smaller incurved and Japanese varieties. Mr. E. C. Jukes offers special prizes for twelve blooms of small incurved varieties, excluding The Queen and Princess of Wales varieties, Lord Wolseley, M. R. Bahuant, Jeanne d'Arc, Prince Alfred, Robert Cannell, or any of their sports, and also new varieties of 1893. The radius for growers competent to show in the metropolitan classes has been extended from 3½ miles from Shoreditch Church, to the area covered by the London County Council. It has also been arranged that the Floral Committee meet on the second day of the November show, instead of on the first, as heretofore. It is intended to issue the schedules of prizes earlier this year than in the past.

LAW NOTES.

IS MOSS PERISHABLE?

IN the City of London Court on Tuesday, before Mr. Commissioner Kerr, the case of King *v.* End was heard. The plaintiffs, Messrs. Beronius King & Co., of 37, Walbrook, E.C., sought to recover the sum of £3, the balance of £12 for certain moss supplied to the defendant, Mr. Frederick End, florist, 28, Wellington Street, Covent Garden.

The Defendant admitted having paid £9 on account of the £12, but he said that after that had been done he discovered that the moss had perished, and was unfit for sale. The plaintiffs had guaranteed that it would last for years. He (defendant) was appointed sole agent in Covent Garden for the plaintiffs; but, in consequence of the plaintiffs subsequently appointing someone else, he (defendant) was unable to sell the moss.

Mr. Commissioner Kerr said the defendant should have raised a counter-claim for damages, or have brought a cross-action.

Mr. Charles Quilter, plaintiff's solicitor, submitted that the defendant, being in the trade, the maxim *caveat emptor* would apply. They told the defendant that if he kept the moss dry, it would last for several years, but if he allowed it to become damp, it would be of no use.

Mr. Commissioner Kerr said he must find for the plaintiffs, and allow the costs of the action.

CACAO.*

THE gradual establishment, under the fostering care exercised from Kew, of botanical gardens in most of our small West Indian colonies is a well-devised move in the struggle for existence which these colonies are fighting. The true function of these gardens is not so much botanical, though a great deal of good botanical work may be, and is, incidentally done by them; nor is it chiefly horticultural, though it is a certain fact that the pleasure gardens, both of the West Indies and of Europe, have derived great benefit from their establishment. The true function is, rather, commercial—to find experimentally what plants, and what varieties of these plants, may be most profitably cultivated; and in what manner, not only these new plants, but, perhaps still more, the already established objects of agricultural industry may most profitably be treated. Among the oldest-established of these gardens are those in Trinidad, which are now under the charge of Mr. Hart, Trinidad being the one island of the West Indies in which cocoa, or, if we must call it so, cacao, shares with sugar the chief place among exports; it is natural that here the work of the botanical gardens, and of the superintendent of these, is chiefly concerned with cocoa, just as, in the neighbouring colonies of British Guiana and Barbados, the analogous interest is chiefly directed towards sugar cultivation. Cocoa to the average value of half a million pounds sterling has, it may be mentioned, been exported from Trinidad for some years past. This being so, Mr. Hart has lately published, in substantial pamphlet form, the information on the subject of cocoa cultivation which has been accumulated not only by himself, but also by his predecessors, and by his colleagues elsewhere. His booklet is indeed a *vade mecum* of cocoa cultivation, and deals fully, so far as present knowledge permits, with such subjects as the selection of the most suitable land, and of the most marketable varieties, the best ways of planting and shading these, of pruning and manuring them, and of the bearing on the subject of the climatic conditions met with in Trinidad; also with the methods of preparation for the market, the cost of production, and the aspects of the export trade; and, finally, with the more scientific sides of the subject—botanical, chemical, and pathological. The book is, in fact, one of several on kindred subjects, the deduction from many practical experiences, which should be readily procurable by those in England, who, from time to time, consider the question of engaging, in one form or another, in tropical agriculture. It seems a pity that there is not some one place in London where all such booklets and pamphlets might be readily procurable; and it may even be suggested that this useful work might be undertaken by the Colonial Institute. [Or in the Lindley Library. ED.] It may be added that, at the gardens in Trinidad, as at others of these colonial gardens, periodical or occasional *Bulletins* are published of information most useful to tropical agriculturists; and these, too, should be made more accessible to those—perhaps not very numerous, but deeply interested—who might shape their future work on them. *Everard F. im Thurn, Torquay.*

* *Cacao*, by J. Hinchley Hart, F.L.S., Superintendent of the Royal Botanic Gardens of Trinidad. Printed at the Trinidad Government printing office, Port of Spain. 1892. Price 5*s*.

VARIORUM.

THE ORIGIN OF THE COLOURING MATTERS OF THE VINE.—The rapidity with which Grapes ripen in mid-Europe has recently led M. A. GAUTIER to suppose that the skin pigment to which the colour is due is formed by the oxidation of aldehydic or catecholic substances, which originate in the Vine leaves, and are carried by the sap to the ripening fruit. This view was borne out by the effects following the removal of the leaves from Grape Vines the fruit of which is on the verge of ripening, or by the partial or complete stoppage of the circulation between the leaves and stem; the Grapes in the first case remaining in a state of arrested development, whilst in the second case the leaves changed in colour to red or brown, and not the Grapes. M. GAUTIER extracted the colouring matter of leaves thus reddened (from Vines of the Cariguan stock), and examined it chemically. The result completely substantiated his original conclusion—the colouring matter was found to consist of three ampelochroïc acids, namely, alpha, beta, and gama ampelochroic acid.

ENGLISH GRAPES IN AMERICA.—Among the supplies now found in New York markets, says *Garden and Forest*, are Strawberries from California at 1·75 dol. a quart, Black Hamburgh Grapes from English hothouses at 2·50 dols. a lb., hothouse Tomatos from Boston at 1 dol. a lb., new Chicory from Louisiana at 20 cents a head, and fresh string Beans from Florida for as much as customers can be induced to pay.

WORSTED *versus* JUTE.—In our issue for December 10, 1892, we gave a short notice of the latest improvement in woollenised jute—to-day we have to notice that the production of a worsted-yarn which puts the other in the shade. The correspondent, who sends hanks of the worsted, says:—"The specimen is a copy of one used in Saxony and France, but it is of English manufacture. This is produced in a manner and at a price to completely knock out the jute-worsted." The shades produced up to date are sixty in number, and are very fine. As to price, that is 1*d*. per pound less than the jute, and this lowness of price is accomplished by means of improved machinery for "throwing." We await the next development in the jute product!

ENQUIRY.

"*He that questioneth much shall learn much.*"—BACON.

WILL some of our correspondents kindly inform "J. S.," which varieties of Chrysanthemums are best for the following purpose. He has a wall facing west, which seldom has the sun upon it;

his employer thinks that there is a dark variety, *not* Julia La gravère, but a larger variety, which will do well in this position, and be useful for cutting about Christmas time; of course, it needs to be a very hardy kind.

THE WEATHER.

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees — a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (−) the Mean for the week ending December 31.	Accumulated. Above 42°, for the Week.	Accumulated. Below 42°, for the Week.	Accumulated. Above 42°, difference from Mean since Jan. 3, 1892.	Accumulated. Below 42°, difference from Mean since Jan. 3, 1892.	Rainfall. More (+) or less (−) than Mean for the Week.	Rainfall. No. of Rainy Days since Jan. 3, 1892.	Rainfall. Total Fall since Jan. 3, 1892.	Bright Sun. Percentage of possible Duration for the Week.	Bright Sun. Percentage of possible Duration since Jan. 3, 1892.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	5 —	0	58	− 159	+ 301	13 —	253	50·1	6	25
1	8 —	0	93	− 377	+ 389	6 —	201	28·1	22	30
2	9 —	0	92	− 241	+ 283	5 —	197	25·4	30	30
3	10 —	0	100	− 217	+ 256	5 —	180	27·1	30	35
4	13 —	0	118	− 197	+ 355	6 —	176	23·6	26	33
5	9 —	0	84	− 169	+ 148	6 —	160	24·6	33	38
6	7 —	0	71	− 259	+ 292	13 —	206	46·7	3	32
7	10 —	0	86	− 188	+ 232	8 —	205	36·9	34	32
8	8 —	0	55	− 163	+ 125	10 —	192	31·2	35	39
9	5 —	0	50	− 191	+ 135	7 —	232	38·4	19	30
10	4 —	2	33	− 117	+ 129	7 —	203	39 9	30	33
*	6 —	3	30	+ 18	+ 52	8 —	195	29·7	61	45

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; (* Channel Islands.)

THE PAST WEEK.

THE following summary record of the weather for the week ending December 31, is furnished from the Meteorological Office:—

"The *weather* during this period was very cold over Great Britain, with a good deal of fog at the inland stations, but with fine clear weather on the coast. In Ireland the conditions were generally rather milder, and some slight rain was experienced.

"The *temperature* was much below the mean, the deficit ranging from 4° or 5° in Ireland to as much as 9° or 10° over the greater part of England, and to 12° in the Midland Counties. The highest of the maxima were registered on somewhat irregular dates, and ranged from 33° in 'Ireland, S.' and the 'Channel Islands, to 39° in the 'Midland Counties.' The daily maxima at the inland stations were very low during the greater part of the week. The lowest of the minima were recorded during the middle part of the period, when the thermometer fell to 9° in the Midland Counties (at Loughborough), to 11° in Scotland East, and to between 12° and 14° in most other districts; in the Channel Islands the lowest reading was 25°.

"The *rainfall* was almost entirely absent from Great Britain, and very much less than the mean in Ireland.

"The *bright sunshine* was fairly abundant over the country as a whole, but deficient in Scotland, north and west, and in the neighbourhood of London. The percentage of the possible duration ranged from 61 in the Channel Islands to 35 in 'England, S W.,' 34 in 'England, N. and W.,' and 38 in 'England, S.,' to only 6 in 'Scotland, N.,' and 8 in 'Scotland, W.' In London (owing to fog), the percentage was as low as 2."

MARKETS.

COVENT GARDEN, January 5.

MARKET still quiet, with good supplies. Prices generally unaltered. *James Webber, Wholesale Apple Market.*

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples, p. half-sievel	0	3 6	Melons, each	0 6	1 3
— Nova Scotia, per barrel	10 0	17 6	Pine-apples, St. Michael	4 0	6 0
Cobs, per 100 lb.	120 0	125 0	Oranges, Florida, per case	10 0	16 0
Grapes, per lb.	0 6	2 6			
Lemons, per case	15 0	35 0			

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Azalea, per doz.	24 0	42 0	Ferns, per 100	5 0	8 0
Adiantum, per doz.	6 0	12 0	Ficus elastica, each	1 6	7 6
Aspidistra, per doz.	15 0	30 0	Hyacinths, doz. pots	8 0	12 0
— specimen, each	7 6	21 0	Marguerite, per doz.	6 0	12 0
Chrysanthemum, doz.	4 0	12 0	Mignonette, doz. pots	6 0	12 0
Cyclamen, doz.	9 0	18 0	Palms, various, each	2 0	10 0
Cyperus, per dozen	4 0	10 0	— specimens, each	10 6	84 0
Dracæna, each	1 0	5 0	Solanums, per doz.	9 0	12 0
Erica, various, doz.	9 0	18 0	Tulips, per doz. pots	6 0	9 0
Ferns, various, doz.	4 0	9 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum, per doz. bl.	4 0	8 0	Mignonette, 12 bun.	3 0	6 0
Bouvardias, per bun.	0 9	1 0	Narcise (Paper-white) French, doz. bun.	2 6	5 0
Carnations, 12 blms.	2 0	4 0	Pelargonium, scarlet, per 12 bunches	6 0	12 0
Chrysanthemums, p. doz. blooms	1 6	6 0	12 sprays	1 0	1 6
— p. doz. bunches	4 0	15 0	Poinsettias, per doz. blooms	4 0	9 0
Cyclamen, doz. blms.	0 6	0 9	Primula, double	0 6	1 0
Eucharis, per dozen	4 0	7 0	Pyrethrum	2 0	4 0
Gardenia, per dozen	6 0	10 0	Roses, Tea, per dozen	2 0	4 0
Heliotrope, per doz. sprays	0 6	0 9	— coloured, dozen	3 0	6 0
Hyacinth, Roman, doz. sprays	0 6	1 0	— yellow (Maréchals), per doz.	4 0	9 0
— dozen spikes	4 0	8 0	— red, per dozen	1 0	2 0
Lilac, white French, per bunch	5 6	6 6	— (French) p. doz.	1 6	4 0
Lilium Harrisii, doz.	8 0	10 0	Tuberose, 12 blms.	0 9	1 6
Lily of the Valley, doz. sprays	1 0	1 6	Tulips, red, doz. bm.	0 6	0 9
Maiden Hair Fern, 12 bunches	4 0	8 0	— white, doz blm.	1 6	3 0
Marguerite, per doz.			— yellow, doz. blm.	1 6	2 0
Mimosa, French, bun.	1 0	2 0	Violets, Parme French per bunch	5 0	6 0
bunches	4 0	8 0	— Czar, French, per bunch	2 6	3 6
Orchids:—			— small French, p. doz. bunches	3 0	5 0
Cattleya, 12 blms.	6 0	12 0			
Odontoglossum crispum, 12 blms.	2 0	6 0			

ORCHID-BLOOM in variety.

VEGETABLES. — AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Beans, French, lb.	1 0	1 6	Mustard and Cress, punnet	0 4	...
Beet, red, per dozen	2 0	3 0	Parsley per bunch	0 3	0 6
Carrots, per bunch	0 4	0 6	Seakale, per basket	2 6	...
Cauliflowers, each	0 3	0 6	Shallots, per lb.	0 6	...
Cucumbers, each	0 9	1 6	Spinach, per bushel	3 6	...
Endive, per dozen	2 0	3 0	Tomatos, per lb.	0 6	1 0
Herbs, per bunch	0 9	1 0	Turnips, per bunch	0 4	0 6
Lettuces, per doz.	1 6	2 0			
Mushrooms, punnet	2 0				

POTATOS.

On account of the continuation of the frosty weather, farmers will not load; consequently, stock is very low, and prices are advancing. Best samples, 85*s.* to 100*s.*; ordinary kinds, 55*s.* to 60*s.* *J. B. Thomas.*

SEEDS.

LONDON: *Jan.* 4.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report to day's market thinly attended, with but little business doing. American cables come strong. The United States Government have just issued their official estimate of this season's Clover-seed crop. which they put at 42 per cent. of an average yield. The total requirements of the United Kingdom are reckoned to be about 10,000 tons. These statistics, in view of the short European crops, indicate an advance in values. Alsyke, white, and Trefoil show this week no quotable alteration. Canary and Linseed are both very firm. The cold weather causes an improved inquiry for Peas and Haricots. In Rape seed, the tendency is upwards. Mustard continues scarce and dear. For white Runner Beans, unprecedentedly low figures prevail.

FRUITS AND VEGETABLES.

SPITALFIELDS: *Jan.* 3.—Quotations:—English Apples, 2*s.* 6*d.* to 6*s.* 6*d.* per bushel; American do., 10*s.* to 17*s.* per barrel; foreign Tomatos, 1*s.* to 1*s.* 6*d.* per box; Seakale, 1*s.* 3*d.* to 1*s.* 6*d.* per punnet; Curly Kale, 1*s.* 8*d.* to 2*s.*; Spinach, 2*s.* to 2*s.* 6*d.* per bushel; Brussels Sprouts, 1*s.* 9*d.* to 2*s.* 3*d.* per half-sieve; Turnip tops, 2*s.* to 3*s.* per sack; Greens, 2*s.* to 3*s.*; Turnips, 1*s.* 6*d.* to 2*s.* 6*d.*; Carrots, 2*s.* to 3*s.*; Parsley, 2*s.* per dozen bunches; Celery, 9*d.* to 1*s.*; Horseradish, 1*s.* 6*d.* to 1*s.* 9*d.* per bundle; frame Cucumbers, 3*s.* to 6*s.*; Endive, 9*d.* to 1*s.*; Leeks, 1*s.* 6*d.* to 2*s.* per dozen; Savoys, 4*s.* to 6*s.*; Cabbages, 4*s.* to 5*s.*; Cauliflowers, 8*s.* to 10*s.* per tally; English Onions, 6*s.* 6*d.* to 7*s.* 6*d.* per cwt.; Spanish do., 5*s.* 6*d.* to 8*s.* per case; Belgian and Dutch do., 4*s.* 6*d.* to 5*s.* 6*d.* per bag of 110 lb.; Carrots, 50*s.* to 60*s.* per ton.

BOROUGH, *Jan.* 3.—Quotations:—Cabbages, 2*s.* to 2*s.* 6*d.*; Savoys, 4*s.* to 5*s.* per tally; Cauliflowers, 1*s.* to 2*s.* per dozen; Spinach, 1*s.* 6*d.* to 2*s.* per bushel; Brussels Sprouts, 1*s.* 9*d.* per half-sieve; Carrots, 2*s.* 6*d.* to 3*s.*; Turnips, 1*s.* 6*d.*; Parsley, 1*s.* 6*d.* per dozen bunches; English Onions, 6*s.* to 6*s.* 6*d.*; Dutch, do., 4*s.* 6*d.* per cwt.; Horseradish, 1*s.* 6*d.* to 1*s.* 9*d.* per bundles; English Apples, 2*s.* 6*d.* to 10*s.* per bushel.

FARRINGDON: *Jan.* 5.—Quotations:—Turnips, 50*s.* to 60*s.* per ton; Parsnips, 65*s.* to 70*s.* do.; Carrots, 45*s.* to 50*s.* do.; English Onions, £6 to £8 per ton; Sprouts, 2*s.* to 2*s.* 6*d.* per half-sieve; American Apples,, greenings, 12*s.* 6*d.*, and Spies, 13*s.* per barrel; Tomatos, 4*s.* 6*d.* per case.

STRATFORD, *Jan.* 4—The supplies to this market have been excellent during the past week, and, with a large attendance of buyers, a brisk trade was done at the undermentioned quotations:—Cabbages, 2*s.* to 3*s.* per tally; Savoys, 2*s.* 6*d.* to 5*s.* do.; Greens, 1*s.* 6*d.* to 2*s.* per sieve; do., 2*s.* 6*d.* to 4*s.* per dozen bunches; Turnips, 2*s.* to 3*s.* do.; do., 40*s.* to 50*s.* per ton; Carrots, household, 40*s.* to 50*s.* do.; do., cattle-feeding, 24*s.* to 35*s.* do.; Parsnips, 65*s.* to 70*s.* do.; Mangolds, 16*s.* to 20*s.* do.; Swedes, 18*s.* to 22*s.* do.; Onions, English, 140*s.* to 160*s.* do.; do., Dutch, 5*s.* to 6*s.* per bag; Apples, English, 2*s.* to 6*s.* per bushel; do., American, 12*s.* to 20*s.* per barrel; Brussels Sprouts, 1*s.* 9*d.* to 2*s.* per half-sieve; do., 2*s.* 6*d.* to 3*s.* 3*d.* per sieve; Radish, 1*s.* 9*d.* to 2*s.* per bundle.

POTATOS.

SPITALFIELDS: *Jan.* 3.—Quotations:—Main Crop, 70*s.* to 95*s.*; Imperators, 60*s.* to 70*s.*; Regents, 50*s.* to 60*s.*; Magnums, 50*s.* to 70*s.* per ton.

BOROUGH: *Jan.* 3.—Quotations:—English Magnums, 50*s.* to 65*s.*; Hebrons, 60*s.* to 70*s.*; Snowdrops, 60*s.* to 75*s.* per ton.

STRATFORD: *Jan.* 4.—Quotations:—Magnums, 50*s.* to 65*s.*; Bruce do., 55*s.* to 70*s.*; Imperators, 55*s.* to 70*s.*; Scotch Magnums, 65*s.* to 90*s.*; Main Crop, 70*s.* to 95*s.*; Belgian Magnums, 50*s.* to 65*s.* per ton.

LONDON AVERAGES: *Jan.* 4.—Magnums, 50*s.* to 70*s.*; Hebrons, 60*s.* to 80*s.*; Snowdrops, 60*s.* to 80*s.*; Imperators, 60*s.* to 70*s.*; Regents, 50*s.* to 60*s.* per ton.

FARRINGDON, *Jan.* 5.—Quotations:—Main Crop, 90*s.* to 100*s.*; Sutton's Abundance, 80*s.* to 90*s.*; Bedford Magnums, 65*s.* to 70*s.*; Lincoln do., 65*s.* to 70*s.*; Hebrons, 60*s.* to 65*s.* per ton.

CORN.

Averages.—Official statement of the average prices of British corn, imperial measure (quarter) for the week ending December 31, and for the corresponding period in 1891:—1892: Wheat, 25*s.* 8*d.*; Barley, 24*s.* 3*d.*; Oats, 16*s.* 3*d.* 1891: Wheat, 36*s.* 4*d.*; Barley, 29*s.* 3*d.*; Oats, 20*s.* 10*d.*

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 80*s.* to 115*s.*; do., inferior, 50*s.* to 75*s.*: hay, best, 75*s.* to 112*s.*; do., inferior, 50*s.* to 65*s.*; and straw, 28*s.* to 44*s.* per load.

NOTICES TO CORRESPONDENTS.

TO OUR READERS.—*The Editor begs leave to solicit from the readers and contributors to the Gardeners' Chronicle:—*

Short Practical Notes on Cultural Matters;

Early Intelligence of Local News likely to be of general interest;

Notes and Memoranda useful to the trade;

Specimens of New or Interesting Plants, Fruits, &c.;

Drawings or Photographs of Gardens, Trees, Flowers &c., and which if suitable for reproduction will be utilised so far as possible.

ABIES NOBILIS, *Hurnard.* If the plant is a seedling, nothing more will be necessary in the way of pruning than the cutting-back of rival leaders a few inches, so that the best one, which should not be topped as a general rule, may get away. The upper branches may be cut-back, say 6 inches, in the case of a plant the size of yours, and still more in larger trees. Much pruning is not to be advised. It should be done just previous to recommencement of growth, or afterwards. Leaf-mould, and a small quantity of loam, make a good top-dressing for the tree. The rainfall is usually sufficient for its needs.

ARISTOLOCHIA: *H. P., New Orleans.* The flower sent is a small one of A. brasiliensis—certainly not A. gigas.

EUCHARIS MITE: *H. C.* Your specimen is attacked by a fungus which generally accompanies mite in the bulb. We suspect this is the case in the present instance.

GARDENIA, CUCUMBER, AND MELON DISEASE: *J. R. M.* The Gardenia roots are full of a minute worm, Heterodera radicicola, figured and described in the *Gardeners' Chronicle*, pp. 488 and 489, April 9, 1887. There is no cure. You must burn soil and plants, and make a new start.

GLASSHOUSE CONSTRUCTION: *J. T.* The best wood to use is Red or Memel Fir. If well painted, it will last for half a century, even in houses used for forcing. One of the best is galvanised rolled steel bars (Newton's Patent), with no putty to fix the glass, no drip, no loss of heat, bars wide apart, therefore very little metal to subtract heat from the interior in winter, or greatly attract it in summer.

LUMINOUS TREE: *Correspondent.* A near relative of the Humbugia transparens. There may be some foundation for the statement in the actual presence of a luminous fungus, and in the exercise of a vivid imagination.

NAMES OF FRUITS: *Knowle Green.* Apple, Beauty of Kent.—*J. J. D.* 3, Dumelow's Seedling; 4, Dutch Mignonne; 5, Wareham Russet; 6, King of the Pippins; 9, Gloria Mundi; 10, Tibbett's Pearmain; 11, London Pippin; 12, Bedfordshire Foundling. Others not known.

NAMES OF PLANTS: *H. G. T.* 1, Croton Johannis; 2, Dendrobium aggregatum; 3, Dracæna ferrea; 4, Mystacidium filicorne; 5, Tillandsia sp. (send in flower); 6, Chamærops Fortunei.—*H.E.* Brassavola cordata.—*J.* A very fine form of Oncidium varicosum.—*James Brown.* We do not undertake to name varieties of florists' flowers.

SUBTROPICAL BEDS: *A. J.* The site being an exposed one, the plants employed to fill the beds should be able to withstand wind without becoming ragged, or be so low in stature as not to be greatly in danger of being blown over. Dwarfer-growing Cannas, as C. iridiflora Ehemanni, C. i. Gladioliflora, C. Antoine Chantin, Paul Bert; and Aralia spinosa, A. Sieboldi, Arundo donax variegata, Bocconia cordata, Polygonum Sieboldi, P. cuspidatum, P. compactum, P. Sachalinense, with the dwarf forms—P. affine, P. amplexicaule, to grow near the edge of the bed; Zea and Sorghum might be used, also Teucrium, Ferula, Helleborus atro-purpureus, Abutilon Thompsonianum, Spiræa aruncus, Plumbago Larpentæ, Tritoma Uvaria, and other Tritomas. With the exception of the Cannas, Zeas, and Abutilon, the above-named are hardy perennials, which, if used with discrimination, will be as effective as most of the tender so-called subtropical plants, and once planted, they will require little more attention than that incurred by an annual manuring or top-dressing with rich soil. These plants, with the exception of Zea and Sorghum, may be bought in the spring from any good nursery at cheap prices. If it is decided to employ plants of annual duration, sow on a hotbed at the end of January, seeds of Canna in variety, Ricinus Gibsoni, Solanum laciniatum, S. pyracanthum, Wigandia caracasana, and the dwarfer Nicotianas. A month later Zea and Sorghum may be sown in a warm house, also Acacia lophantha, Grevillea robusta, Perilla nankinensis, Melianthus major, Centaurea candidissima, C. Clementei, Chilian Beet (in April), Amaranthus melancholicus, Artemisia Judaica, &c. Most of these should be sown in pots and pans well drained and half-filled with siftings of soil in little knobs of the size of horsebeans, and over this fine moderately-rich sandy loam. Water and sow thinly. Again afford a little water. Keep the pots dark till the seed germinates, pot off before the roots get the least entangled, and continue for a month to grow them in the same temperature and under the same conditions as the plants were raised. Keep close to the glass to prevent etiolation of growth, affording air more or less according to the weather.

COMMUNICATIONS RECEIVED.—A. F. B.—Hugh Boscawen, Auckland, N.Z.—M. F.—H. E.—G. J. I.—H. P., New Orleans.—W. St. C.—A. P.—J. B. F.—H. C., Geneva (letter to follow).—W. R.—O. T., Wandsbeck.—A. B. & Co., Royal Academy of Sciences, Turin.—W. W., Earlswood.—R. McL. —W. B. H.—Count de K., Ghent.—A. S. M.—Spottiswoode & Co.—Lord K.—H. S. J.—Cannell & Sons.—A. D.—E. C. —G. H.—H. V.—Ch. D. B., Sierre.—L. L., Brussels.—G. N.—Scottish Agricultural Publishing Co.—Sutton & Sons. —M. C. C.—J. J. W.—J. W. P.—C. P. Lucas.—J. D. —H. P., New Orleans.—C. A. M. C.—A. D., U.S.A.—J. M. —W. R.—W. J. T., Hong Kong.

PHOTOGRAPHS RECEIVED, WITH THANKS.—H. P., New Orleans.—Cannell & Sons.

SPECIMENS RECEIVED.—H. Haskins.

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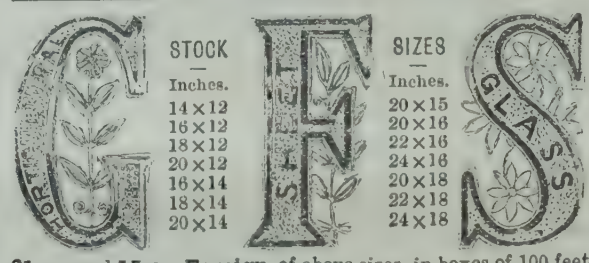

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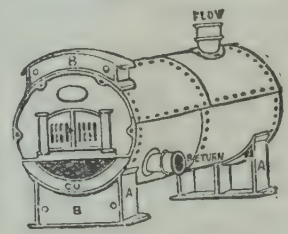

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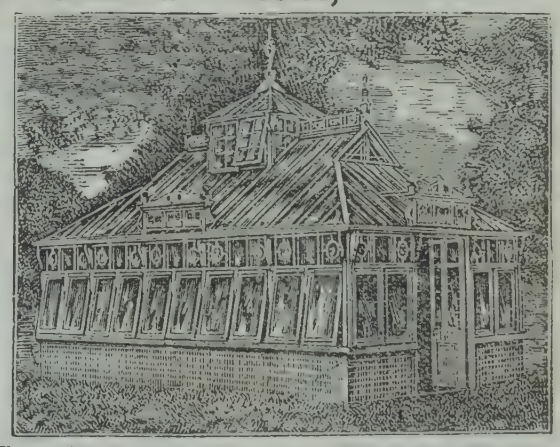

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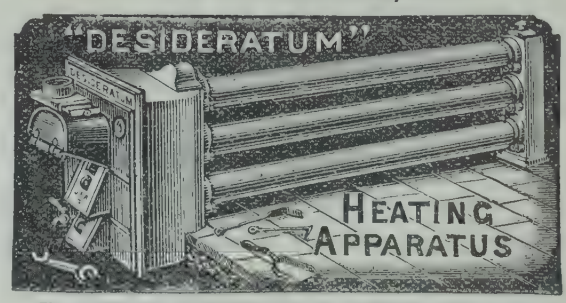

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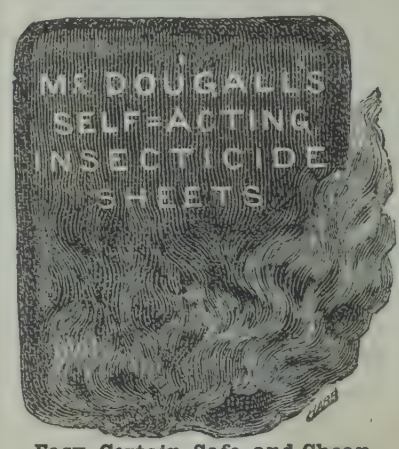

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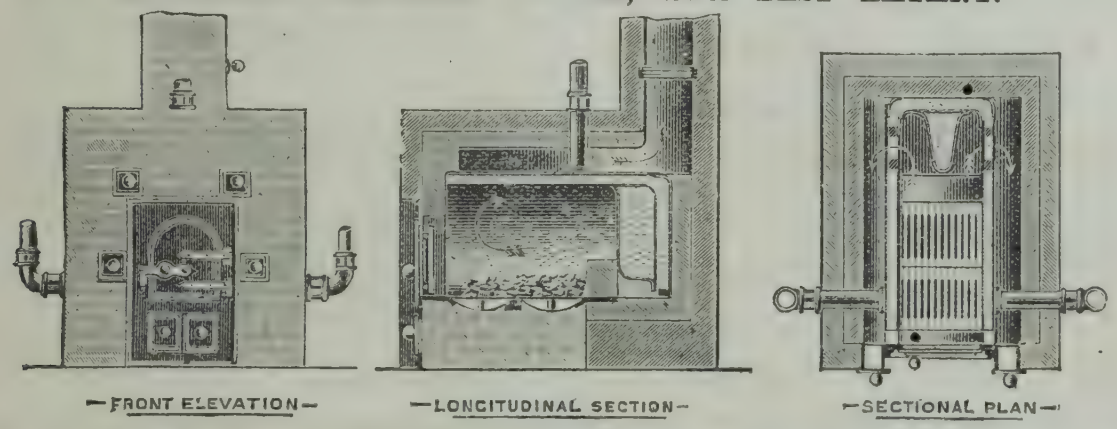

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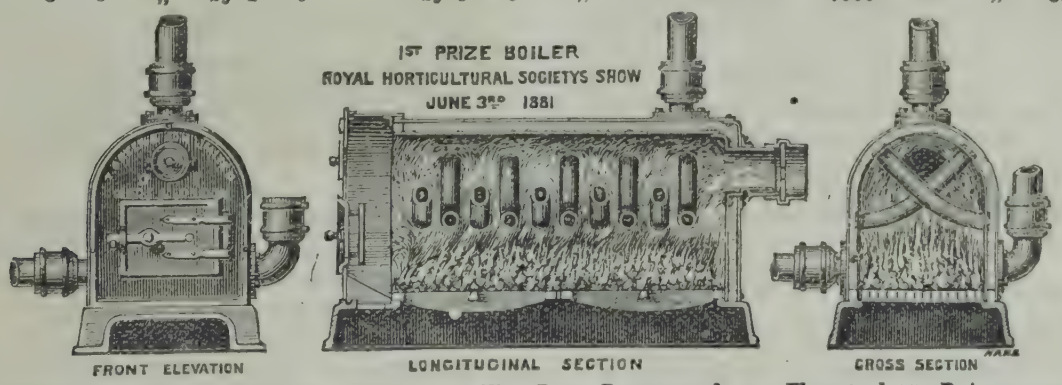
M B 5	8	6	„	by 4	0		by 3	9	„		7000	„ 85 0 0



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C	1	9	by	3	6	by	2	0	800	22	0	0
D	1	9	by	4	0	by	2	2	1100	29	0	0
E	2	0	by	4	6	by	2	4	1400	36	0	0
F	2	3	by	5	0	by	2	6	1750	43	0	0
G	2	6	by	5	6	by	2	6	2000	50	0	0
H	2	9	by	6	0	by	2	6	2500	60	0	0
I	3	0	by	6	6	by	2	6	3000	70	0	0

TESTIMONIALS.

Re HEATING APPARATUS. Borough Engineer's Office, Municipal Buildings, Leeds. *January* 9, 1886.

MESSRS. THOS. GREEN AND SON, LTD., NORTH STREET, LEEDS.

GENTLEMEN,—I have great pleasure in bearing testimony to the efficiency and satisfactory working of the Hot-water Heating Apparatus you erected in these public buildings.

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Two of your Patent Municipal Pattern Boilers, No. 4, work the whole of this piping easily, although we have three of them fixed. They are very powerful and economical in the consumption of fuel, and I am pleased to be able to report of them and the apparatus so favourably.

I am, Gentlemen, yours truly, THOS. HEWSON, Borough Engineer.

Morley House, Bagot, St. Saviour's, Jersey, *November* 10*th*, 1886.

GENTLEMEN,—The large Municipal Boiler which you sent me last year is doing its work satisfactorily; it is heating 5000 feet of 4-inch pipe in one of my vineries, and I am quite sure that it has power to work a much greater length, while in cost of fuel it compares favourably with my other Boilers.

I have now five of your Boilers in use, and I cannot speak too well of their heating powers, or their comparatively small consumption of fuel.

MESSRS. THOS. GREEN AND SON, LTD., LEEDS. Yours faithfully, (Signed) G. W. BASHFORD.

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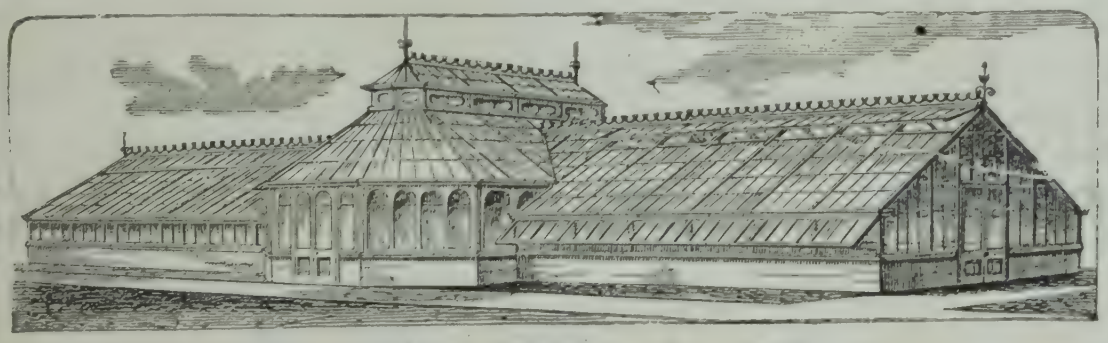

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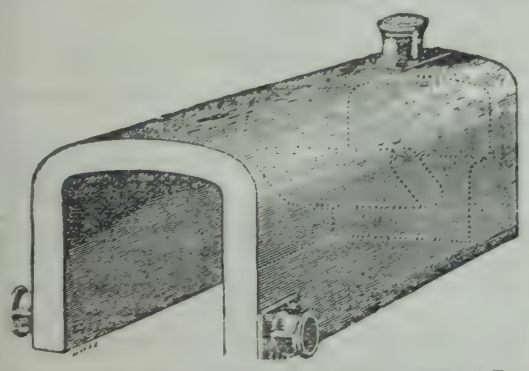

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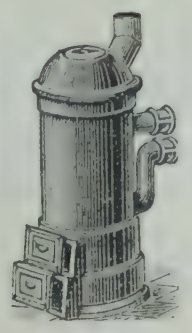

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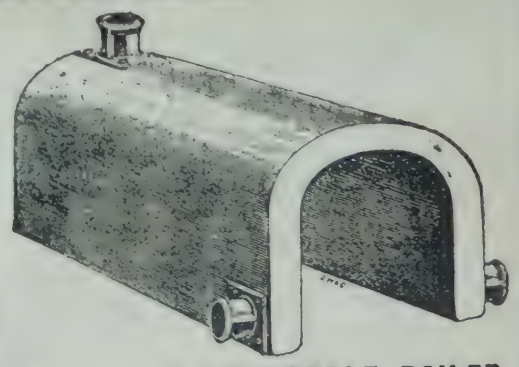

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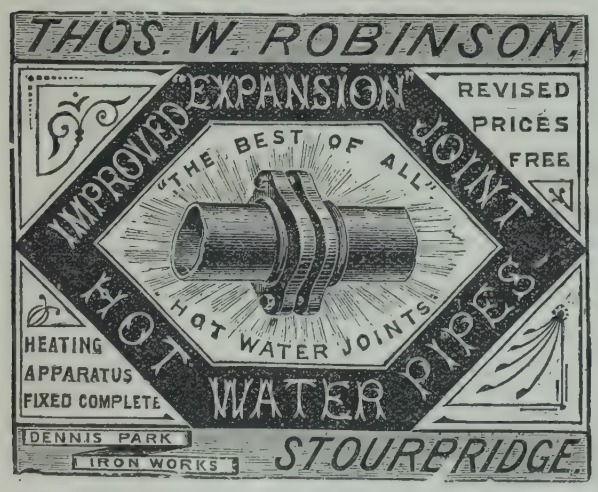

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Mr. W. HAMMOND, lately of Davenham Bank Gardens, Malvern, where he had lived for four years, as Gardener to St. John's Hospital, Droitwich.

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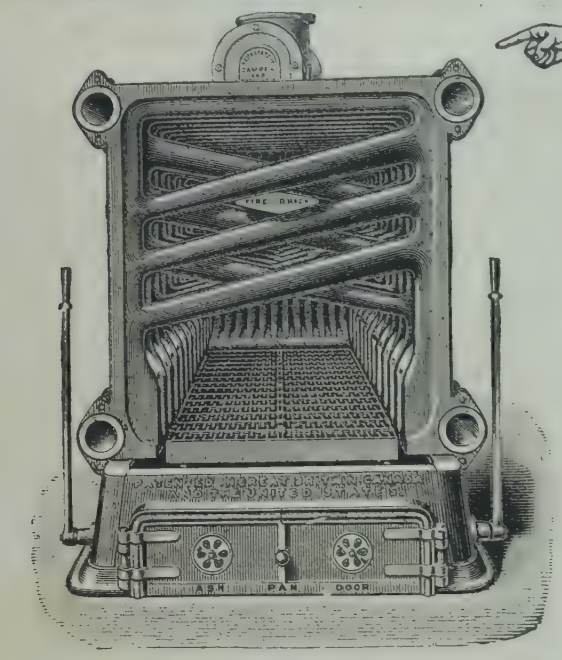

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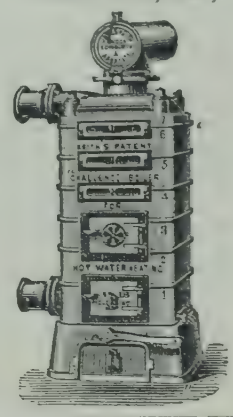

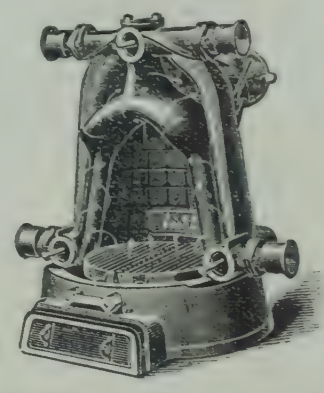

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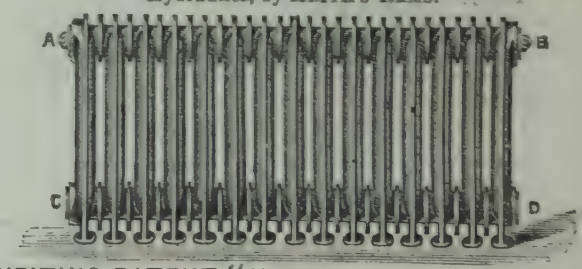

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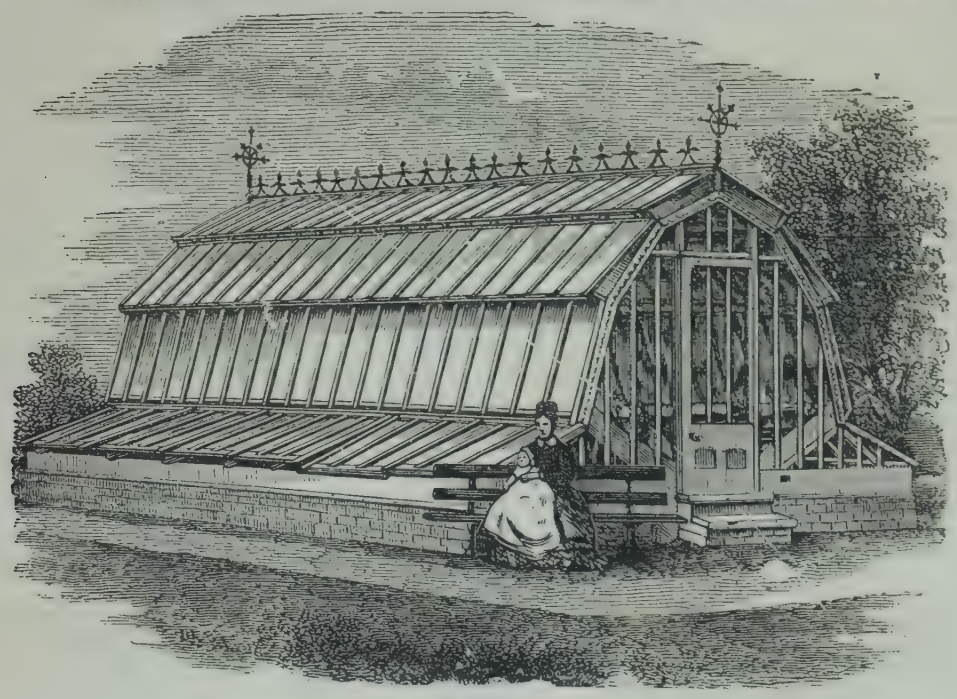

FIGURE 4.

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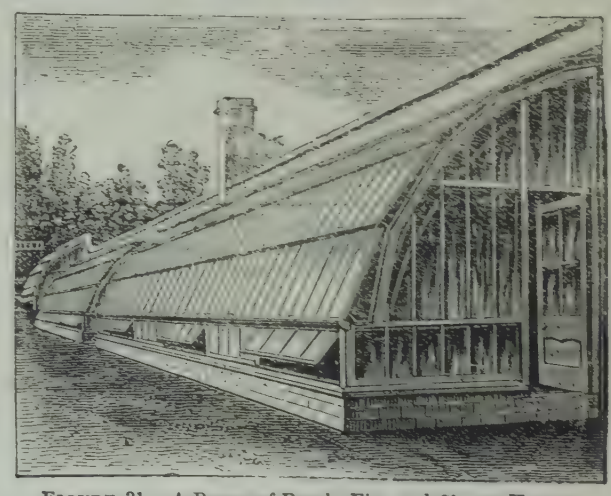

FIGURE 31.—A Range of Peach, Fig, and Cherry Houses.

FIGURE 7.—Wright and Holmes' Patent Portable Span-roof Frame. **(Every Man his own Glazier.)**

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CONTENTS.

Agricultural Benevolent Institution, Royal ...	47	Nursery note—B. S. Williams & Son ...	53
Apple decay	47	Parsley, Hamburg ...	50
Apple James Grieve ...	53	Plants, decorative foliage	40
Book notices—Botanical Magazine ...	46	Plants, new, or noteworthy:—Asplenium Duale ...	40
Histoire des Plantes ...	48	Cypripedium villosum var. Gortoni	40
Orchid Review, the ...	46	Papaver umbrosum, flore-pleno	40
Vegetable and Fruit-farming, Hints upon.	48	Stachys floridana ...	40
Canna, a synopsis of the species of...	42	Pollen, ovary, and seed ...	48
Cattleya Warocqueana alba	50	Primulas, &c., at Reading	42
Chicago Exhibition ...	48	Pyrus angustifolia flore-pleno	43
Cyanophyllum magnifi cum from seed	50	Railway rates, the new ...	46
Damper, an automatic ...	48	Royal Horticultural Society, list of committees	49
Diospyros costata	50	Timber-growing, the obstacles to home	43
Fir, Douglas	48	Variety show at Reading.	42
Fonthill and Wardour ...	39	Vine-dressing and petroleum	50
Gardeners' Orphan Fund 47,	52	Week's work, the	
Grape, Muscat Champion	50	Flower garden, the ...	45
Horticultural Benefit and Provident Society ...	47	Fruits under glass ...	45
Horticultural scholarships	46	Hardy fruit garden ...	44
Iris alata	50	Kitchen garden, the ...	44
Mulberries	48	Orchid-houses, the ...	44
Narcissus poeticus præcox	47	Plants under glass ...	45
Nepenthes mixta	46		
Novelties of 1892	52		

ILLUSTRATIONS.

Cyperus laxus	41
Diospyros costata	51
Nepenthes mixta ×	47
Pine-beetle, the	54
Pyrus angustifolia, fl.-pl.	43

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SUTTON'S SEEDS GENUINE ONLY DIRECT FROM SUTTON AND SONS, THE QUEEN'S SEEDSMEN, READING.

Novelty for 1893.

VARIEGATED HOP.—Most ornamental and fast-growing climber. See report of the *Gardeners' Chronicle* of Oct. 8, 1892. Descriptive LIST free on application. FRED. RŒMER, Seed Grower, Quedlinburg, Germany.

IF YOU WANT FRUIT TREES that will bear regularly, purchase Apples worked upon our Paradise Stock. We have 60,000 to select from, and shall be pleased to show them to visitors. J. R. PEARSON AND SONS, Chilwell Nurseries, Notts. Established 1782.

20,000 PRIZE COB FILBERT TREES in full bearing. Apply to—Mr. COOPER, F.R.H.S., Western Elms (late of Calcot Gardens), Reading.

KELWAYS' MANUAL NOW READY.—The finest Catalogue and Guide. New for 1893. Seeds, Plants, and Bulbs. Illustrated, 146 pages. Gratis to customers; 1*s.* post-free to others. KELWAY AND SON, Langport, Somerset.

Seed Potatos.

H. AND F. SHARPE have forwarded their SPECIAL PRICED LIST of SEED POTATOS to their Customers and others in the Trade, and will thank those who have not received it to inform them, and a further copy will be posted. SEED GROWING ESTABLISHMENT, WISBECH.

MYATT'S PROLIFIC, for Sale.—Grown on high land, and true; 50*s.* per ton up to 2 tons; less for larger quantity. G. F. YOUNG, Swineshead Abbey, Boston.

ORCHIDS.—New and rare species, a special feature. Catalogue forwarded post-free on application. SEEGER AND TROPP, Ltd., Orchid Nursery, East Dulwich, London, S.E.

ROSES IN POTS.—Special offer. Several thousand Niphetos and other Roses, established in 12's and 16's, at £5 and £6 per 100. GUIVER, BROTHERS AND LAWSON, Durant's Nurseries, Ponder's End, Middlesex.

GEORGE PIKE, 97, 98, and 99, Flower Market, Covent Garden, W.C., is open to receive CHOICE CUT FLOWERS for SALE on COMMISSION. Boxes and Labels supplied on application.

G. A. WILLIAMSON, NURSERYMAN and FLORIST, Smithfield Market, Manchester, is open to RECEIVE CONSIGNMENTS of CUT FLOWERS and MAIDENHAIR FERN ON COMMISSION. Cheques as desired.

MESSRS. SQUELCH AND WOOD, FRUIT SALESMEN, North Row, Covent Garden, W.C., are open to RECEIVE CONSIGNMENTS of GRAPES, TOMATOS, CUCUMBERS, and all kinds of HOT-HOUSE PRODUCE. Our business connections being amongst the best houses in London, we are in a position to secure the highest prices for all choice goods. Account Sales forwarded daily, and cheques weekly, or daily if required. Empties and labels supplied. Reference, London and County Bank, Covent Garden Branch.

WANTED, complete set of the "BOTANICAL MAGAZINE," or any part thereof, and other BOTANICAL WORKS. Address—A. BLANC AND CO., Philadelphia, Pa., U.S.A., Dealers in Cacti, Bulbs, &c. Electrotypes.

CARTERS' "VADE MECUM for 1893" has been posted to Messrs. CARTERS' Customers. It contains several elegant Coloured Illustrations, and will be found a most thorough book of reference by all who desire to cultivate successfully the choicest Vegetables and the prettiest Flowers. Price 1*s.*, post-free, to unknown correspondents. CARTERS, Seedsmen by Royal Warrants to H.M. The Queen and H.R.H. the Prince of Wales, 237 and 238, HIGH HOLBORN, LONDON, W.C.

HUMEA ELEGANS, HUMEA ELEGANS, English-saved Seed, of strong germinating powers. Per Packet, 1*s.* B. S. WILLIAMS AND SON, Victoria and Paradise Nurseries, Upper Holloway, London, N.

FRUIT TREES.—Apples, Pears, Plums, Cherries, per 100 or 1000. Prices on application. FLETCHER BROS., Ottershaw Nurseries, Chertsey.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for List, free.—P. MCARTHUR, The London Nursery, 4, Maida Vale, London, W.

BOX'S BEGONIA SEED.—For germination and quality of flowers superior to all others. Half packets, single mixed, 6*d.*; larger packets, 1*s.* and 2*s.* 6*d.*; double mixed, half packets, 10*d.*; larger packets, 1*s.* 6*d.* and 2*s.* 6*d.* Sow now. Ask for PRICE LIST of Tubers, and Pamphlet on Culture. JOHN R. BOX, Seedsman and Begonia Grower, Croydon.

NORWICH WONDER RASPBERRY CANES, 25*s.* per 1000; Semper Fidelis, 20*s.*; Sir John Falstaff, 15*s.*; Beauty of Bath and Bismarck APPLE, Maidens on Crab, 10*s.* per dozen; Beauty of Bath, 2 years, on English Paradise, 15*s.* per dozen; Sir Joseph Paxton STRAWBERRY, good and true, 10*s.* per 1000. W. HORNE, Perry Hill, Cliffe, near Rochester.

LAXTON'S SEED NOVELTIES, 1893.—The earliest and best New Peas, Potatos, and Tomatos. The best Show Beans, Onions, and Carrots, New White Artichoke, Chou de Bedford, and new Sweet Peas, all the best. Send for List. THOMAS LAXTON, Seed Grower, Bedford.

CLEARANCE SALE OF BULBS.—Greatly reduced Prices. Hyacinths, Tulips, Polyanthus Narcissi, Daffodils, Snowdrops, Scillas, White Lilies, Bride Gladiolus, &c. Price List free on application to BARR AND SON, 12 and 13, King Street, Covent Garden, London, W.C.

RASPBERRY CANES.—Norwich Wonder, Carter's Prolific, also Fastolf, strong and well rooted. Not less than 1000 canes supplied. ALBERT BATH, Vine Court, Sevenoaks, Kent.

To the Trade.

CHARLES SHARPE AND CO., SEED GROWERS and SEED MERCHANTS, Sleaford, Lincolnshire, beg to intimate that their Wholesale CATALOGUE of GARDEN, FLOWER, and FARM SEEDS, is now ready, and will be forwarded, post-free, to any address on application. A copy has been posted to all customers. January, 1893.

TO BE SUCCESSFUL in Growing FLOWERS and VEGETABLES to Perfection, you must have DOBBIE'S CATALOGUE and COMPETITOR'S GUIDE as your constant companion.—"I thank you for your excellent and practical guide, which is the best I ever had." A specimen of hundreds of testimonials.—The Book is ready now; it consists of 160 pages, and is sent free by post for 4*d.*—Please apply early, if you want to be sure of getting a Copy.—DOBBIE AND CO., Florists and Seed Growers, Rothesay, Scotland.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings. Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W.

THOMSON'S MANURE.—The sale of this Manure is steadily increasing, and it can be had as formerly of all the leading Nursery and Seedsmen in the United Kingdom. London Agent, Mr. JAS. GEORGE, 14, Redgrave Road, Putney. Agent for Channel Islands, Mr. J. H. PARSONS, Guernsey. Sole Makers, WILLIAM THOMSON AND SONS, Limited, Tweed Vineyard, Clovenfords.

SALES BY AUCTION.

The Studley Castle Collection of Orchids, Palms, FERNS, STOVE and GREENHOUSE PLANTS, &c.

MR. J. C. STEVENS has received instructions from the Official Receiver in Bankruptcy to SELL by AUCTION, EARLY in FEBRUARY, the valuable COLLECTION of ORCHIDS formed by T. Walker, Esq., of Studley Castle, Warwick, including, amongst others—

Cypripedium Spicerianum, best variety
,, cardinale
,, Schroderæ
,, Hincksianum
,, Haynaldianum
,, Elliotianum
,, bellatulum
,, œnanthum superbum
,, Measuresianum
Dendrobium prismatocarpum, fine plant
Dendrobium thyrsiflorum, fine specimens
Cattleya Warocqueana
Cœlogyne cristata, fine specimen
Lælia anceps alba
Cypripedium insigne
Lycaste Skinneri alba
Maxillaria Lehmannii
,, picta
Cymbidium Lowii
Stanhopea tigrina
Cœlogyne Massangeana, &c.

Also the well-grown PALMS, FERNS, and other STOVE and GREENHOUSE PLANTS.

Auction Rooms & Offices, 38, King St., Covent Garden, W.C.

Monday Next.—Plants and Bulbs.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, January 16, at 12 o'Clock, 40 Lots of GREENHOUSE FERNS from an English Nursery, Home-grown LILIES and HERBACEOUS PLANTS in variety, LILY OF THE VALLEY Berlin Crowns, BEGONIAS, Hardy Border BULBS and PLANTS, and about 250 Lots of DUTCH BULBS.

On view morning of Sale, and Catalogues had.

Wednesday Next.

9160 LILIUM AURATUM, also other LILIES, received direct from Japan; 15,000 LILY OF THE VALLEY, Berlin Crowns; 64,000 COCOS WEDDELIANA Seeds received direct; home-grown LILIES; consignment of LILIES from Holland; 200 bulbs AMARYLLIS SEEDLINGS, from the best named crosses; BEGONIAS and HERBACEOUS PLANTS; GLADIOLI, Kelway's hybrids and others; American PEARL TUBEROSES, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, January 18, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Thursday Next.—Roses, Ferns, and Plants.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, January 19, at 12 o'Clock, 200 dwarf ROSES, 90 lots of STOVE and GREENHOUSE FERNS, BEGONIAS, hardy BORDER PLANTS and BULBS, &c.

On view morning of Sale, and Catalogues had.

Friday, January 20, 1893.

MESSRS. PROTHEROE AND MORRIS have received instructions to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY NEXT, January 20, at half past 12 o'Clock, a superb importation of the—

LANG-TANG VARIETY of DENDROBIUM NOBILE,

the short, thick-bulbed species, which are absolutely new to Europe, and are untried. They are most distinct in appearance, evidently free in growth, and we recommend them with the utmost confidence.

CATTLEYA LEOPOLDII,

the Pernambuco variety, described in the *Gardeners' Chronicle*, December 24, by Mr. Jas. O'Brien.

LÆLIA ELEGANS and LÆLIA GRANDIS,

of the old original form, and not to be confused with L. grandis tenebrosa, or the small variety of the species sometimes sold as L. grandis.

PHAIUS SANDERIANUS VAR.

Strong plants of this noble and stately form.

CATTLEYA ALEXANDRÆ, LINDEN.

A new Cattleya, discovered by M. Linden.

CHOICE HYBRID DENDROBES,

in Flower, and Showing for Flower.

ODONTOGLOSSUMS

in variety, in lots of 10, selected from well-established plants of the following:—O. nævium, purim, blandum, mirandum, Hallii, nevadense, triumphans, Edwardii, radiatum, cirrosum, facetum, &c.

CYPRIPEDIUM INSIGNE VAR. MONTANUM.

A wonderfully distinct fine-looking lot of plants, collected with great trouble and care. There is no doubt at all that self-yellow forms will be found in this importation, and we strongly recommend them to buyers.

The marvellous forms that have already appeared from our former importations, are a guarantee as to what may be confidently expected from this lot; and the plants being in really sound plump condition, should induce all admirers of this richly-endowed section to secure as many plants as possible when an opportunity like the present occurs.

VANDA CŒRULEA.

The Lang-tang Mountain variety—large flowers of the richest azure blue; a fine lot of plants.

DENDROCHILUM SPECIES,

From Dutch East New Guinea.

A very handsome new kind with yellow-green blossoms, which are redolent with a sweet perfume.

Also CYPRIPEDIUM INSIGNE VAR. and DENDROBES from the frontiers of Thibet, &c.

By Order of F. SANDER AND CO., St. Albans.

Also 40 lots of CATTLEYA MENDELII (another property).

On view morning of Sale, and Catalogues had.

WANTED, to PURCHASE or LEASE, a NURSERY, from 2 to 4 Acres, with modern Glass.—C. P. J., Brooklet, Hamworth Road, Hampton, Middlesex.

WANTED, to RENT or LEASE, GENTLEMAN'S GARDEN or NURSERY, with plenty of Glass. Near good Market Town.—M. T., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

TO BE SOLD, with Immediate Possession, a compact Nursery; nine Glasshouses in good working order. Lease, 21 years. Rent, £10 per annum. Pony, Van, Stabling, &c.—Grove Street Nursery, Upper Edmonton.

TO BE SOLD, an Old-established NURSERY, with some 50,000 feet of Glass, and 8 Acres of Land, well-stocked, and in going order; or a PARTNER would be entertained. Terms very reasonable. Apply to—T. HAWKINS, Horticultural Builder, Ashford, Middlesex.

FOR SALE, satisfactory reasons for disposal, a small compact NURSERY, mostly Glass. Substantial houses; low ground rent; over 90 years unexpired lease. Price, including Stock and Fixtures, £1500. £500 could remain at 5 per cent. Good business-growing district of Seaside Town.—Apply, M. G., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

Nursery and Seed Business.

FOR SALE or PARTNERSHIP, well-established in one of the largest towns in the North of England. Nearly 4 acres of land, with large Stove and Greenhouses, Ferneries, &c., also Sale shop in one of the best positions in the town. Price for the whole, £1000, or half share, £500. Good trade, which can be greatly increased. Satisfactory reasons for disposal. Address, G. B., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FIRST-CLASS FREEHOLD HORTICULTURAL NURSERY for SALE, to LET, or PARTNERSHIP.—To a good practical man with £100 to £1000, this is a great chance. The present owner established it 25 years ago. It is within the borough of a large Midland town.—Apply to—S. HARVEY, Blyth Street Nursery, Woodborough Road, Nottingham.

TO LET.—A genuine SEED, FLORIST, and FRUIT BUSINESS, in a growing Market Town near London. Splendid opportunity. Main street. Small Nursery, with Glass. Good reasons for Letting.—ALPHA, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

Bournemouth—To Market Gardeners and Others.

TO LET, 2 to 4 Acres of LAND, suitable for Market Gardens, close to town. Also good Shop in main thoroughfare, if required.—Address A. H., 6, Cheltenham Villas, Bournemouth West.

TO BE LET, a small compact NURSERY, consisting of 5 Greenhouses, from 80 to 100 feet long, all well-heated with hot water, and with double and single Pits, being within 9 miles north of Covent Garden, at a low rental. J. W. WOODHALL, Oakleigh Road, Whetstone, N.

To Nurserymen, Fruit-Growers, or Florists.

TO BE LET.—The BULSTRODE LOWER GARDENS, situate near Gerrard's Cross, 5 miles from Slough, and 20 miles by excellent road to London, consisting of 12½ acres of good Garden Land, walled all round, and well-stocked with choice Fruit Trees; various Glass-houses, with good Furnaces, Vinery, Peach-house, Mushroom-house, &c. Extensive plantation of Nut Trees. Excellent Water-supply. Capital 9-roomed DWELLING-HOUSE. Useful Outbuildings. Also 4-roomed COTTAGE, &c. Maximum Rental (covering Rates, Tithe, &c.), £95 per annum.—Apply to W. C. HERON, Auctioneer and Estate Agent, Uxbridge, Middlesex.

CHRYSANTHEMUM CUTTINGS.—Madame Desgranges, 15*s.* per 1000; Mrs. Hawkens, 20*s.* per 1000. Terms cash.—G. LANGE, "Chambery," Hampton, Middlesex.

FOR SALE.—Eight very large KENTIAS and SEAFORTHIAS. Particulars of W. TROUGHTON, Nurseryman, Preston.

New Seed of

ASPARAGUS PLUMOSUS NANUS, clean well-ripened seed.—H. B. MAY offers the above, price per oz. or 1000 on application. Dyson's Lane Nurseries, Upper Edmonton.

THE LIVERPOOL HORTICULTURAL CO.

(JOHN COWAN), Limited,

THE VINEYARD AND NURSERIES,

GARSTON, NEAR LIVERPOOL,

Have this season splendid stocks of the following:

GRAPE VINES,

For fruiting in pots and planting Vineries.

TEA and other ROSES, in pots.

ERICAS, AZALEAS, PALMS,

FERNS, &c., &c.

CATALOGUES, with full particulars, post free on application.

Special Quotations to the Trade.

EXHIBITION.

WOLVERHAMPTON FLORAL FÊTE. In the Public Park, July 11, 12, and 13, 1893. For Schedules, &c., apply to the Horticultural Secretary—W. A. GREEN, Junr. Corporation Street.

CHRYSANTHEMUMS.—DROVER'S BOOK, Illustrated, should be read by every Grower. Post-free, 1*s.* 2*d.* Catalogues, 3*d.*—Nurseries, Fareham.

CHEAP, TO CLEAR.—500 ROSES, in 24's, 45*s.* per 100. C. LAMB, Gardens, Loughton.

CUCUMBER SEED, Rochford's variety, best for Market or Private Use, beautiful new seed, per 100, 5*s.* 2*d.*; per 1000, £2 2*s.* Post-free. A. BENNETT, F.R.H.S., Ashford Vineyard, Cobham, Surrey.

ASPARAGUS PLUMOSUS NANUS.—50 strong plants in 7-inch pots; also SEEDS for SALE, or EXCHANGE ORCHIDS or ADIANTUM FARLEYENSE.—Apply to N. WORMELOW, Tram Inn, R.S.O., Herefordshire.

CHOICE GERMAN FLOWER and VEGETABLE SEEDS. CATALOGUES free on application. FRED. RŒMER, Seed Grower, Quedlinburg, Germany.

TOMATO PLANTS.—Strong and Healthy. Sutton's Perfection, true, 8 to 12 inches. Sample dozen, 2*s.*, post-free. Special quotations for larger quantities. GARDENER, Thundersley House, Thundersley, Essex.

VEITCH'S EXONIAN PEA.—The Earliest Wrinkled Marrow in Cultivation. A heavy cropper, and of superior flavour and colour, 1*s.* 6*d.* per pint, 2*s.* 6*d.* per quart. Of the leading Seedsmen, and of ROBERT VEITCH AND SON, Exeter.

To the Trade.

NUTTING AND SONS have now posted their ANNUAL WHOLESALE CATALOGUE of GARDEN and FLOWER SEEDS to all their Customers. If it has not been received, they will be pleased to forward a copy on application. NUTTING AND SONS, 106, Southwark Street, London, S.E.

CHRYSANTHEMUMS.—Best and Newest.—Strong Cuttings, from 1*s.* 6*d.* per dozen, 10*s.* per 100; Plants, 2*s.* 6*d.* per dozen, 16*s.* per 100. Many valuable prizes have been taken by my customers during the last 14 years. CATALOGUE of W. ETHERINGTON, Chrysanthemum Grower, Swanscombe, Kent.

Trade Price Current, 1893.

PETER LAWSON AND SON, Limited, Edinburgh, have posted to their Customers their CATALOGUE of KITCHEN GARDEN and FLOWER SEEDS for the present season, and if any have been inadvertently omitted, copies will be forwarded on application.

BERLIN LILY OF THE VALLEY for Forcing, quality unsurpassed in the Trade, 35*s.* per 1000, 4*s.* per 100. LILIUM AURATUM, direct importation from Japan, 30*s.* per 100; 5*s.* per dozen. WALSHAW AND SON, Scarborough.

To the Seed Trade.

H. AND F. SHARPE have posted their GENERAL WHOLESALE LIST to their customers and others, and shall feel obliged if those who have not received it will inform them, and another copy will be sent. SEED GROWING ESTABLISHMENT, WISBECH.

The Best Present for a Gardener.

VINES AND VINE CULTURE. The most complete and exhaustive Treatise on Grapes and their Culture ever published. Third Edition just out. Price 5*s.*, post free, 5*s.* 6*d.* A. F. BARRON, Royal Horticultural Society, Chiswick.

TOMATO "CHALLENGER" (Collins').—Awarded Four First-class Certificates at London Shows. The best kind for Amateurs and Market Growers. Fruit large, smooth, heavy, bright scarlet, grandly flavoured, free setting, very prolific. Over 1500 packets sold in 1892. Sealed Packets, only 1*s.* (Wholesale, HURST & SON). 68 pp. Illustrated Seed LIST gratis.—COLLINS BROS. AND GABRIEL, 39, Waterloo Road, London, S.E.

MILLER'S MUSHROOM SPAWN, finest quality, 3*s.* 6*d.* per bushel. Mr. W. H. WARD, Head Gardener, Aston Hall, says, "Your Spawn has proved the best I ever had." PEARL DOUBLE TUBEROSE, best and dwarfest sort, selected roots, imported direct, 14*s.* 6*d.* per 100, 2*s.* per dozen. F. MILLER AND CO., 267, Fulham Road, S.W.

GIANT LILY OF THE VALLEY.—Best Berlin Crowns for Forcing; 3000 at 28*s.* per 1000; 1000, 30*s.*; 100, 3*s.* 6*d.*; English Crowns for Planting, 1*s.* 6*d.* per 100. New Seeds of CAPE SILVER TREE, 6*d.* and 1*s.* per packet. PANCRATIUMS, all the best sorts, true to name, from 25*s.* per 100, £8 per 1000. All other Bulbs and Seeds at Low Rates. Trade Supplied. List Free. JAMES, Importer, New Malden, Surrey.

ASPARAGUS, of fine quality—for Forcing, 5-yr. old, splendid roots, 12*s.* 6*d.* per 100, free on rail; 6-yr. old, extra fine, 15*s.* per 100. Cash with order. My Asparagus always makes top price at Covent Garden.

Read the following unsolicited testimonial:—"Please send me another 200 of 5-yr. old Asparagus Roots. I may say that the last 200 were the best lot of forcing roots I ever bought, and my employer says the quality is excellent.—C. H. PERKINS, The Gardens, Milton Abbey, Blandford."

J. J. CLARK, Market Gardener, Goldstone, Brighton.

FOR ORCHIDS and GARDENERS to Grow Them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

FLOWERING LILY OF THE VALLEY. —Magnificent Samples. 100, 6 marks; 1000, 60 marks, for Post-office Order. Guaranteed to arrive in a fresh condition. BLUMENBOERSE, Magdeburg, Germany.

ROSES FROM DEVONSHIRE. Finest Bush Hybrid Perpetuals, 6s. per doz. } Strong and Finest Bush Teas, 10s. per dozen. } well rooted. Sellers' selection, strongest plants. Carriage and postage free. Cash with order. ROSE CATALOGUE FREE on application. Buyer's selection at Catalogue prices. CURTIS, SANFORD AND CO., Devon Rosery, Torquay.

FERNS! FERNS!!—Trade.—Greenhouse and Stove, 25 saleable sorts, in 2½-in. pots, 12s. per 100; 10 best market sorts, in 48's, 6s. per doz.; stores, 6s. per 100. Large Adiantum cuneatum, value in fronds, 6s. and 8s. per dozen. Cyperus, Aralias, Solanums, and Grevilleas, in 48's, good value, 6s. per dozen. Palms, Ficus, Erica hyemalis, Cyclamen, and Dracænas, in 48's, 1s. each. P. tremula and A. cuneatum, for making large plants quickly, 16s. and 20s. per 100, well packed, put on rail free for cash with order.—J. SMITH, London Fern Nurseries, Loughboro' Junction, London, S.W.

Walls of Fern.—The best Way to make them.

BARE and UNSIGHTLY WALLS in Greenhouses, Porches, &c., may be luxuriantly covered with Ferns, Foliage, and Blooms, by using our WALL TILE TROUGHS and PLANT BOXES (Patent). Easily fixed and universally adopted, entirely superseding Wire Netting and Corkwork. Photograph of our Tiled Wall of Fern, 110 feet long, and LISTS on application. Ferns and Soil supplied. Try our Scentless PLANT FEEDERS (Patent Compressed), 1s. per 100.—A. BOOTY AND CO., 18, Bride Lane, London, E.C. (Late Florists, &c., of Harrogate.)

Many Acres of Lilies of the Valley.

T. JANNOCH, Largest Grower of LILIES OF THE VALLEY in the Kingdom, offers 3-year-old flowering Crowns for forcing, and 2 and 1-year-old Crowns for planting out, of unsurpassed quality. Hundreds of testimonials. Time of sending out, November 1 to May 1. Prices and terms on application.

T. JANNOCH (Lily of the Valley Grower by special appointment to H.R.H. the Prince of Wales), Dersingham, King's Lynn, Norfolk.

FORBES' EAST LOTHIAN STOCKS.—Sow now for a continuous and brilliant summer and autumn display. For Massing in Beds, for Herbaceous and Shrubbery Borders, and for Cutting, this Stock has no rival. My superb Strain, which is Perfectly True, contains a larger percentage of Double Flowers than any other. It has had a successful run of about twenty years uniform good quality, and its reputation is world-wide. In 6 perfectly distinct and grand sorts, viz., crimson, purple, scarlet, white, crimson Wallflower-leaved; and white Wallflower-leaved, each sort, 1s., 2s. 6d., and 5s. per packet.

JOHN FORBES, Hawick, Scotland.

NEW CHRYSANTHEMUM.

"BEAUTY OF EXMOUTH."

THE SEASON'S SENSATION.

Has this season been awarded Thirteen Certificates.

"THE PREMIER VARIETY OF THE YEAR."

THE MOST BEAUTIFUL VARIETY IN EXISTENCE.

Strong Plants, 7s. 6d. each.

LIST containing cream of the Season's Novelties Post-free.

W. J. GODFREY, F.R.H.S.,

THE NURSERIES, EXMOUTH, DEVON.

FOR FRUIT TREES OF ALL KINDS, WRITE TO GEO BUNYARD & CO MAIDSTONE, KENT. WHO CULTIVATE 800 KINDS TRUE TO NAME. ILLUSTRATED LIST 6 STAMPS. LIST OF NAMES GRATIS.

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Of Fruit Trees, Roses, Conifers, Shrubs, Forest Trees, Climbers, &c. An immense Stock grown.

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A LEADING FEATURE.

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We have now published our Wholesale Catalogue of

VEGETABLE & FLOWER SEEDS

Containing also the best Novelties of the Season, and list of over 150 Varieties Choice Fern Spores. MAY BE HAD ON APPLICATION. Any of our Customers not having received one by post will oblige by letting us know, when another shall at once be posted.

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BULB AND SEED MERCHANTS,

EXETER ST., STRAND, LONDON, W.C.

Seed & Trial Grounds—Feltham & Twickenham, Middlesex.

VICTOR POTATOS

(SHARPE'S).

This favourite first early Potato, suitable for any Garden, indispensable for Forcing and Early Borders, and likely to take the first rank amongst first earlies for market use. Quality and yield all that could be desired. One well-known market grower has this year had a yield of 15 tons per acre on a large acreage. London and Manchester salesmen speak highly of their quality, and report that Victors will keep their bloom and have a fresh appearance after being in the market some days, when other early Potatos have become discoloured and unsaleable.

The stock we offer is the true yellow-fleshed variety and not the white variety, which is often substituted.

Price per cwt. and ton. State requirements to

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Seed Growers and Merchants, Boston, Lincolnshire.

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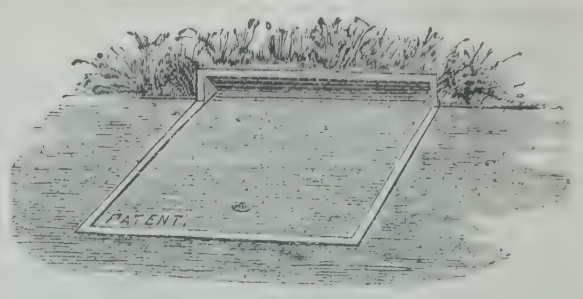

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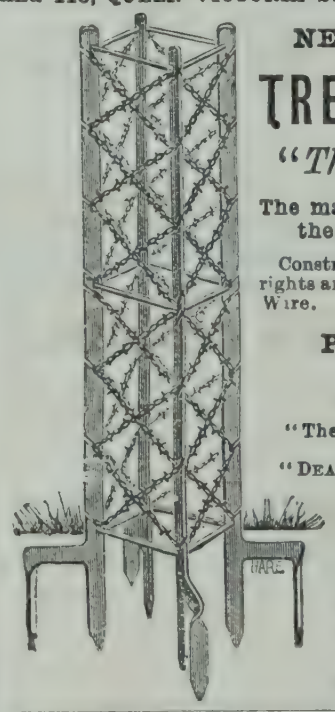

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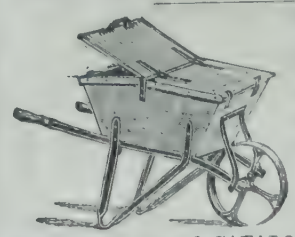

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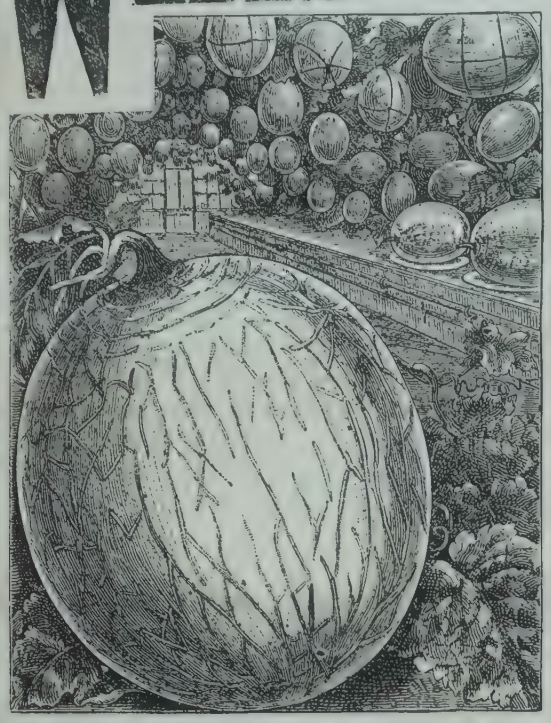

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THE

Gardeners' Chronicle.

SATURDAY, JANUARY 14, 1893

FONTHILL AND WARDOUR.

FOR some years past I had wished to visit Fonthill Abbey, that vast and eccentric building which wrecked the fortunes of Mr. Beckford, the author of *Vathek*. As I took Wardour Castle and Fonthill House *en route*, I will notice those places first, leaving Fonthill Folly—for there was much folly and not a trace of abbey in the building—for another occasion. It is about half an hour's journey by the train from Salisbury to the village of Hindon, and on leaving the station the woods of Wardour lie about three miles distant in one direction, and the Fonthills—for there are two adjacent places so named—will be reached within two miles, passing up the steep street of Hindon, and leaving the seat of Lord Arundel of Wardour in the rear.

We will visit the castle first. There is no need to ask the way, since the ruined old castle and its eighteenth century successor lie among these wooded hills that bound the view. Most of the chalk hills of this part of Wilts are devoted to unromantic Turnips and unprofitable corn, which leaves them bare and unlovely to the eye. One would know from the woods at Wardour that a great residence might be looked for among them, and that it must at least be as old as the timber. The original castle was, in fact, built by Lord Lovel in the last ten years of the fourteenth century, exactly 500 years ago. Owned by several noble families, it had dominated this part of the country about 250 years, when an exceedingly interesting accident occurred to it, and it was battered to pieces by Cromwell's soldiers. The defence of Lathom House by the Countess of Derby at the same tumultuous period was not more heroic than that of Wardour Castle by the Lady Arundel, wife of the second lord of that name.

It may be justly claimed on behalf of the brave cavaliers who defended at all costs, and in so many instances with utter ruin to themselves, their castles and manor houses, that they loved their honour better than their worldly prosperity, and their faith better than their lands. With a garrison of twenty-five men only, Lady Blanch Arundel withstood the efforts of the enemy during five days' bombardment, and capitulated at last, after having refused to surrender so long as the terms offered did not include quarter for the men, but only for herself, the women, and children. That active partizan of the Parliament, Edward Ludlow was then commissioned to garrison and hold the castle, which he did till its noble owner, Lord

Arundel, besieged it, and in the end sacrificed it to his loyalty by springing a mine, which laid it in ruins. It has never since been inhabited, and lies now a mass of ruins covered with Ivy, and venerated by all Englishmen who hold in honoured memory the high spirit and unbending sense of duty of men like Lord Arundel of Wardour.

The site of the ruins is beneath what is called an "amphitheatrical hill," crowned with the woods which one sees from the steep street of Hindon. The grand entrance to the castle remains, with the hexagonal court, which forming the centre of the ancient mansion, which, in its perfect state, was a fine example of a nobleman's residence at the beginning of the 15th century.

The deep well which Mr. Ludlow sunk to supply his garrison with water during the second siege is within this court. The smooth turf without the court is enriched with the more modern ornaments of exotic timber, including the Cedar of Lebanon, Cypress, and others that it is unnecessary to mention. Near this spot is a farm homestead, which includes the ruins of a mansion occupied by the family after the destruction of the castle. The present house, built rather more than 100 years ago, stands a mile distant, environed with woods like the older residence, and surrounded by a lawn. It is a noble edifice, built of freestone, and consisting of a centre and two wings, which project from the main front in a curvilinear form, having the porch in the centre, between the two projections. The nearest highway is the Salisbury and Shaftesbury road, from which the private road to the house passes through groves and private grounds, the little river Nadder taking its course through the park, and finding its level among the wooded hills through which it winds.

After this diversion in favour of one of the most [illegible] places in the historic county of Wilts, we may take a [illegible] look at Hindon, which, [illegible] also has its history, since it was formerly [illegible], like Old Sarum, a borough. Its venality has made it memorable. The story runs that a member returning thanks for his election, was bluntly told by an elector not to trouble himself, for if the squire, he said, had ordered them to return his great dog, "we should have chosen him all one as if it had been you, zur." Benjamin Disraeli unsuccessfully contested this borough, but as the squire did not send him, he was rejected. It will be noticed that the broad street is planted with trees, and towards the top of the street is a roadside inn, whose windows and little garden plots are bright with flowers in pots and beds, and so well kept, that one could not resist a call, when a smart and civil landlord came forward and gave this short and sufficient explanation—"Wife fond of flowers."

From here it is a pleasant walk to Fonthill. The estate owned by the eccentric builder of Fonthill Abbey has been divided, the original site having been sold to Mr. James Morrison, the millionaire. Fonthill House, to use its modern name, was destroyed by fire for the second time in 1755, when Alderman Beckford erected another mansion on the same spot, which was known as Fonthill Splendens, costing £240,000. It might have been splendid, but his son said it was damp, and he therefore sold it, and fell to work upon his famous Abbey on higher ground half a mile distant.

After the catastrophe, when the Abbey had tumbled down, the estate was divided as already stated, and what is now called Fonthill Abbey, which stands near the site of its unfortunate predecessor, was built by the Marquis of Westminster, and is now the residence of the gentleman to whom he sold it, Sir Michael S. Stewart, Bart. The present Fonthill House was built by the late Mr. Morrison, and has been enlarged by his son. It is a handsome modern house, bearing no resemblance to the Alderman's Mushroom edifice that preceded it. The beautiful park which surrounds it has the advantage of being much older than the house. The Beckfords had many predecessors, and the three houses of the past 150 years occupied the site of a noble residence of a very different style from any of them—the baronial seat of the Giffards. Fonthill Giffard, the picturesque village seated just outside the park, took its name from its original owners, and, truth to tell, the village church, erected by the munificent Beckford, has shared the misfortunes of his other buildings, having been replaced by the Marquis of Westminster, in his day, by one of French architecture in the style of the fourteenth century, with a tower and pinnacles.

At the time of my visit, Mr. Goodall, the gardener, was lamenting this year's very early autumn frost, occurring in the second week in September, and proving far more severe in the mild western counties than in London. Heliotrope, Tropæolum, Dahlias, and Scarlet Runners, and other things in the kitchen garden, were cut to the ground, the damage being greater than at the Abbey on higher ground. The Beech is the prevailing tree of the park, and there are some noble Oaks, Cedars of Lebanon, and exotics, on the lawn, and a lake in the valley before the windows, with higher ground sloping upwards beyond; and deer were seen among the glades of Beech woods in the distance. *H. E.*

NEW OR NOTEWORTHY PLANTS.

PAPAVER UMBROSUM, FLORE-PLENO.

THE *Revue Horticole*, in its number for January 1, gives a coloured figure of the double-flowered Papaver umbrosum raised by MM. Vilmorin, and which is, indeed, a plant of great beauty. It comes true from seed, which may be sown in the seed-plot in autumn, or in the border in spring.

STACHYS FLORIDANA.

The same number of the *Revue Horticole* makes mention of the tubers of Stachys floridana, which are utilised in the same way as those of S. affinis. It is said, however, that the flavour is "*sauvage*," which is certainly not a recommendation.

CYPRIPEDIUM VILLOSUM VAR. GORTONI *nov. var.*

A beautiful, distinct, and easily recognisable variety, sent to Dr. Gorton of 4, Maida Vale, London, W., by his nephew, from the extreme north of Burmah. It differs from the type chiefly in the different colour of its flowers. The upper sepal has a narrow purplish-crimson band extending up the middle to the bright emerald-green apex, and a clear white margin, the whole of the remaining surface being flaked, and tinged with light purple, and veined with darker purple, the colouring branching into the white margin in a very attractive way. The staminode is light yellow, or honey coloured, with an emerald-green boss in the centre; the lip is of a similar colour to the staminode, but tinged almost over its entire front-surface with pale rose. The petals are suffused with pale purplish-rose over the whole of their surface, except the narrow greenish-white margin. *James O'Brien.*

ASPLENIUM DUALE.

In our last issue, this plant was inadvertently mentioned under the heading of Adiantum, instead of Asplenium.

SELECT DECORATIVE FOLIAGE PLANTS.

(*Continued from vol. xii., p.* 731.)

PANDANUS VEITCHI.—This well-known table plant does not need any description here. In cultivation, the slender side-shoots taken from young plants have quite a different character from those taken from large and more vigorous-growing plants, as the former will make slender recurved leaves and form most elegant plants, while the latter produce leaves which grow nearly erect, and are much broader.

Pandanus javanicus variegata is also a handsome plant, but owing to the sharp saw-like edges to the leaves, it finds but little favour with the decorators. The Pandanads require stove treatment, and should be confined to small pots and poor soil. They will stand well as table plants, even in winter; but if kept out too long in a low temperature they die off, and though they may appear to be alive, will be found on examination of the stem to be dead. P. graminifolius is a pretty slender-growing species with green foliage.

Ananassa sativa variegata (Variegated Pine-apple) is a very effective plant for some purposes, but a little too dense for a table plant. It may be propagated from suckers or the tops of the fruits. Sometimes a fruit will give several tops; I have had as many as twelve from one fruit. Grown in sandy loam, they soon make useful plants, and if they are well exposed to the sun, they will have a reddish tint in the variegation. It is a good plan to suspend them to the roof in the warmest part of the stove.

Acalyphas are very pretty, and easily grown. They may be propagated from cuttings at any time of the year, and soon grow into useful-sized plants. To keep up a succession of useful plants, cuttings may be put in from time to time, taking the tops from such plants as have grown too tall to be serviceable; the plants may be potted in any ordinary compost, and grown in the stove, avoiding shade as much as possible. A. musaica and A. Macafeeana are the best species, the latter especially is very showy when well coloured. The best marked tops should be selected for propagating from. I have seen this plant when some of the leaves have been almost entirely of a bright crimson hue, or they may be irregularly blotched on a dark bronzy ground.

Myriocarpa stipitata is a fine foliage plant not often met with; it is perhaps owing to the fact that with age it becomes untidy in appearance. It may be propagated early in the spring from side-shoots taken from a plant which has previously had the top cut off. Small shoots with three or four leaves are best; these will soon root, if put in singly in small pots, using light sandy peat, and placed in the stove propagating pit. Loam and peat in equal parts, with a little manure and some sand added, will suit them well; the compost should be used as rough as possible, and not pressed firm. After the plants are well established, manure may be used freely. The large ovate leaves are of a pale greyish-green, with an irregular margin of a lighter colour, and form a fine contrast to most other subjects.

Cyperus alternifolius variegatus is a most elegant plant, and one which may, with care, be always had in good condition; it is one of the most effective table-plants, and may be largely used for almost any decorative work. It is readily increased by division. If this is done before the plants get pot-bound, they will suffer very little from being disturbed; indeed, it is rather an advantage than otherwise, for plants frequently divided make lighter growths, and are not so liable to revert to the green form. The plants may be potted in a light sandy compost, and require plenty of water at the root, but should not be wetted overhead much, or it will cause the white portion of the leaves to decay prematurely.

Cyperus laxus variegatus is a dwarfer-growing plant than the above, and when well-grown it is very pretty, and is likewise easily increased by divisions. For the green form of this species, see fig. 7, p. 41.

The normal green forms of the above Cyperuses are also useful plants; both sorts should be raised from seed.

Carex japonica is another useful "grass," more particularly as a small plant for vases, &c., and is much used by florists. If grown in 3-inch pots, it will attain to about 9 inches in height; but potted on into larger pots, and treated liberally, it will grow much taller. There is a variegated variety, which may also be recommended; this must be propagated by divisions. The plants should be potted in a loamy compost, and grown in the intermediate-house, or in summer-time they will do in cold pits.

Eulalia japonica variegata, though quite hardy, may be recommended as a pot-plant, and when grown in a little warmth, the long, slender, recurved leaves, regularly striped with white, are more effective than when grown out-of-doors. It is of easy culture, and most valuable for decoration. Plants rested during the autumn, and divided and started in heat early in the year, will soon make useful plants. The variety zebrina, which has yellowish bands running across the leaves, is pretty, but not so effective as the first-named.

Panicum variegatum.—This slender-growing variegated grass makes a fine edging for a group of foliage. It may be used for ordinary decorations during the summer, but in winter it is of no use except in the stove; it is easily propagated from cuttings, which root freely in the stove, propagating-pit, or any shady, moist position in the stove. If several cuttings are put into 3-inch pots, they can be potted on into 5-inch, without being divided. Any light sandy compost may be used for potting, but rich compost should be avoided, or the plants grow too freely, and lose the beautiful variegation. Used alternately with Isolepis gracilis, it makes a splendid edging for groups, especially on stages. Isolepis, though it will thrive well in the

Fig. 7.—Cyperus laxus. (see p. 40.)

stove, may also be grown in a cooler house, and is increased by division without difficulty. This useful grass succeeds best when grown in a light, open position.

A "VARIETY" SHOW AT READING.

A COLD, grey, gloomy sky, forming a dull background to the black leafless sprays of the trees, the hard ground, peppered with a thin coating of snow, the small streams frozen over, the larger ones as it were striving, and not very successfully, to keep an open channel, dull stagnation and sharp cold were thus the prevailing features in West Middlesex and the neighbouring counties: Reading itself was not more bright as we passed through it on the third day of this year. We mention these all too familiar circumstances because they serve to accentuate the contrast that met our eyes as we entered the span-roofed houses wherein Messrs. Sutton grow their Cinerarias, their Cyclamens, and their Primroses. "Come and see a blaze of bloom," was the text of an invitation we received; and, accepting it, we did see a blaze of bloom—purest of pure white flowers, whiter much than the sullied snow outside; pinks, reds, lilacs, purples, blues (nominal)—all shades of colour, as it seemed, with the exception of yellow. A visit to Messrs. Suttons' trial-grounds or houses, independently of the gratification furnished to the senses, always affords valuable lessons; the cultivation is remarkable for the evidence it affords of cleanliness, order, and skill; moreover, lessons of experience are here associated with the judgment derived from the practical study of physiology. The Darwinian teachings are here applied practically to systematic selection and cross-fertilisation in a most successful manner. Corelations of all kinds between cultural conditions, vigour, colour, form, arrangement of parts, and fertility, are all carefully noted, and, what is better, from our point of view, turned to practical account. And all this knowledge begets modesty. I was confident, says our guide, some years ago that I could, by following such and such a course, ensure such and such results. I did so repeatedly; but then came a change, I no longer succeeded. Some circumstance occurred, too trifling to be appreciated except in its results, and my confidence was shaken. When this happens, I make every effort to discover the reason, sometimes successfully, sometimes not.

We do not profess to give the exact words of our guide, but such was the gist of what he told us, enforcing his remarks by pointing to this or that specimen in illustration. In these days of technical education, the search for the reason why is a matter of the utmost importance. If we are to confine ourselves simply to the teaching of handicraft, we shall merely increase the numbers of average or inferior practitioners, of whom there are too many already, without improving the standard of cultivation or augmenting the number of capable men who are never too plentiful. A visit paid by County Councillors, lecturers, and those interested in education in cultural matters, to Messrs. Suttons' houses under the conduct of Mr. Martin, would afford valuable hints as to the best method of associating principles with practice, and of making the former conduce to the betterment of the latter. But we had come to see a blaze of bloom, not to be led away into a disquisition on education. It is relevant enough, however, as anyone will admit who has the opportunity we enjoyed. We suppose that we were so impressed with generalities of this sort, that we paid little attention to detail. In any case, we took no note of names, and must confine ourselves to a few salient points. Cinerarias were just about to flower, nice "stocky" plants of moderate height, with abundance of well-shaped flowers, just such as the gardener likes to see. Greenfly there was none, Lethorian cones—here much valued—secure immunity from this and other insect pests. But Messrs. Suttons' Cinerarias are not exempt from that curling in of the margin of the leaf that other less able and less experienced cultivators occasionally complain of—a highly consoling reflection to the amateur. It is hard to account for it; some plants are affected, whilst others are not, even when grown under the same conditions. Observation shows that plants with flowers of a particular shade of colour are more subject to it than others, and, further, that the peculiarity is more or less hereditary. In a plant thus predisposed by hereditary endowment, the slightest disturbance of the balance of growth, the slightest check, or the slightest stimulation from whatever cause, suffices to induce the cupping of the leaf.

The Cyclamens are further advanced than the Cinerarias, and present a mosaic of pure fresh colours most charming to witness. Here, again, the "habit" of the plant is everything that can be desired, and the variation in colour embarrassing. It would be more so, but that Messrs. Sutton follow the practice of growing side by side with their own varieties, others from all other available sources, so that the differences and resemblances, as the case may be, are at once appreciable. A free-flowering variety with flowers of moderate size and of clear salmon-pink colour was quite novel in tint.

The Chinese Primroses, from our special point of view, were the most interesting, as we made a comparative study of them a few years ago (see *Gardeners' Chronicle*, Jan. 26, 1889, p. 115), and, as, since that time, the aboriginal Chinese Primrose has been brought into cultivation. Prior to this time, all the Chinese Primroses in cultivation were derivatives, not directly from the wild plant, but from forms cultivated, perhaps, for long periods, in Chinese gardens. Naturally, it was felt that if we could get hold of the wild plant, up to that time unknown, coax it to grow and marry it to others, a varied and probably a brilliant future was in store for the Chinese Primrose. We need not repeat the history of the introduction of the "noble savage," for this has already been done in our columns, Jan. 26, 1889, and in the *Journal of the Royal Horticultural Society*. Moreover, we had the opportunity last year of figuring the plant in the first stage of civilisation, Jan. 2, 1892, p. 13, fig. 2, and from which it will be seen what a stride has already been made towards "improvement." This year, at Messrs. Suttons', the seedling plants show evidences of commencing variation in the foliage, and this we have no doubt will increase.

The plant in question has an interest independently of its history. It represents what naturalists call a species, a convenient term still, though not one that can be always satisfactorily defined. Its variations, therefore, have peculiar significance, because they do not depend on hybridisation—or intermixture of two species.

The same thing may, indeed, be said of the Cineraria and of the Persian Cyclamen, but these have been amenable to culture for a long time, and "crossings" innumerable, if not true hybridisation, have been effected. But in the aboriginal Chinese Primrose, only brought into cultivation a year or two ago, we have the opportunity of seeing matters, as it were, from the beginning. "Voir venir les choses, c'est le meilleur mode de les expliquer." Acting on this maxim, it is eminently desirable to keep a watch over this mountain Primrose, to trace its innate tendencies to vary, to note the results, if any, of its interbreeding with other kinds. We have used the particle "if," for, up to the present, Messrs. Sutton have been unable to induce the beautiful native to marry out of its tribe. So far it is fertile only with its own pollen, and a flower before us, as we write, has short stamens and an equally short style—an arrangement favourable to close fertilisation, and not the stamens and styles of different lengths—not the pin-eyed and thrum-eyed forms which in ordinary Primroses indicate an adaptation to cross-fertilisation by means of insects. This result, though not quite satisfactory to Messrs. Sutton, is noted with complacency by the writer of this note, who on first seeing the plant, then at Appley Towers, in the Isle of Wight, recognised it as the native species, dried specimens of which had, about that time, been sent over to Europe for the first time, and simultaneously, or nearly so, by Dr. Henry and by the French missionaries. The standoffishness referred to is an indication of the specific nature of the plant, but we have no doubt that it will not be long in Messrs. Suttons' possession before it will be tamed and coaxed to do pretty much what they desire. As for the other varieties, we have dealt with them on a former occasion; but as the processes of rational cultivation and reasoned-out selection and cross-breeding are constantly going on, it follows that there must be a progressive advance, and that improved quality, if not novelty, may be depended on. There is novelty, too, especially in shades of colour; but these must be seen, they cannot be described in words. One other point we must mention, and that is the Ivy-leaved race. A few years ago we came into possession of a single leaf, lobed, deep green, and glossy, like an Ivy leaf. We took it to be a variation or a monstrosity; but at Reading we were interested to see several representatives of a distinct race having these characteristics, the flowers of which are not yet quite regularised and fixed, so that in their present state they would not receive much attention at the hands of the florist; but the true florist knows how to wait, and seemingly he will not have to wait long for a very distinct race.

Sports in the Chinese Primrose are not so common as in the Chrysanthemum or Rose, for the reason that the Chinese Primrose being the offspring of a pure species, has not so much "mixed blood" in it. Nevertheless, they do occur, and one is now before us from the garden of E. Hyde, Esq. The plant has but a single crown. The leaves on one side of the plant are wholly green, and the green flower-stalk bears a truss of white flowers. The leaves on the other half of the plant have red stalks, and are red on the under surface, and the red flower-stalk bears a truss of rosy-lilac flowers. One leaf placed as it were midway between the green half and the red half of the flower, is partly green and partly purple on the under surface.

As we have no intention of writing a catalogue, we shall not pursue the subject further now; suffice it to say, that those who wish to revel in colour and form, and those who appreciate good cultivation, will find as much to attract their attention at Reading as will the naturalist, whose thoughts are of adaptation, variation, inheritance, cross-breeding, and the like items of latter-day philosophy.

A SYNOPSIS OF THE SPECIES OF CANNAS.

ALTHOUGH Cannas are such favourite plants in gardens, the genus is at the present time, from a botanical point of view, in a state of great confusion. In the Index, edited by Mr. Daydon Jackson, upwards of ninety specific names are kept up, but it is quite evident that a large majority of these represent mere garden forms. During the present winter I have gone through all the material which is available in London in the shape of books, drawings, and specimens relating to the genus, and cannot make out that there are more than about sixteen species in any broad sense. A large number of the forms which are now grown in gardens are evidently of hybrid origin, but their parentage has seldom been traced out and recorded. There are good sets at Kew, and in the Smithian herbarium at the Linnean Society, of the species described and figured by Roscoe, and of many of those named by Bouché there are type specimens from the Berlin garden at the Natural History Museum at South Kensington. After going through all these, I have drawn up the following synopsis of the original species and sub-species, and, as I have engaged to read a paper on the genus next summer before the Royal Horticultural Society, I shall be very glad to receive any further information, and to hear anything that your readers have to tell about the affiliation of the types now cultivated in gardens, and especially those enumerated and shortly described in Nicholson's *Dictionary of Gardening* to the specific types from which they have been derived.

In this genus the short outer wrapper of the flower, the three small green leaves that remain on

the top of the capsule, represents the calyx. The corolla is represented by the three longer equal leaves, of firmish texture, and greenish colour, that form the next row. The showy part of the flower consists of the stamens, which are brightly-coloured, and put on the appearance of ordinary petals. These petaloid staminodia are unequal in size, and to the margin of one of the inner ones the one-celled anther is attached. The genus is divided into four easily-recognisable sub-genera, by the length of the corolla-tube, and characters furnished by the staminodia; but of these sub-genera two contain only a single species each, and a third two species, leaving the great majority of the species in typical Canna, the types of which are all very closely allied, and difficult to limit and define, but which hybridise with one another readily.

Sub-genus 1. Eucanna; corolla-lobes and staminodia united in a short tube at the base, two or three of the upper staminodia being developed.

Group 1. *Three upper staminodia produced.*

1. C. indica (Linn., *ex parte*), Rosc. *Scit.*, t. 1; *Bot. Mag.*, t. 776. Stem slender, glabrous, green, 3 to 4 feet long. Leaves oblong, acute, green, the lower a foot long by nearly half as broad. Inflorescence a lax simple raceme; bracts suborbicular, green; some flowers in pairs. Sepals oblong, green, ¼ inch long. Petals lanceolate, pale green, 1¼ to 1½ inch long. Upper staminodia 3, oblanceolate, bright red, entire, 2 inches long, ¼ inch broad; lip linear, entire, red-yellow, spotted with red. Capsule globose, 1 inch diameter.

Hab.—West Indies and Guiana. This covers only a small part of the *indica* of Linnæus, Miller, and the older authors. Species 2, 3, 4, 12, 13, 14, as here treated, are not in any broad sense more than sub-species of *indica*.

Fig. 8.—Pyrus angustifol'a, flore-pleno: flowers fragrant, rose-coloured.

2. C. patens, Rosc., in *Trans. Linn. Soc.*, viii., 338; *Scit.*, t. 3; *Bot. Reg.*, t. 576. *C. indica* var. *patens*, Ait. *C. indica*, Curt. *Bot. Mag.*, t. 454. Stem slender, green, glabrous, 4 to 5 feet long. Leaves oblong, acute, green, the lower a foot long. Inflorescence a simple few-flowered lax raceme; bracts orbicular, green; flowers single or in pairs. Petals lanceolate, pale green, 1¼ to 1½ inch long. Upper staminodia three, oblanceolate, plain, bright red, entire, 2 inches long, ¼ inch broad; lip distinctly emarginate, bright red-yellow, with minute red spots. Capsule globose, 1 inch in diameter.

Var. C. limbata, *Bot. Reg.*, t. 771; Rosc. *Scit.*, t. 9. *C. patens*, Hook, *Exot. Flora*, t. 228. *C. aureo-vittata*, Lodd., *Bot. Cab.*, t. 449. Upper staminodia bright red, with a border of bright yellow.

Hab.—Tropical America. Here, apparently belong *C. spectabilis, saturate-rubra, variegata, recurvata, ventricosa, Sellowi, læta*, and *floribunda*, of Bouché. *C. occidentalis*, Rosc., in *Bot. Reg.*, t. 772, is a variety with only two upper staminodia produced, and from this *C. texensis*, Bouché, is not distinguishable by the description.

3. C. orientalis, Rosc. *Scit.*, t. 12. *C. indica* (Linn. *ex parte*), Roxb. *C. chinensis*, Willd., *Enum. Berol.*, 2, *ex parte*. Stem slender, glabrous, 3 to 4 feet long. Leaves oblong-lanceolate, the lower a foot or more long. Racemes lax, simple or forked; bracts oblong, the lower ¼ inch long. Sepals oblong-lanceolate, green, ⅓ to ½ inch long. Petals lanceolate, greenish, 1½ inch long. Upper staminodia three, oblanceolate, 2 to 2½ inch long, ¼ inch broad, bright red, often distinctly emarginate; lip red-yellow, distinctly emarginate. Capsule globose, one of the smallest in the genus.

Var. C. flavescens, Link., *Handb.*, i., 226. *C. orientalis flava*, Rosc., *Scit.*, t. 13. *C. indica flava*, Roxb. Upper staminodia and lip all yellow.

Hab.—Spread through the tropical regions of the Old World. We have no material for clearly separating *C. montana*, Blume, *C. pulchra*, Hassk., and *C. densifolia, exigua, Ehrenbergii, humilis*, and *pulchra*, of Bouché, all given as natives of the Old World. *J. G. Baker.*

(To be continued.)

NOVELTIES.

Pyrus angustifolia.—Mr. Oscar Tiefenthal, of Wandsbek, offers a new double-flowering Crab under this name. He tells us the tree is vigorous, bearing delicate pink, rose-like, fragrant flowers, contemporaneously with the leaves. The special features claimed for the new-comer are—perfect hardiness, great beauty of blossom and leaf, delicious fragrance, great adaptability to various soils.

The single-flowered form of the species was introduced to England so long ago as 1750, by Christopher Gray, nurseryman, of Fulham. It extends over large areas in the Atlantic States of North America. When in flower, says Sargent, it is not surpassed in beauty by any of the small trees of North America; and the traveller in the gloomy and monotonous Pine forests of the Southern States experiences no more delightful sensation than when he comes unexpectedly into some retired glade and finds it filled with these trees, covered by their delicious and fragrant flowers. A figure and full description are given in that beautiful and encyclopædic work of Professor Sargent, *The Silva of North America*, vol. iv. (1892), p 75.

FORESTRY.

THE OBSTACLES TO HOME TIMBER-GROWING.

Sir Arthur Grant, Bart., of Monymusk, Aberdeenshire, in noticing a review of the *Journal of the Royal Horticultural Society*, makes some interesting remarks on his experience in forestry. When old plantations were planted (he says), four pests of the forester did not exist in this (Aberdeenshire) part of Scotland—the rabbit, the squirrel, the Larch disease, and the lucifer match. Do what you like, it is very difficult to keep the rabbit entirely out of the plantation, and you must make up your mind to lose a proportion of newly-planted trees, and the trees are not out of danger for some years. When they are 25 feet high, or thereabouts, the squirrel attacks the Scotch Fir, eating the bark in spring on the sunny side. As a rule, he clears a patch perhaps 4 by 6 inches. From this the sap oozes out, and the winter wind snaps off the top, perhaps 4 or 5 feet from the tip; after this, your tree makes little progress. It is very difficult to see the squirrels in the Fir trees, and they are prolific little rascals. After killing perhaps 500 squirrels in a year, I find

the damage the following year to be little lessened, and I have thousands upon thousands of promising Scotch Firs destroyed or grievously injured by them at the present moment. Again, when your Larches have been planted perhaps twelve to fifteen years, the disease begins to show, and in many places, at about thirty to forty years of age, they go "pumped" in the centre, whilst yet too small to have much timber-value. Silver Firs also are now very subject to disease. Lastly, we have the lucifer match. Never a year goes by but we suffer at Monymusk more or less from the recklessly careless tourist or labourer, who lights his pipe, wanders on, and if he starts a fire, makes himself scarce at once. Last year a great deal of wood and young plantation and moor in Aberdeenshire was destroyed in this reckless fashion. In Switzerland they have very severe laws about firing the woods. These are some of the difficulties which surround modern plantations from which the older foresters were free.

In regard to profit, the labour of ditching, draining, fencing with walls, planting, and caretaking was much cheaper in the old days than at present. There was some sale for thinnings, which were largely used for rails. Now wire fencing and iron fences have stopped nearly the whole of that outlet, and thinnings will not pay for cutting and hauling. Twenty years ago Larch timber was selling at 1*s.* 6*d.* per foot. This year I have known of some sold for 4*d.*, and the best price would be between 6*d.* and 9*d.*, except possibly in some very exceptional position. The accessibility of a wood has, of course, an enormous influence on the price. Scotch Fir, again, was sold at Monymusk early in the century for 1*s.* 9*d.* per foot; 4*d.* would be about the price nowadays—of course I mean in large quantities. Put £100 into plantation nowadays, put £100 out to interest at 5 per cent., and for every £40 you get for your timber in sixty years, you will get £70 in the other investment, and you will not have the loss occasioned by rabbits, squirrels, Larch disease, and fire; you will not have fences to keep up, or to employ men to destroy the vermin, and oftentimes to turn out your neighbour's cattle, which are busily destroying your young trees. I plant some 300,000 to 500,000 of trees yearly, but I know it is a poor investment, and I do it first as a family tradition; second, to give shelter and improve the climate; third, because it employs a very considerable number of people, both in summer and winter.

The old timber found in old castles was probably "natural grown," of very great age when cut, and placed in suitable positions for keeping. I have, on the contrary, plenty of beams probably 120 years old which are full of dry-rot, and much infested with the wood-beetle. I find the more beautiful and rare Coniferæ to be all perfectly unsuited to the climate of Monymusk. Some may do for ornament—none, apparently, for business.

THE WEEK'S WORK.

THE ORCHID HOUSES.

By W. HOLMES, *Gardener, Pickering Lodge, Timperley.*

ODONTOGLOSSUMS.—Plants of O. Roezlii, O. Phalænopsis, and Miltonia vexillaria will now grow away freely at this season if potted during September, a point in the culture of these plants which should be attended to annually. The compost should consist of good Orchid peat and sphagnum, with a fair sprinkling of crocks mixed with these. At that time of the year our plants are cleaned of thrips, scale, or green-fly, or whatever may infest them, a solution of Fir-tree oil being used for the purpose. After being washed by passing the leaves through the hand in the mixture, they get a rinse in clean water, and are then laid on their side to dry, and when dry, they are potted. The house in which the plants are cultivated, that is, the glass, stages, and span, and the pots that the plants stand upon, are cleaned at that season, and in this way a riddance is made of a lot of pests, even of the troublesome slugs and shell-snails. The plants do not, as a rule, require further cleaning before potting time comes again. The excessive dipping of these three species of Orchids has killed more of them than many gardeners are aware of. If Miltonia (Odontoglossum) vexillaria has abundance of rain-water and fresh air, it will grow quite well; and the grower should not be afraid of using the syringe over them, which will keep thrip and green-fly in check. On the first fine day that we get after the present hard firing ends, our plants will be well syringed—in fact, on every mild day we do some amount of syringing. The following are some plants which do well along with Miltonia vexillaria, viz., Odontoglossnm blandum, O. nævium majus, O. cirrosum, O. Harryanum, O. pulchellum majus, O. maxillare, O. nebulosum, O. cristatum Sanderianum, Masdevallia tovarensis, Restrepia antennifera, Epidendrum vitellinum majus, Lælia Dayana, Sophronitis grandiflora, Cymbidium eburneum, and Ada aurantiaca. Odontoglossum Roezlii requires more heat than M. vexillaria—in fact, our plants are grown in a warm corner of the stove, where they do fairly well. I have kept them on the dry side for some weeks, and shall continue so to do for some time longer. The plants receive plenty of moisture from the wetted stages and pots, and an occasional overhead syringing on a fine morning in winter, and occasionally whilst growing, which helps to keep down thrip; but constant dipping I do not recommend, as it has killed hundreds of this species of Orchid. O. Phalænopsis is another species not often observed in robust health. It requires a temperature of 60° all the year round, and the Miltonia vexillaria-house during the summer months is the best place for it, about October removing it into the stove for the winter, where it makes up well and flowers freely. It is kept somewhat dry at the latter season. Red-spider and yellow thrips sometimes infest this plant very much, but these pests can be kept under by means of insecticides. The temperatures for the different houses for the next six weeks or two months may be:—Miltonia vexillaria, 55° to 60° at night, 65° by day; Cattleya-house, 55° at night, 60° to 65° by day; Odontoglossum crispum, 45° by night, 50° by day; Phalænopsis-house, 60° to 65° at night, 70° by day; and everywhere a little air afforded by the lower ventilators.

The severe weather we have been having for the last fortnight has been much against the well-being of Miltonias and Odontoglossums, especially M. vexillaria, which does not like much fire heat at any time. Rather than use an excessive amount of fire heat in the house containing these plants, I put mats over the plants on the side stages, which I find to answer very well, in fact, I use these mats in most of the cooler houses in severe weather, as by so doing the temperature of the houses in the morning feels more genial than when the heat has been kept up by the apparatus solely, and less damping down is required. With the use of much fire heat, insect pests increase, especially thrips, so injurious to the plants—therefore it has other advantages. During the frost admission of air has to be done with care, but in the event of mild weather we shall be able to open the bottom ventilators. Without this bottom ventilation no Odontoglossum does well, nor when rain water is not used in the watering of the plants. We have had manure-water recommended for these plants, but I prefer to have the water without the manure.

THE KITCHEN GARDEN.

By H. C. PRINSEP, *Gardener, Buxted Park, Uckfield.*

GLOBE ARTICHOKES.—The frost of the past week has brought the growth of these, in the open ground, to a standstill; but where the roots have been protected, young growth will still be plentiful. If some of the best of these be taken off, with a heel attached, and potted into 6-inch pots, and after this placed in pits, and subjected to gentle heat till roots are formed, then gradually hardened off in a cold frame, they will become good plants by the beginning of April, when they may then be planted out in the open. Plants treated in this manner will give a supply of fine heads long before those left in the ground come into use.

GENERAL WORK.—With such weather as we have experienced during this last fortnight, outside operations have been almost brought to a standstill. But while the ground is hard, wheeling can be done with more ease and without injury to the soil; so that where manure is needed, this should be done without delay. Heaps of refuse may now also be turned over, so as to have them in readiness for use when required. The Pea and Bean sticks needed for the ensuing season may now be procured and pointed ready for use. The present is also a good time for emptying and cleaning tanks and cesspools, and placing the refuse on the ground to be sweetened by the frost before being dug in.

FORCING GROUND.—Continue to collect leaves for mixing with stable-manure for the making of hot-beds. The heaps should be mixed together and turned over several times before being used, so that the whole may be sufficiently and uniformly heated, without which the eggs of injurious insects, such as slugs, will be hatched, causing much future loss of young plants. It is a good plan to put a few Lettuce leaves into the frames after the hot-beds are formed and soiled, for the gentle warmth of the soil soon causes any animal life that may still be in it, to become active. They will seek shelter under the leaves, which should be examined for two or three mornings in succession, and if any are found, they should be at once destroyed.

POTATOS in pits, that have grown 9 inches or 1 foot through the soil, should be carefully earthed up, using light soil that has been previously warmed to the same temperature as that in which the Potatos are growing. Choose a warm day when the sun is shining, if possible, taking care not to expose the plants longer than is actually necessary, for after the recent cold weather they will be very tender. Make another planting to succeed those already planted three weeks, to avoid a break in the supply. In giving air, be careful not to cause cold draughts to come in contact with the foliage, as this might cause a check. See that the soil does not become dry, but at the same time avoid a too liberal supply of water.

RHUBARB.—Where precautions were not taken prior to the frost to have some crowns of Rhubarb covered, the soil will now be frozen too hard to lift them. If such be the case, and roots are urgently needed, cover the crowns with Seakale pots; then put some fresh hot stable-dung over these. This will soon thaw the soil, so that the roots may be taken up.

MUSHROOM-HOUSE.—The late severe weather necessitated the use of much fire-heat, which has not been altogether congenial to the growth of the Mushroom. The most fleshy of these are grown in an even temperature of from 50 to 55° F., or such a heat as may be usually found in a close warm cellar; therefore avoid using more artificial heat than is really necessary to keep up the desired temperature. As the Mushroom-house is often used for forcing such things as Rhubarb and Seakale, and for blanching Chicory and Endive, the doors have to be opened oftener than is desirable. When these are placed at the north or north-east side of the building, they are exposed to the winds blowing from that direction every time the door is opened. It is a much better plan to have the doors of these structures opening into a shed if it can be made practicable, so as to avoid the direct impact of these cold winds. Where beds are becoming exhausted, give a gentle watering with warm water, in which salt at the rate of one ounce to the gallon has been dissolved. Collect and prepare material for making fresh beds as they are needed. When ready, choose, if possible, a warm day for getting this into the Mushroom-house, so as not to lower the temperature more than can be helped.

EARLY PEAS.—Those sown in frames a month ago, should by this time be well up above the soil. Care will be required in ventilating, for the recent cold frosty weather necessitated the lights being kept closed, which has made the plants somewhat tender. If a change should take place soon, do not be in too great a hurry to give a quantity of air, for cold draughts are apt to bring on mildew after the plants have been kept close for so long a period. Take advantage of the first warm day to examine the frames, for if mice have crept in, these destructive little creatures will soon do much damage.

THE HARDY FRUIT GARDEN.

By T. TURTON, *Gardener, Maiden Erlegh, Reading.*

BUSH FRUITS: DRESSING THE BRANCHES.—Where the recent spell of severe weather has prevented the work of pruning being completed, it should be again taken in hand, and brought to a close at the earliest possible time, and especially is this important with regard to Gooseberry, Red and White Currant trees, which, so soon as the pruning is finished, should be syringed with water and fresh slaked lime and soot, in the same proportions as those afforded in last week's Calendar for orchard trees, which will not only protect the buds from birds, but will keep the bushes clear of moss, and quite healthy. Since I adopted this kind of dressing for these bushes, the Gooseberry caterpillar has not troubled me. It is of importance that the lime be fresh, and used directly it is slaked, for the mixture being then warm, it soon dries on the branches. With the return to milder weather, the bullfinches will begin to devour the buds, and no work at present is more pressing than that of securing the buds from these mischievous birds. The mixture is more quickly

applied if the nozzle is removed from the syringe; or the trees may be dusted over with air-slaked lime, a method of distributing it more convenient for amateurs, and those growing only a few bushes. But the dressing of fresh lime, applied as directed, is more effectual, and seldom requires to be repeated when used at this part of the winter, whereas it will be found necessary to do so with air-slaked lime.

PRUNING BUSHES.—Skill being required by the pruner of fruit-bushes, the work should not be entrusted to any ordinary garden labourer. It is not uncommon to see Gooseberry bushes, which are nothing but a mass of root-suckers, for which no method of pruning is exactly suitable. A bush should stand on a clear stem of about 9 inches in height, and if the cutting was properly prepared—that is, all the buds removed below the branches or, rather, the point where these spring—suckers will not give trouble; but where such do grow, they should be persistently removed with the suckering-tool. In pruning Gooseberies, sufficient branches should be left to carry a full crop of fruit, this being of primary importance, and far enough apart to admit of easy gathering the fruits which grow on the inside. Gooseberries, according to their habit of growth, require different methods of pruning; and whilst Red Warrington and others of a pendulous habit of growth should not be hard spurred, but simply pruned back to young wood, these shoots being shortened to the desired length, and to a bud on the upper side; those having an erect habit, like Whitesmith, and which make much wood, are best pruned by close spurring them, not omitting to replace old branches with young as may seem desirable.

PLANTS UNDER GLASS.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

GREENHOUSE PLANTS.—AFFORDING PLANTS WATER.—Careful attention must be paid at the present time to the watering of all hard-wooded plants in pots; and the training of Indian Azaleas, and other plants which require it, should be looked to during the prevalence of bad weather. Keep a sharp look-out for mildew on Ericas. Camellias in bloom and bud should receive a good supply of cold water and fresh air whenever prudent to afford it; and when the houses are connected one with the other, open the doors to the other houses if the ventilators cannot be opened. The best Camellias for early blooming are Lady Hume's Blush, the old double and the single-flowered white, and Donkelaarii, red and white-flowered, and they are best planted out in well-drained beds of good turfy loam and sea-sand. A useful plant at this season is Clianthus magnificus, with its pale green foliage and large clusters of scarlet flowers; and where space is available, it should be planted against wall or pillar in well-drained soil. Useful sweet flowers at this season are Daphne indica alba, Rogiera gratissima, Heliotropium corymbosum and H. Triomphe de Liége, which, planted out in borders or in pots, are most useful. Mandevilla suaveolens should now be pruned in; the sweet-scented old plant likes a wall or a pillar, and flowers best near the glass. Early Cinerarias now coming into flower should be watered with clear soot-water, and fumigated to keep them clear of green-fly. If they are troubled with mildew, there is no better remedy for it on these plants and Roses than the mixture recommended by Mr. E. Molyneux for syringing, in his book, *How to Grow Chrysanthemums*, viz., 2 lb. sulphur, 2 lb. quicklime, 10 quarts soft water; boil for twenty minutes. Syringe with two wineglasses of mixture to 4 galls. of clean soft water. Attend to Lilium auratum, L. Harrisii, and L. candidum that have been potted and plunged under ashes, for if left in too long they get deformed; and they should be taken out of the coal-ashes when about 3 inches high and placed in a cool-house for a time, before they are pushed on in heat for blooming. Herbaceous Calceolarias in small pots should have a shift into larger, well drained pots, and a good rich soil, consisting of loam, leaf-mould, dry cow-dung, and sand, keeping them on a wooden shelf or trellis near the glass, and as cool as possible short of actual frost.

THE INTERMEDIATE-HOUSE.—Bouvardias that have done flowering should be moved into a cool-house, and kept rather dry at the roots for about six weeks; they will flower well again if placed in a little heat. The plants have been very brilliant this autumn; and they flower better and last much longer in bloom in a temperature of about 50° by night and 60° by day. The best varieties are Bockii, elegans, Hogarth florepleno, President Garfield, President Cleveland, The Bride, and Mrs. R. Green. Cliveia miniata should now be placed in a warm-house. If the plants were well grown during the past summer in 6 or 8-inch pots, and in a good compost of loam, leaf-mould, and sand, with a liberal supply of manure, and allowed to get pot-bound, they will flower abundantly. The soil in which Poinsettias are growing should be gradually allowed to become dry, laying the pots on their sides till cuttings are taken. Urceolina pendula should be pushed on in a little heat; its bright yellow flowers are very pleasing. Also introduce some of the earliest of the Amaryllis. Where there are numerous glass-houses, the past week, with the thermometer several times at zero, was an anxious time. A stock of iron and rubber rings and bolts, such as are supplied by some hot-water engineers, should be kept ready. Should a break occur, with these appliances a repair can be made in a very short time.

THE FLOWER GARDEN.

By T. H. Crasp, *Gardener, Canford Manor, Wimborne.*

THE PLANTING AND RE-PLANTING OF TREES, ETC.—A general thaw having set in, in the south, contemplated alterations or improvements in the garden that were in progress prior to the frost, should be pushed on. The removal or transplantation of shrubs and trees may be done with equally favourable results as in the autumn, provided care be taken not to remove too much soil from the roots, and also in having at hand a good supply of rich soil in which to plant, such soil being added plentifully, to allow for subsidence. After planting, afford a thorough watering, and continue this at intervals (in the case of large trees) throughout the spring and summer. For smaller shrubs one thorough drenching will generally suffice. All newly-planted trees and shrubs of more than ordinary size should be secured from waving by the wind by means of wire stays attached to stakes firmly driven into the ground, the tree having first affixed to it a leathern collar, or band of strong sacking, so as to prevent the bark being damaged where the stays are secured. With care, and providing the necessary appliances are at hand, large specimens, from 30 to 50 feet high, may be removed with success, even more so than in the case of smaller trees, examples of which may be seen here at the present time in such fine specimens as Thuya gigantea, 50 feet high by 28 feet in diameter; Abies nobilis, Taxodium sempervirens, and similar species, 30 feet in height, all of which are growing, and looking none the worse for their removal three years ago. All shrubs that have not as yet been thinned should be taken in hand without delay, and if the weather permit lightly fork over the soil under them in order to bury decayed leaves and other matter. A certain amount of care should be exercised by those engaged in freshening the soil of old shrubberies where the surface has become full of roots. The best method consists of raking off the leaves and rubbish, and mulching with leaf-mould, burnt earth, or decayed garden rubbish. It is a mistake to take away the fallen leaves year by year, and never to replace them with other nutritive materials.

THE BULB GARDEN.—Bulbs that were not planted in the autumn should be got in so soon as the frost is quite out of the ground, otherwise the effects of late planting will manifest itself in weak blooms, and this remark is no less applicable to Hyacinths, Tulips, Crocus, &c., which are planted in beds. The planting of Ranunculus and Anemone corms may be deferred for a week or so. Lilies may be planted at any time within the next four weeks, provided they are placed at a sufficient depth to exclude injury by frost. It is also a capital plan to put them up into small pots, and place in a cold frame, in cocoa-nut fibre or coal ashes, taking the precaution of covering the frame at night, planting them out when the weather is suitable. During the recent sharp weather doubtless a goodly supply of small stakes have been made and tied up in bundles, preparatory to their use for the Hyacinths and various other bulbs, as they come into bloom, as nothing is more detrimental to the effect of a flower garden in the spring than to see the Hyacinth flower-spikes being blown about, and covered with dirt, utterly marring their otherwise charming effect. Plenty of work may still be found in wet and frosty weather, in over-hauling and re-sharpening and sizing plant stakes, and making labels and pegs.

FRUITS UNDER GLASS.

THE PINERY: SUCKERS.—There will be little doing in this department before the middle of February. Supposing that the suckers were potted deeply in their pots in September, October, and the early part of November, they should not yet have encouragement to grow, but be rested in a temperature ranging from 55° to 58° by night, with air given by day if the temperature rise to 65°, but not raising the day temperature so high as this when the weather is dull. The bottom-heat will be high enough at 75° for the present.

SUCCESSIONS.—Only very early potted suckers will stand in need of repotting at this date, and only those which have well filled their pots with roots. In fact, no Pine-plant should be shifted before its roots have filled the soil and begun to run round the sides of the pot; on the other hand, when repotting is required, it should be done without delay—therefore it will be seen that there can be no fixed dates for repotting given. The bottom-heat may still remain at 85°, with top-heat by day, when dull, of 10° lower; but when the sun shines, the house may, when 85° is reached, be afforded an amount of ventilation which will keep it at that height. Never shift a plant unless it have one week previously received sufficient water to thoroughly moisten the soil. Queen Pines standing in 32's or 8-inch pots should not be put into larger pots than 12-inch, if they are to fruit in eighteen months from the sucker stage; plants in 6-inch pots being accommodated in 11-inch ones. It is not the biggest pots that are productive of the finest fruits, careful feeding in small pots accomplishing as much or more. More will be said about shifting the majority of the successions at the proper time. Growth is or should be slow at this season, or much drawing of the leaves will take place, and as a means of counteracting this evil beyond the lower temperature recommended, there must be no more aërial moisture dispensed than is sufficient to maintain the plants in health.

FRUITERS.—These, if Queens, may be started at this time to supply summer fruits, and where the bottom-heat is derived from Oak and Beech leaves, or tan, the bed must be freshened up by the addition of fresh, warmed material, taking out, in the case of leaves, some of the more decayed portions, and of tan, sifting out in a half-inch meshed sieve a large portion of the finer particles. The new must be well incorporated with the old materials, and care should be taken not to add so much as will cause a great access of heat—85° to 90° will be sufficiently high. Where hotwater-pipes supply the bottom-heat, the matter is entirely under the gardener's control. Select the most likely plants for starting, those which have the thickest neck and the largest number of short pointed leaves. In getting these plants ready for plunging, strip off a few, three or four of the lowest leaves; afford a top-dressing of rich loamy soil, and take great care to press it well about the neck of the plant, but do not use a rammer about that part, or injury to the plant may ensue. Do not tie up the leaves, as these are easily injured. When plunged, which may not be at first to their full depth, water them with water 80° and guano, and maintain a day temperature to the end of the month of 70° without and 80° with sun-heat; and 65° at night except in very frosty weather, when 2° or 3° less will be less harmful than excessive fire-heat. The paths and walls should be sprinkled twice or thrice daily, but no water should be put in the troughs over the hot-water pipes.

VINES.—A vinery of Sweetwater and Hamburgh Grapes may be started about this date for supplying fruit in early June. Also Muscat of Alexandria and Black Alicante if these be wanted in a ripe condition in the middle of July. Supposing that the borders have been redressed with rich loam, bone-meal, &c., and if they are outside as well as inside, the former have been protected by means of dry litter and shutters, tarpaulin, or the like, the canes should be taken down and their ends allowed to hang on a level with the wall-plate of the vinery. A heap of sweetened stable-dung and leaves may then be put into the house and turned at intervals, and also receive additional materials if its heat should soon decline. Where the old-fashioned brick-pit remains in a vinery, the fermenting materials may be turned into it, and the bed utilised for propagating purposes. Syringe the canes twice, or oftener, daily, but see that they are dry by nightfall; and let the temperature at the commencement range from 40° to 45° by night, and from 6° to 10° higher by day, and increase by 1° weekly, night and day, till the flowering time, when it may be 65° for Sweetwater and Black Hamburgh varieties, and 70° for Alicante and Muscat of Alexandria at night, descending after flowering 5° in these two classes of Grapes.

EDITORIAL NOTICES.

LETTERS FOR PUBLICATION.—*All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

Advertisements should be sent to the PUBLISHER.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY, JAN. 17 — Royal Horticultural Society's Committees, at the Drill Hall, James Street, Westminster. Horticultural Club. General Meeting of the Gardeners' Royal Benevolent Association, at Simpson's Hotel. Strand, W.C. National Rose Society.

SALES.

MONDAY, JAN. 16 — Plants and Bulbs, at Protheroe & Morris' Rooms.

WEDNESDAY, JAN. 18 — Liliums, auratum and others, from Japan, Begonias, Tuberoses, &c., at Protheroe & Morris' Rooms.

THURSDAY, JAN. 19 — Roses, Ferns, and Plants at Protheroe & Morris' Rooms.

FRIDAY, JAN. 20 — Orchids from F. Sander & Co., St. Albans.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—37°.

Railway Rates.

THE proposed increase in the charges for conveyance of goods by rail has not unnaturally caused great commotion among all classes of traders. It is the outcome of an attempt to introduce order and uniform procedure into what was previously a mass of chaotic inconsistency. A Commission, consisting of Lord BALFOUR OF BURLEIGH and Sir COURTENAY BOYLE, was authorised to revise the classification of goods carried by railways, to fix maximum charges, and to report to Parliament. A joint committee of both Houses was then appointed to discuss the matter, and to hear the evidence of the railway companies and of the traders. The action of the companies followed upon this committee. At present all that seems clear is that the companies have power to charge "maximum" prices, and producers and traders do not exactly know what these maximum prices may be. Some of these points may be cleared up at the meeting of the Mansion House Association to be held on the 30th inst. under the presidency of Sir JAMES WHITEHEAD.

Supposing the maximum tariff to be insisted on in all cases, the result, so far as we can see, is that some industries in which we are concerned must be well nigh annihilated, and that some ventures of great promise, such as fruit culture, and the culture of flowers for market, must be nipped in the bud. In some cases, water-carriage will be available, and the fruit-growers of Mid-Kent will doubtless avail themselves of the old-fashioned "hoy," such as their fathers depended on, obviating the delays and uncertainties of such a mode of conveyance by resorting to the employment of steam-tugs.

From a Kentish paper we take the following figures, which, even if not strictly accurate, sufficiently show the tendency against which the agriculturists and horticulturists of the country will have to fight.

The carriage of coal is raised, according to the figures before us, from 5*s.* 11*d.* per ton, to 8*s.* 3*d.*; cement, 6*s.* 8*d.* per ton, to 12*s.* 6*d.*; timber, 9*s.* 7*d.* per ton, to 12*s.* 6*d.*; bricks, 5*s.* 4*d.* per ton, to 8*s.* 9*d.*; manure, 5*s.* 11*d.* per ton, to 8*s.* 7*d.*

Supposing these figures to be a remote approximation only to the truth, it is obvious that they will cut in to the margin of profit so severely that nothing will be left. Perhaps the railway companies, perceiving this, will prove sufficiently shrewd to avoid the suicidal process of killing the golden goose.

We await further information, but in the meantime it is our duty to call the attention of our readers to the most serious danger affecting horticultural enterprise that has arisen in our recollection, and to urge upon them the necessity of united action. We suppose it is useless to expect the Royal Horticultural Society to move in such a matter, but possibly the Nursery and Seed Trade Association will resume its action on the subject. That body is much weaker, numerically and financially, than it should be. The imminence of the danger may, however, induce more of those concerned in commercial enterprises to join the Association and make its influence felt.

In the meantime we append a letter of Mr. GEORGE MONRO, of Covent Garden, published originally in the *Daily Telegraph*:—

There is one trade that suffers more than any other, and this when trade is exceptionally bad and prices scarcely sufficient to pay the grower.

I will give two instances of this:—We have a great many customers from seaside and provincial towns who attend our market, and have found it answered their purposed to buy home-grown as well as foreign fruits here, instead of depending only on local supplies. One firm has worked up a large trade, and had a rate on most goods of 11*s.* 8*d.* per ton. Now the carriage on the same goods is raised as follows:—

Onions	15*s.* 11*d.*
Oranges, Lemons, Nuts .	19*s.* 3*d.*
Apples	22*s.* 7*d.*
Tomatos	28*s.* 2*d.*

I wish particularly in this case to draw attention to the unfairness of raising the cost of carriage of home-grown produce represented by the two latter items as compared with the foreign. This is a gross injustice, especially since, as is often the case, these goods come the same distance to the market. The increase on Tomatos will be 33*s.* per ton, which means ruin to a growing business.

The other instance relates to Brighton, where the rate for most goods was 11*s.* 3*d.* per ton, and is now 20*s.* 10*d.* Under the new rate, a box of Oranges costs 2*s.* 6*d.*, while it used to be taken by carrier for 1*s.* before the railway existed. These facts are driving our growers to combine in starting lines of carriers by road, as they can get plenty of goods to load back with, grocers and other tradesmen being all willing to support them. Our trade has been a growing one, and profitable to the railways; but where we have to depend on them for transit, trade will be stopped, and in the end the railways will themselves suffer in consequence.

Covent Garden, January 10. GEO. MONRO.

The "Orchid Review."

A STRIKING illustration of the growing popularity of Orchids is evidenced by the appearance of this journal. France has her *Orchidophile*, Belgium her *Lindenia* and *Journal des Orchidées*, and in this country we have the serviceable *Orchid Album* and the sumptuous *Reichenbachia*, besides the admirable *Manual of Orchidaceous Plants*, published at intervals by Messrs. VEITCH.

Everyone of the publications mentioned is issued by a commercial firm. This fact does not detract from the value of the publications so far as they go, but it is obvious that commercial instincts, if not the commercial exigencies, must govern the selection of subjects and their treatment. The *Orchid Review* is independent of any commercial firm, and its scope, therefore, is not so likely to be restricted by prejudice and mere financial considerations. It is consequently addressed more particularly to amateurs.

In the new venture, descriptions of new species will form a feature, and special attention will be given to hybrids and hybridisation. The cultural department is in the capable hands of Mr. WHITE, who has charge of Sir TREVOR LAWRENCE'S collections at Burford Lodge. Mr. WEATHERS undertakes the description of the plants shown at the meetings of the Royal Horticultural Society. Hybrid Orchids occupy much space, not too much from a naturalist's point of view, but from the standpoint of decorative horticulture it would be well if nine-tenths of the hybrids raised were not suffered to appear on the exhibition table. No editor's name is given on the title page, but presumably the gentleman mentioned in the prospectus is responsible for the botanical details. Messrs. WEST, NEWMAN & Co., of 54, Hatton Garden, are the publishers, and the price is one shilling monthly. It is never fair to frame a criticism upon a first number. We must confine ourselves to welcoming the new-comer for its own sake, and for the evidence it affords of the progress of horticulture.

NEPENTHES MIXTA × (fig. 9).—Under this name we now publish a figure of a Nepenthes raised in Messrs. VEITCH'S establishment between N. Northiæ and N. Curtisi, and which in consequence received the provisional name of N. Northisii. This name was indicative of the mixed origin of the plant, but was objected to as implying the existence of a Mr. NORTHIS, a shadowy personage who has no real existence. It may then be better designated as N. mixta. The leaves are oblong acute subcordate at the apex and with a winged petiole. The pitchers are about 8 inches in length, with a fringed wing, cylindric oblong, of pale cream colour, flushed with green, and blotched with red, as in N. Northiæ. The fine ribs which surround the mouth of the pitcher are of a deep crimson colour. The lid is oblong, purple-spotted, without the curious process on the inner surface which characterises N. Curtisi, and the shallow wings are deeply laciniate.

THE LINNEAN SOCIETY.—An evening meeting will be held on Thursday, January 19, 1893, at 8 P.M., when the following papers will be read:—1. "The Plants of Malanji, collected by Mr. A. WHYTE, and described by Messrs. BRITTEN, BAKER, and RENDLE," by W. CARRUTHERS, F.R.S. 2. "A Report on the District Traversed by the Anglo-French Sierra Leone Boundary Commission," by G. F. SCOTT ELLIOT.

THE "NORTH" GALLERY, KEW.—A fifth edition of the official guide to this important collection has just been published. It is prefaced by a map and a biographical notice. The collection includes 848 coloured drawings. Notices are also given of the panels of ornamental woods below the paintings, amounting to no fewer than 246, whilst many are not determined. An excellent index concludes the pamphlet, which is to be had for 6*d.*

HORTICULTURAL SCHOLARSHIPS.—In addition to the scholarships offered by the Worshipful Company of Gardeners, and by the President of the Royal Horticultural Society, we learn that Baron Sir Henry Schroder has instituted a similar Scholarship of £26 annual value, for two years, the conditions for which we hope to announce shortly.

"BOTANICAL MAGAZINE."—The plants figured in the January number are:—

Nemesia strumosa, the beautiful herbaceous plant, introduced from the Cape by Messrs. SUTTON, and figured in our last volume, p. 269, f. 48, t. 7272.

Epidendrum spondiadum.—A Jamaican species, introduced to Kew by Mr. MORRIS. The racemes spring from the top of the pseudobulbs, and bear

FIG. 9.—NEPENTHES MIXTA (SEE P. 46)

four (or more ?) flowers, about 1 inch in diameter, greenish, blotched with deep red, stellate in form, with the outer segments lanceolate, the inner spatulate, the lip cordate-apiculate, with two calli, t. 7273.

Caralluma campanulata.—The very curious Cingalese Cactus-like Asclepiad, figured and described in our columns in our last volume, p. 369, f. 61. Kew, t. 7274.

Cypripedium fasciculatum.—A very curious Cypripedium, native of North West America (Washington Territory), with opposite leaves, and erect, many-flowered racemes. Each flower is subtended by a lanceolate bract. The fragrant flowers slightly exceed 1 inch in diameter, and the sepals and petals are lanceolate, rose-coloured outside, greenish-yellow within, with the veins red. The lip is straw-coloured, nearly globose, shorter than the segments, staminode three-lobed. Kew, t. 7275.

Iris Hookeriana.—A native of Cabul, Western Himalaya. It has a creeping root-stock, linear, strap-shaped leaves, and blue flowers. The sepals are spreading, lilac, mottled with darker spots, and having a yellow beard; petals erect, shorter, and paler, t. 7276.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—The quarterly meeting of this Society was held at the Caledonian Hotel, Adelphi Terrace, Strand, on Monday evening last, Mr. W. P. THOMSON in the chair. The Society is making good progress, fifty-three members having been elected during the past year. Three members are on the Sick Fund at the present time. One member who has been ill recently, was allowed 10*s.* from the Convalescent Fund. The amount of deposit standing to the credit of a nonpaying member was granted at the last meeting in accordance with Rule 14, the said member having ceased to pay since 1869, and having now reached 60 years of age. Messrs. DIXON, GUNNER, and PUZEY were elected auditors for the past year's accounts. The usual vote of thanks to the chairman ended the meeting.

GARDENERS' ORPHAN FUND.—We are highly pleased to be able to announce that H.R.H. the Princess of WALES has consented to become Patroness of this Institution, and has expressed her desire to use her influence with other influential persons on behalf of the Fund.

WOODFORD HORTICULTURAL SOCIETY.—At a meeting of the above Society held on the 9th inst., ANDREW JOHNSTON, Esq., chairman of the Essex County Council presiding, Mr. G. LAING PAUL of the Old Nurseries, Cheshunt, read an admirable paper on "Apples for Private Gardens," which gave rise to an interesting discussion. A hearty vote of thanks was accorded to Mr. PAUL for his paper.

NARCISSUS POETICUS PRÆCOX.—Mr. BAYLOR HARTLAND sends us a fragrant posy of this variety, which is specially valuable for its earliness. Mr. HARTLAND says he has been cutting a quantity for the last ten or twelve days. Under ordinary circumstances it flowers out-of-doors in March, being followed in succession by poeticus angustifolius and ornatus. All the flowers before us have the spathe bright green and leafy, instead of brown and membranous.

BLETTING IN BEAUTY OF KENT APPLE.—A specimen of this fine Apple has been sent to us, showing decay in an unusual form; the rind of the Apple is entirely black, thickened, and leathery, as if tanned, while the flesh is reduced to a brownish soft pulp, like that of a "bletted" Medlar. It is devoid of flavour, but of somewhat gummy consistence. We believe that Mr. HARVEY, of Canterbury, has made an analysis of the fruit, the results of which it would be interesting to record. It seems as if the malic acid had disappeared, and the starchy matter become converted into semi-gummy or pectic matter.

ROYAL AGRICULTURAL BENEVOLENT INSTITUTION.—The above has benefited greatly by large donations recently, and the Secretary of the Insti-

tution states that the QUEEN gave £105; Mr. B. STRETTON, Wisboro' Towers, Billingshurst, £1000; Mr. HENRY WHITE, Broad Oak, near Odiham, £100; and a legacy of £500 from the executors of the late Mrs. WILLIS, of Cheltenham.

DEVON AND EXETER GARDENERS' ASSOCIATION.—The first supper of the Devon and Exeter Gardeners' Association took place, we learn from the *Exeter Daily Gazette*, on Friday evening, January 6, at the Turk's Head Hotel. There were about fifty members present. The chair was occupied by Mr. HOPE (Messrs. VEITCH & SON), the vice-chairs being filled by Mr. T. C. BARTLETT (head gardener to Lady DUCKWORTH) and Mr. G. C. CRABBE (representing the amateur-gardener section of the Society). The affairs of the Association were stated to be in a most flourishing condition, and everything in connection with it in as satisfactory a state as could be wished.

SCOTTISH HORTICULTURAL ASSOCIATION.—Mr. A. M. MACALPINE, the consulting botanist to the Highland and Agricultural Society, delivered on the evening of January 4, in Dowell's Rooms, Edinburgh, the third of a series of lectures before the Scottish Horticultural Association on "The Structure and Physiology of Cultivated Plants." There was a large attendance of the association.

MULBERRIES.—In a *Bulletin* of the Cornell University Agricultural Station, Professor BAILEY discusses the cultivation of the Mulberry in the United States. Professor BAILEY admits the following types (omitting those grown as food for silkworms): —1, the white Mulberry, Morus alba, of which the Russian Mulberry, M. alba var. tartarica, and the nervosa Mulberry var. venosa, are forms; 2, the Multicaulis group = Morus latifolia; 3, the Japanese group = Morus japonica; 4, the black Mulberry group = Morus nigra; 5, the red or native Mulberry group = Morus rubra, of which the Lampasas Mulberry (var. tomentosa) is a variety. Under these groups six forms are mentioned, some of which are best for the northern, others for the southern States. The American varieties have been principally derived from M. alba and M. rubra, the European varieties from M. nigra, whilst the native American, M. rubra, has already furnished some varieties, and will probably produce others specially suitable to American conditions.

CONIFERS.—It is noteworthy that about the same time that the Conifer Report was issued, Prof. BAILLON should also have issued a part of his *Histoire des Plantes* containing a monograph of the genera of Conifers and allied orders. Professor BAILLON's treatment of the subject is very different from that adopted in the report, and mainly in the excessive "lumping" or consolidation that is practised, and which would render Professor BAILLON's arrangement inconvenient in practice. Sequoia disappears entirely, being sunk in Athrotaxis. Pinus, after PARLATORE's plan, is made to include all the genera of Abietinæ, but for practical purposes, at least, it seems best to keep the Silver Firs, Spruces, Larches, and Cedars distinct. At p. 19 the cone of the Spruce is given for that of the Silver Fir. Botanists will study Professor BAILLON's monograph with very great interest from the views he entertains respecting the structure of the flower in this order.

VEGETABLE AND FRUIT FARMING. — Mr. CHARLES WHITEHEAD has published a fourth edition of his *Hints* on this subject, which may be purchased in pamphlet form from Mr. JOHN MURRAY. We recommend its perusal to distressed farmers within easy distance of a market, and especially to allotment holders and amateurs. Mr. WHITEHEAD takes a reasonable view of the possibilities of profitable fruit culture, but we fear his pamphlet was issued before the late rise in railway rates. If this is persisted in, it will very seriously affect, or even annihilate fruit culture. In some districts carriage by hoy or canal boat may do something to restore the balance. Prof. EMORY SMITH, whom we have frequently mentioned in connection with the magnificent Leland Stafnord University and its department of horticulture, visited some four Kentish Cherry-orchards as the fruit was being picked, and shuddered at the careless way in which the fruit was handled without any selection. No doubt our fruit-growers have much to learn; and amongst other things they must learn to take pains. A separate section is devoted to "canning," in which also Prof. SMITH could give some useful counsel.

THE SURVEYORS' INSTITUTION.—At the ordinary general meeting held on Monday, December 19, 1892, the president (Mr. CHARLES J. SHOPPEE) in the chair, a paper was read by Mr. E. TIDMAN (Fellow) entitled "Sanitary Ventilation." A discussion followed and was concluded, and a vote of thanks was unanimously passed to Mr. TIDMAN for his paper. The second of four meetings of examinees and students authorised (subject to certain conditions) by the council to be held during the present session, will take place in the lecture hall of the institution on Monday, January 16, 1893, when a paper will be read by Mr. R. WATSON, entitled "A Devonshire Homestead." The chair will be taken at 7 o'clock.

THE DOUGLAS FIR. — Mr. GOODEN, of the gardens, Shopwyke House, Chichester (H. S. KENNARD, Esq.), sends us a photograph of a fine specimen of the Douglas Fir. It is about 55 feet in height, symmetrical, and well clothed with foliage from base to summit. When laden, as at present, with hundreds of light chestnut-coloured cones, it is a noble object.

AUTOMATIC DAMPER.—In our issue for July 9 last, p. 46, some remarks appeared respecting an automatic damper which had been patented. We have lately had an opportunity of seeing one of these that has been adjusted to a small boiler in the nursery of Mr. H. J. JONES, at Lewisham, where it appears to have answered perfectly. Mr. JONES told us that he had no trouble whatever with the regulation of the fire, and it maintains a more even temperature than any one of the others. Its principle and method of application was described in the article referred to above.

SAWBRIDGEWORTH.—On Wednesday, the 4th inst., the employés of Messrs. THOS. RIVERS & SONS were entertained at supper in one of the large houses, which was decorated for the occasion. About ninety-six men sat down to a substantial meal, the catering being in the hands of Mr. and Mrs. CAMP. Mr. T. F. RIVERS, in response to the toast of Messrs. RIVERS & SONS, said he was most happy to see all his men around him, and that it was owing to them and to their careful attention to their duties that the name of RIVERS was so well-known, not only in England, but in every quarter of the globe. He trusted that the friendship which existed would continue for years to come. After speeches by Mr. W. CAMP (foreman), Mr. J. DEDMAN, and Mr. J. BRACE, the rest of the evening was spent in amusement.

CHICAGO EXHIBITION.—The installation of exhibits has already begun, but has not yet progressed far. Soon, however, the interior of each one of the buildings will be the scene of great activity. The authorities are determined to have all exhibits in place at the opening of the Fair, and manifestly this cannot be accomplished if exhibitors are allowed to be dilatory. It will not do to permit the great mass of exhibitors to defer installing their exhibits until April, and accordingly state and foreign commissions and individual exhibitors will be required to be prompt. Exhibitors who are dilatory beyond a certain point will lose their space and be barred out. The requirements of the preparation of the official catalogue of exhibits also necessitate promptness on the part of exhibitors. This catalogue will be an elaborate publication, and, generally speaking, will have a separate volume devoted to each department. Its preparation is in charge of Major HANDY, chief of the department of Publicity and Promotion. It is the determination to have it on sale in complete condition on the opening day of the Fair, if it is possible to do so. That will, of course, depend mainly on the promptness of exhibitors. The section from one of the big Californian Redwood trees (Sequoia sempervirens), which the government will exhibit in its building at the World's Fair, has arrived at the Fair grounds. Eleven freight cars were required to convey it across the continent. It measures 30 feet long by 23 feet in diameter. The section is hollowed out, and when placed on end, divided into two storeys and lighted, as it will be, it will form a rustic house large enough for a family to live in.

PROFESSOR MUNSON, of the Maine State College, has issued a report of his experiments to determine whether any, and if so what, changes are effected by the influence of pollen on the ovary and the seed. He sums up as follows:—

"The evidence at hand indicates that within certain limits there is an immediate influence of pollen on the mother plant; but that these limits are quite restricted. The most important plants showing, unmistakably, immediate effects of foreign pollen are the Pea, the Kidney Bean, and the Indian Corn. It is possible that the Orange may be included in this list. Sweet Corn (Maize) shows the effect of foreign pollen more frequently than do the other races of corn. The theory of the double action of pollen—stimulating as well as fertilising — as suggested by NAUDIN and FOCKE, seems plausible; but in some species the ovary will develop in the entire absence of pollen. The most important examples of agamic development of fruit, are seen in the Egg-plant (Solanum melongena), and the English forcing Cucumber (Cucumis sativus). In no instance, when pollen is withheld, are perfect seeds developed. There appears to be no relation between the amount of pollen produced by a plant and the amount required for fecundation. There appears to be no relation between the amount of pollen produced by a plant and the number of seeds produced by its fruits. The amount of pollen applied may, in many cases, be of great practical importance in determining the form and size as well as the quantity of the fruit produced. The amount of fruit produced by certain varieties of Strawberries appears to vary, in some instances, with the amount of pollen supplied by the variety used as a fertiliser; but this occurrence is not universal. The form and size of Tomato fruits are directly dependent on the amount of pollen furnished — a small amount invariably resulting in small and deformed fruit. The English forcing Cucumber is usually deformed by the production of seeds, and the consequent enlargement of the apex, as a result of pollination; the amount of pollen used appears to be of no importance in determining the extent of the deformity. Pollen appears in many cases to act directly on the ovary, stimulating growth of that organ independently of any effect on the ovules—an effect most clearly seen in those species which do not readily cross. Indications point to the possibility of distinct effects from two male parents when pollen is applied to the same stigma at different times."

CARDIFF AND DISTRICT GARDENERS' ASSOCIATION.—The usual weekly meeting was held on Tuesday, January 10. Mr. A. PETTIGREW, gardener at Cardiff Castle, read a paper entitled "The Best Mode of Cropping Town Allotment Gardens." The paper was prepared and read by the request of the Association in consideration of the great number of allotment-holders in and around Cardiff. There was a good attendance of members, but, so far as the subject of the paper was concerned, the result was disappointing, for very few allotment-holders were present. Mr. PETTIGREW acknowledged the success

that was generally achieved in the allotments around Cardiff and gave useful information as to the best methods of improving the soil where poor, and also in regard to the vegetables most adapted for the purpose of allotment-holders. The culture of most of such was detailed, and a hint given that the best possible results could only be obtained by continual cropping.

ROYAL HORTICULTURAL SOCIETY.—The first meeting of the Society in 1893 will be held in the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday, January 17, when the Fruit, Floral, and Orchid Committees, will assemble at 12 o'clock, noon.

The following are the arrangements for the present year:—Popular afternoon meetings and lectures, in the Drill Hall, James Street, Victoria Street, S.W.:—

Jan. 17.—Show in the Drill Hall, James Street, S.W. Meeting at 3 P.M., for election of Fellows.
Feb. 14.—Annual General Meeting at 117, Victoria Street, S.W.
March 14.—"Some Effects of growing Plants under Glass of Various Colours," The Rev. Prof. Henslow, M.A.
" 28.—"Flowers of the Riviera," Mons. Henry de Vilmorin.
April 11.—"Orchid Life in Guiana," Mr. Everard F. im Thurn.
" 25.—"How to Solve Chemical Questions Concerning the Soil without Chemistry," Professor Cheshire.
" 25.—Auricula and Primula Show in the Drill Hall.
May 9.—"Fritillarias," Mr. D. Morris, M.A.
May 25, 26.—Great City flower show in the Inner Temple Gardens, London.
June 6.—"Hardy Rhododendrons and Azaleas," Sir J. T. D. Llewelyn, Bart.
" 6.—Pansy show in the Drill Hall.
" 20.—Sir John Lubbock, Bart., has been invited to lecture this day.
July 11.—Great show at the Chiswick Gardens.
" 25.—"Alpine Houses and their Inhabitants," Mr. H. Selfe Leonard.
" 25.—Carnation and Picotee show in the Drill Hall.
Aug. 8.—"Cannas," Mr. J. G. Baker, F.R.S.
" 29, 30, 31 } Great show at the Royal Agri-
September 1 } cultural Hall, Islington.
" 12.—"Garden Phloxes and Pentstemons," Mr. J. Douglas.
" 26.—"Causes of Failure in Eucharis Culture," Mr. W. Iggulden.
Oct. 10.—"Pears," Mr. W. Crump.
" 24.—"Onions," Mr. A. Dean.
Nov. 14.—"Chrysanthemums," Mr. R. Parker.
" 28.—"Late-keeping Grapes," Mr. T. W. Crasp.
Dec. 12.—Show in the Drill Hall, James Street, S.W. Meeting at 3 P.M., for election of Fellows.

SCIENTIFIC COMMITTEE.

(*Established May* 5, 1868.)

Chairman.—Sir Joseph Dalton Hooker, K.C.S.I., M.D., C.B., F.R.S., The Camp, Sunningdale.

Vice-Chairmen.—Dyer, W. T. Thiselton, C.M.G., F.R.S., Royal Gardens, Kew; Foster, Professor M., Sec.R.S., Great Shelford, Cambridge; Masters, Maxwell T., M.D., F.R.S., Mount Avenue, Ealing, W.

Hon. Secretary.—Rev. Prof. G. Henslow, M.A., F.L.S., F.G.S., Drayton House, Ealing, W.

Baker, J. G., F.R.S., Royal Gardens, Kew.
Balfour, Prof. I. B., F.R.S., Botanic Gardens, Edinburgh.
Blandford, W. H. F., M.A., F.E.S., 48, Wimpole Street, W.
Bonavia, Dr. E., 5, Harrington Mansions, South Kensington.
Burbidge, F. W., F.L.S., Trinity College Gardens, Dublin.
Church, Professor A. H., F.R.S., Shelsley Gardens, Kew.
Clarke, Colonel R. Trevor, Welton Place, Daventry.
Darwin, Francis, F.R.S., Wychfield, Huntingdon Road, Cambridge.
Dod, Rev. C. Wolley, Edge Hall, Malpas, Cheshire.
Elwes, H. J., F.L.S., F.Z.S., Colesborne, Andoversford, Gloucestershire.
Engleheart, Rev. G. H., Appleshaw, Andover.
Farmer, Prof. J. Bretland, M.A., Royal College of Science, South Kensington, S.W.
Frankland, E., F.R.S., The Yews, Reigate Hill, Reigate.
Gilbert, J. H., Ph.D., F.R.S., Harpenden, Herts.
Godman, F. DuCane, F.R.S., 10, Chandos Street, Cavendish Square, W.
Green, Professor J. R., M.A., 17, Bloomsbury Square, W.C.
Lindsay, R., Botanic Gardens, Edinburgh.
Llewelyn, Sir J. T. D., Bart., F.L.S., Penllergare, Swansea.
Lynch, R. Irwin, A.L.S., Botanic Gardens, Cambridge.
McLachlan, R., F.R.S., Westview, Clarendon Road, Lewisham, S.E.
Michael, Albert. D., F.L.S., Cadogan Mansions, Sloane Square, S.W.
Morris, D., M.A., F.L.S., 11, Kew Gardens Road, Kew.
Müller, Hugo, Ph.D., F.R.S., 13, Park Square East, Regent's Park, N.W.
Oliver, F. W., D.Sc., F.L.S., 10, Kew Gardens Road, Kew.
Pascoe, F. P., F.L.S., 1, Burlington Road, Westbourne Park, W.
Plowright, C. B., M.D., F.L.S., 7, King Street, King's Lynn.
Russell, Dr. W. J., F.R.S., 34, Upper Hamilton Terrace, N.W.
Salvin, Osbert, F.R.S., Hawksfold, Fernhurst, Haslemere.
Scott, D. H., M.A., Ph.D., F.L.S., The Old Palace, Richmond, S.W.
Stewart, Prof. C., Royal College of Surgeons, Lincoln's Inn Fields, W.C.
Symons, G. J., F.R.S., 62, Camden Square, N.W.
Veitch, H. J., F.L.S., Royal Exotic Nursery, King's Road, Chelsea, S.W.
Ward, Professor Marshall, F.R.S., The Laurels, Englefield Green, Staines.
Wilson, Geo. F., F.R.S., Heatherbank, Weybridge Heath.

FRUIT AND VEGETABLE COMMITTEE.

(Established May 7, 1858.)

Chairman.—Crowley, Philip, F.L.S., Waddon House, by Croydon.

Vice-Chairmen.—Bunyard, George, The Nurseries, Maidstone; Lee, John, 78, Warwick Gardens, Kensington; Rivers, T. Francis, Sawbridgeworth.

Secretary.—Archibald F. Barron, Royal Horticultural Society, Chiswick, W.

Balderson, H., Corner Hall, Hemel Hampstead.
Bates, W., Poulett Lodge Gardens, Twickenham.
Bennett, W., Rangemore Park Gardens, Burton-on-Trent.
Burrell, E., Claremont Gardens, Esher.
Cheal, Joseph, Crawley, Sussex.
Coleman, W., Eastnor Castle Gardens, Ledbury.
Cummins, G. W., The Grange Gardens, Wallington.
Dean, A., 62, Richmond Rd., Kingston-on-Thames.
Divers, W. H., Ketton Hall Gardens, Stamford.
Dunn, Malcolm, The Palace Gardens, Dalkeith, N.B.
Goldsmith, Geo., Leonardslee Gardens, Horsham.
Hogg, Dr., LL.D., F.L.S., 99, St. George's Road, Pimlico.
Hudson, J., Gunnersbury House, Acton.
Iggulden, W., Marston Gardens, Frome.
Laing, J., Junr., Forest Hill, S.E.
Lane, Fred. Q., Berkamsted.
McIndoe, James, Hutton Hall Gardens, Guisborough.
Miles, G. T., Wycomb Abbey, High Wycomb.
Norman, G., Hatfield House Gardens, Hatfield.
Pearson, A. H., The Nurseries, Chilwell, Notts.
Reynolds, G., The Gardens, Gunnersbury Park, Acton.
Ross, Charles, The Gardens, Welford Park, Newbury.
Sage, G. H., Ham House Gardens, Richmond, S.W.
Saltmarsh, T. J., The Nurseries, Chelmsford.
Smith, James, The Gardens, Mentmore, Leighton Buzzard.
Sutton, A. W., F.L.S., Reading.
Taber, G., Rivenhall, Witham, Essex.
Veitch, A., King's Road, Chelsea.
Veitch, P. C. M., The Royal Nurseries, Exeter.
Warren, W., Worton Gardens, Isleworth.
Weir, Harrison, Sevenoaks.
Willard, Jesse, Holly Lodge Gardens, Highgate, N.
Wright, John, 171, Fleet Street.
Wright, S. T., Glewston Court Gardens, Hereford.
Wythes, G., Syon House Gardens, Brentford.
Young, A., Abberley Hall Gardens, Stourport.

FLORAL COMMITTEE.

(Established June 24, 1859.)

Chairman. — Marshall, William, Auchinraith, Bexley.

Vice-Chairmen.—D'Ombrain, Rev. H. H., Westwell Vicarage, Ashford, Kent; Fraser, John, Lea Bridge Road, Leytonstone, E.; Paul, George, The Old Nurseries, Cheshunt.

Secretary.—Archibald F. Barron, Royal Horticultural Society, Chiswick, W.

Bain, W., The Gardens, Burford Lodge, Dorking.
Baines, Thomas, Fern Cottage, Palmer's Green, N.
Barr, P., 12, King Street, Covent Garden, W.C.
Bause, F., Portland Road, South Norwood, S.E.
Cannell, H., Swanley, Kent.
Cant, F., Braiswick, Colchester.
Dean, R., Ranelagh Road, Ealing, W.
Druery, C. T., F.L.S., 25, Windsor Road, Forest Gate.
Fitt, J. H., The Frythe Gardens, Welwyn.
Furze, W., Roselands, Broom Road, Teddington.
Girdlestone, T. W., Sunningdale, Berks.
Godfrey, Thos., Hillingdon, Uxbridge.
Gordon, G., 1, Style Villas, Gunnersbury.
Herbst, H., Kew Road, Richmond, Surrey.
Ingram, W., Belvoir Castle Gardens, Grantham.
Jeffries, C., Boston House Gardens, Brentford.
Jennings, J., Ascott Gardens, Leighton Buzzard.
Laing, J., Forest Hill, S.E.
Leach, W. C., Albury Park Gardens, Guildford.
Lowe, R. B., Ashridge Gardens, Berkhamsted.
Mawley, E., Rosebank, Berkhamsted.
May, H. B., Dyson's Lane, Upper Edmonton.
Molyneux, E., Swanmore Park Gardens, Bishop's Waltham.
Nicholson, G., Royal Gardens, Kew.
Noble, C., Sunningdale Nursery, Bagshot.
Owen, R., Castle Hill, Maidenhead.
Pawle, J. D., 12, Stanley Gardens, Willesden Green, N.W.
Pearson, C. E., Chilwell, Nottingham.
Phippen, G., Victoria Nursery, Reading.
Ross, F., Bletchingley.
Salter, C. J., Woodhatch Gardens, Reigate.
Shea, Chas. E., The Elms, Foots Cray, Kent.
Stevens, Geo., St. John's Nursery, Putney.
Turner, H., Royal Nurseries, Slough.
Walker, J., Ham Common, Surrey.
Watson, W., Royal Gardens, Kew.
Williams, W. H. (Keynes & Co.), Salisbury.

ORCHID COMMITTEE.

(Established March 26, 1889.)

Chairman,—Veitch, H. J., F.L.S., Royal Exotic Nursery, Chelsea, S.W.

Vice-Chairmen.—Lawrence, Sir Trevor, Bart., M.P., 57, Princes Gate, S.W.; Masters, Maxwell T., M.D., F.R.S., Mount Avenue, Ealing, W.; Schroder, Baron, Sir Henry, The Dell, Staines.

Secretary.—O'Brien, James, West Street, Harrow-on-the-Hill.

Ballantine, H., The Dell Gardens, Staines.
Bond, T. W., Elstead House Gardens, Godalming.
Bowring, J. C., Forest Farm, Windsor.
Brooman-White, R., Ardarroch, Garelochead, N.B.
Burberry, H. A., Highbury Gardens, Birmingham.
Burbidge, F. W., Trinity College Botanic Garden, Dublin.
Crawshay, De Barri, Rosefield, Sevenoaks.
Cookson, Norman C., Oakwood, Wylam-on-Tyne.
Courtauld, Sidney, Bocking Place, Braintree.
Denton, J. Bailey, Orchard Court, Stevenage.
Douglas, J., Great Gearies, Ilford.
Gabriel, J. T., 6, Palace Road, Streatham Hill.
Handley, Rev. E., 19, Royal Crescent, Bath.
Haywood, T. B., Woodhatch Lodge, Reigate.
Hill, E., Tring Park Gardens, Tring.
Ingram, C., 86, Onslow Gardens, S.W.
Jaques, J., Waddesdon Manor Gardens, Aylesbury.
Kinleside, Rev. R. V. C., Sunbury House, Tunbridge Wells.
Latham, W. B., Botanic Gardens, Edgbaston, Birmingham.
Le Doux, G. R., Langton House, East Molesey.
Lindsay, R., Botanic Gardens, Edinburgh.

Low, H., The Nurseries, Clapton, E.
Lucas, C. J., Warnham Court, Horsham.
Moon, E., Cassiobridge, Watford.
Pilcher, Charles, 84, Ringford Road, Wandsworth, S.W.
Pollett, H. M., Fernside, Bickley, Kent.
Sander, F., St. Albans.
Smee, H. J., Wallington, Surrey.
Statter, Thos., Stand Hall, Whitefield, Manchester.
Tautz, F. G., Dibdin House, Hanger Hill, Ealing.
White, W. H., Burford Lodge Gardens, Dorking.
Williams, H., Victoria Nurseries, Holloway, N.

NARCISSUS COMMITTEE.

(Established 1885.)

Chairman.—Professor M. Foster, Sec. R. S., Shelford, Cambridge.

Vice-Chairmen.—Baker, J. G., F.R.S., Royal Herbarium, Kew; Dod, Rev. C. Wolley, Edge Hall, Malpas, Cheshire; Engleheart, Rev. George H., Appleshaw, Andover; Wilks, Rev. W., Shirley Vicarage, Croydon.

Honorary Secretary.—Scrase-Dickins, C. R., Coolhurst Park, Horsham.

Barr, P., 12, King Street, Covent Garden, W.C.
Barr, W., 12, King Street, Covent Garden, W.C.
Bennett-Poë, John T., 29, Ashley Place, S.W.
Bourne, Rev. S. E., Dunston Vicarage, Lincoln.
Burbidge, F. W., Trinity College Gardens, Dublin.
Clarke, Col. R. Trevor, Welton Place, Daventry.
Collins, A., 39, Waterloo Road, S.E.
Cowan, C. W., Valleyfield, Penicuick, Midlothian.
Darlington, H. R., Cromdale, Marlboro' Hill, Harrow.
De Graaff, S. A., Leyden, Holland.
Elwes, H. J., F.L.S., Colesborne, Andoversford, Gloucestershire.
Goldring, W., 52, Gloucester Road, Kew.
Grosvenor, Lady Hy., 73, South Audley Street.
Hartland, W. B., Ard-Cairn, Cork.
Haydon, Rev. G. P., Hatfield Vicarage, Doncaster.
Jekyll, Miss G., Munstead, Godalming.
Jenkins, E. H., Queen's Road, Hampton Hill, S.W.
Krelage, J. H., Haarlem, Holland.
Leichtlin, Max, Baden-Baden.
Llewelyn, Sir J. T. D., Bart., F.L.S., Penllergare, Swansea.
MacMichael, Rev. C., Walpole Rectory, Wisbech.
Marsh, Rev. T. H., Causton Rectory, Norfolk.
Milne-Redhead, R., Holden Clough, Bolton-by-Bowland, Clitheroe.
Moore, F. W., Royal Botanic Gardens, Glasnevin, Dublin.
Perry, Amos J., Stamford Road, Page Green, Tottenham.
Vilmorin, Henry L. De, Quai de la Mégisserie, Paris.
Walker, James, Ham Common, Surrey.
Ware, Walter T., Inglescombe Nurseries, near Bath.
Webster, A. D., F.B.S.E., Holydale, Keston, Kent.
White, Miss, Alexander College, Dublin.

NOTE.—Five Members form a quorum in all of the Committees. Members of the Council are Members of all the Committees.

THE KAKI.

(SEE FIG. 10.)

IN reply to your correspondent "X.," I would say my communication was intended for the majority of your readers to whom I believe the Kaki is an unknown fruit. I have asked for it repeatedly in some of the largest gardens and fruiterer's shops in England, and the reply is almost invariably "we do not know it." Only once have I seen it in fruit in England on an open wall, and that was in Canon Ellacombe's garden at Bitton. If "X." will refer to De Candolle's *Prodomus*, vol. viii., pp. 228, 229, or Nicholson's *Dictionary of Gardening*, vol. ii., p. 479, he will see the difference between Diospyros Kaki and D. virginiana (the Persimmon); both fruits ripen in my garden, and I consider the Kaki far superior to the Persimmon.

Needless to remark that this fruit though rare in England is common in some parts of the world. I have eaten the Kaki for years in China, where it is quite common, both fresh and dried. In the Department of the Var it is becoming common, but in this part of Italy it is almost unknown, though fairly abundant at Florence. The word Kaki is from *Chaki*, the Japanese word for the fruit, while the Chinese call it Sze Tsze. *Thomas Hanbury, La Mortola, December* 31, 1892.

HOME CORRESPONDENCE.

CATTLEYA WAROCQUEANA ALBA.—I think it is only just to L'Horticulture Internationale, Brussels, to reproduce what was said nearly two years ago under the name of Cattleya Warocqueana alba. This appears in *Gardeners' Chronicle*, March 7, 1891, and runs as follows:—"When reporting on the new Cattleya Warocqueana, the collector stated that there were among the specimens found some which had flowers of the purest white; and the verification of this statement has just been afforded by the flowering of a white variety of surpassing beauty in the collection of M. G. Warocqué at Mariemont, near Charleroi." *P. Weathers.*

HAMBURGH PARSLEY.—One finds this type of Parsley in seed lists, but rarely in gardens, and it is only occasionally mentioned in gardening books. It is regarded by many as a variety of our common Parsley, which it resembles in some points, but differs widely from in others, being of taller and more spreading growth, forming a large root, which is the portion of the plant used for culinary purposes. The root takes somewhat the form of the Parsnip, but is much smaller and shorter; a good-sized root being about 2 inches in diameter, and from 6 to 8 inches long, the flesh being white and somewhat dry; it is like the Celeriac in flavour, but is said to be not so delicate. It has a somewhat limited use as a culinary vegetable, and is employed in sauces for fish and flesh meats, soups, &c. Being a very hardy plant, the roots can be left in the open ground, and dug up in the same way as is customary with Parsnips. The foliage resembles a somewhat coarse form of the common Parsley, and was perhaps obtained from a plant having a large root. Why it is called the Hamburgh Parsley is not quite clear, probably it originated or was grown in the neighbourhood of that city, and it appears to be largely cultivated in Germany. Messrs. Vilmorin & Co. mention there are two forms of it grown in Germany; one is an early one, having thicker and more fleshy roots, like those of the common Parsnip, while the late one has longer and more slender roots, and they say they do not appear very constant, so doubtless one is but a selection from the other, and in respect of weight of produce the difference is very slight. It is a plant requiring a fairly rich deeply dug soil, and the culture resembles that of the Parsnip. Some leave the roots in the ground as they do their Parnips; others lift the roots in October, and store them away in sand for use. Hamburgh Parsley appears to be a vegetable of comparatively modern introduction to this country. *R. D.* [Patches of the plants covered with frames having a lining of litter and matted at night to keep out frost, will furnish a supply of leaves for kitchen use when the curled leaved varieties cease to grow outside; and roots, if taken up in early October, and the larger leaves cut off and laid in layers in a bank of sand or loam, with the heads just projecting beyond the face of the bank, will furnish good materials for flavouring all through the winter. The bank may be made in a cold pit or light cellar, where frost does not penetrate. ED.]

IRIS ALATA.—I venture to send you some blossoms of Iris alata var. speciosa, which I think is one of the most beautiful of all Irises. The little line of gold has such great effect. Moreover, their habit of blooming in mid-winter very much enhances their value. I prefer them even to Xiphion histrio, on whose merits—as shown the other day by Mr. Ware—you very justly expatiated. We now have a hard frost here, but almost up to the present time it has been a good season for these winter Irises. I. stylosa has been at its very best. Iris cretica has followed suit, together with Xiphion histrio in the open border, and the greenhouse has been gay with Iris alata and var. speciosa, which I think should never be forgotten where very beautiful flowers are valued in December. There are also now some very fine varieties of Iris stylosa, which can be obtained from Messrs. Dammann of Naples, which should always be grown. *H. Ewbank.*

CYANOPHYLLUM MAGNIFICUM FROM SEED.—This fine plant was once a favourite with exhibitors of fine foliage plants, as also was Sphærogyne latifolia, but owing to the large size to which they grow in a short space of time, many gardeners have given up growing them, the more so, as small plants for room and table decoration are now more appreciated. If seed of Cyanophyllum could be purchased cheaply, nothing more useful as a fine foliage plant could be so readily raised; and in writing this note I hope that if seed is obtainable, it will be advertised, for seedling plants of Cyanophyllum when small, are very beautiful objects. Just previous to taking my first foreman's place, and while still a journeyman under Mr. Robinson at Englefield House, Berks, the Cyanophyllum magnificum was flowered, it being I believe the first plant which had flowered and seeded in this country, and if I remember rightly it was figured in the *Gardeners' Chronicle* in 1864 or 1865 [no]; some of the seed was sown, and plants were raised by hundreds, and in a small state they were most beautiful, and at that time were a wonder to many lovers of plants who came from far and near to see them. They were grown beneath Cucumber plants, and resembled, whilst still small, a huge bed of Anæctochilus. Some years afterwards, when serving as foreman in France, Mr. Robinson, of Englefield, sent me some seed, but I failed to get it to germinate, and after leaving Englefield, I never heard of or saw any more seedling Cyanophyllums. *W. C. Leach, Albany Park Gardens, Guildford.*

MUSCAT CHAMPION GRAPE.—This Grape was raised by the late Mr. Melville of Dalmeny, not by Mr. Meredith, as stated in the account of Keele. Mr. Melville exhibited it in London, and was awarded a First-class Certificate. The late James Veitch bought it for £100. That this Grape is a true cross between the Canon Hall Muscat and the Hamburgh is proved by its colour (red), foliage, and keeping qualities. The foliage is more like the Muscat, and it also takes its keeping qualities from the Muscat. The Vine succeeds best if inarched on the Muscadine; it does not do so well on its own roots. Although it was well shown in London by Mr. Carmichael when he was at Sandringham, nevertheless the prejudice against its colour prevented it from making any headway, much to Mr. James Veitch's disappointment. *Vagabond.* [The reasons for this variety, in spite of its undoubted good quality, not finding much appreciation are, beyond that one mentioned by our correspondent, its bad keeping quality after being quite mature. It was raised in 1858. ED.]

THE WEATHER IN SUSSEX.—The weather of the past week has been unusually severe. On Monday, the 2nd, the minimum temperature was 7°, maximum, 25°. On Tuesday, the 3rd: min., 0°; max., 27°. Wednesday: min., 1°; max., 32°. Thursday: min., 0·1°; max., 30°. Friday: min., 22°; max., 32°. Saturday: min., 22°; max., 28°. It will be seen from the above, that the past week has been the coldest we have had here since 1880. Only once last year did the thermometer reach zero, and that only for about an hour. With such weather, it is difficult to keep up heat in forcing-houses. *H. C. Prinsep, Buxted Park.*

VINE-DRESSING AND PETROLEUM OIL.—The time having come round when the rods of the Vine receive their annual cleaning and dressing for the destruction of insects which lodge about the bark and gnarled spurs, it may interest some growers and be profitable to others if I give my experience of petroleum in this operation. It is agreeable to speak of success, but to mention failure through bad management is quite unusual. Nevertheless, an account of any mismanagement in an operation is very effectual in preventing others from making similar blunders. It is the desire of most Grape-growers, especially exhibitors of Grapes, to have the Vines thoroughly clean and free from insects which prey upon the leaves and disfigure the berries, and reducing the chances of securing fine colour and perfection in the fruit. Numerous sorts of mixtures and solutions are used as a winter dressing which do no harm to Vines, and which also fail to eradicate red-spider and other insects. It has been my practice for many years to clean the interior of the vineries by washing or painting the woodwork, removing several inches of the surface of the border, and scraping and painting the Vines with various mixtures; yet red-spider has always been more or less present at midsummer. Being convinced that the parents owed their existence to the cover provided by the bark, I determined to try an application of petroleum, at the rate of one wineglassful with two ounces of black (soft) soap to the gallon of water, a solution

I have used for many years with fair success on different kinds of plants; and in every case I applied it with a syringe, keeping it well-stirred the while. In this instance, however, the oil was put in while the soap-water was boiling, and when cold enough to handle it was applied to the rods with a woollen cloth. I may mention that the directions given to stir well was not exactly carried out, the solution being rather hot, the cloth being dipped on the surface only, and then rubbed on the Vines. The result was that the first two Vines washed in each house were killed almost to the ground, while some of the rods next them were more or less damaged. A fresh supply was provided for each of the three houses, which accounts for the separate damage done. The injury was not discovered till the Vines were several weeks started, and the sap consequently in motion. They were then cut down to within 2 feet of the ground, and being robust canes, they bled profusely for three weeks, although the cut was several times burned, and covered with a styptic. They afterwards started below the cut, and made extra-strong growth, with the exception of two, one of which was entirely killed, while the other started from beneath the surface of the soil about midsummer, and being late it ripened badly. It would be interesting to know

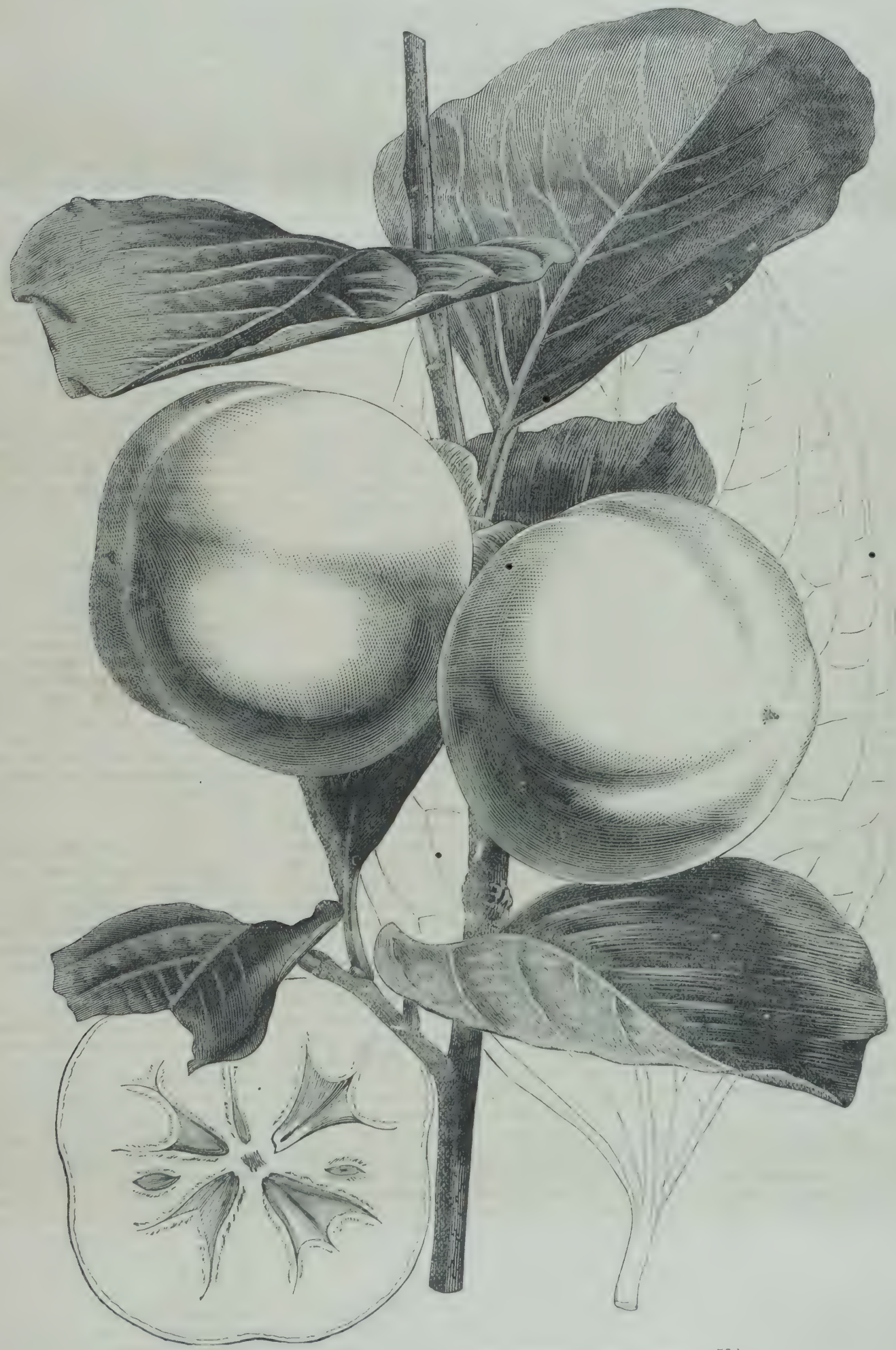

FIG. 10.—FRUITS AND SHOOT OF DIOSPYROS COSTATA, "KAKI." (SEE P. 50.)
(After a coloured plate in the *Revue Horticole*.)

why petroleum may be used on Peaches, Figs, and many other plants with perfect safety, in the manner I have described, while numerous instances of damage has resulted to Vines from an application of the same solution. In relating the above experience to a prominent horticulturist, he said, "I may paint the rods with pure petroleum when they are in active growth without danger of doing them harm; but when applied to dry dormant rods, it was very injurious." I washed a pot Vine when in full leaf with the solution abovementioned without any apparent ill-effects. Probably some of your scientific readers will be able to explain its action on dormant and active plants. In dealing with insects, I may here mention a matter which has been for some time a source of trouble, and, I may say, of mystery, to me and many other exhibitors of white Grapes. It may be often observed at exhibitions that the berries of White Muscat, Foster's Seedling, &c., are disfigured by a cluster of small brown specks at the apex of the berries, and sometimes also around the footstalks. From observation, I have come to the conclusion that this is caused by red-spider piercing the skin, as it is impossible to remove the spots by rubbing [or thrips. ED.]. When Vines are badly infested, the spider may be seen working on the berries, as well as on the leaves; but so far as I know, the disfigurement mentioned has never been traced to their action. Our Muscats this year have been quite clear of red-spider, as well as the spot; not, however, from the excessive use of petroleum on the rods, but from continued and careful application of clear water through the syringe. *William Williamson, Tarvit Gardens, Cupar, N.B.*

THE GARDENERS' ORPHAN FUND.—The announcement just made that there are seven candidates for assistance from this Fund beyond the eight to be elected should give additional stimulus to the appeal to the gardeners of the United Kingdom, which Mr. Crump has recently made. How few gardeners would be the poorer for the annual contribution of 5*s*. How much the poor orphans that must otherwise be rejected would be the richer. May I suggest that the gardening Press agree to unite in making special appeals to gardeners especially and others in general, early in the new year for the Orphan Fund, and at midsummer or thereabouts, on behalf of the Gardeners' Benevolent Fund. Why not have simultaneous Press appeals as now we have for hospitals, and simultaneous pulpit appeals. So far as the Gardeners' Royal Benevolent Institution is concerned, the new rules as to cumulative votes for subscribers, should give additional stimulus to subscriptions to that Fund from gardeners, but some other method than annual payments is needful. In the case of the Orphan Fund, no such stimulus is possible; the entire proceedings in relation to it being due to pure benevolence. To maintain seven other orphans on the Fund, means an annual expenditure of £91. If but 500 other 5*s*. subscribers could be secured, that would give an additional £125 yearly, leaving a good margin to accumulate for contigencies. But a general Press appeal might result in securing fully double that number of new annual subscribers; and if one-third paid 10*s*. yearly, what a splendid permanent addition would be made to the Fund's income! It is not so much the regular subscribers as the non-subscribers who should respond. *A. D.*

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—The above worthy institution comprises many members as gardeners, but it is rather surprising to me that there are not more, considering the large number of gardeners in this country. Also there are many gardeners quite ignorant of the existence of such an institution. [Do gardeners never read?] Another thing which surprises me is, that out of twelve to be elected this time for the pension, only two are really eligible. I therefore beg to suggest that the annual sum should be £4 a year less to those who are elected and have never paid a penny towards the fund. Also I suggest that the committee should alter the fifteen years to twelve years for enabling life members to be eligible; it may be the means of gaining more subscribers. *A. J. L., Wyfold Court, Reading.*

NOVELTIES OF 1892.

(Continued from p. 10.)

THE term novelty must not be too critically regarded, for in these short notes we must necessarily include many things which are re-introductions coming out prominently during the year, and so far as gardens are concerned, quite worthy to take their place among the things which seem to show a better title to being regarded as new.

FERNS.

These plants seem to be steadily increasing in favour, and in the great Fern nursery of Mr. H. B. May, at Upper Edmonton, many new varieties are annually raised. Among those which have best displayed their work in 1892 are Adiantum elegantissimum, a form of A. æmulum, with ample fronds, having very small laxly-set pinnules. A. cuneatum grande, intermediate between A. cuneatum and A. decorum; Nephrolepis davallioides multiceps, a variety of N. d. furcans, but more divided and elegant; N. recurvata, with curiously-curled pinnæ; Pteris serrulata gracilis, an elegant new Fern, and some charming varieties obtained from P. Victoriæ, and forms of P. serrulata, in which the variegation of both plain and crested varieties is much finer. These are P. reginæ, a lovely plant, whose silvery marking on the fronds extend almost to the margins; P. r. cristata, a beautiful crested form of the preceding; and P. nivalis, which has the strong habit of P. serrulata, with the clear white variegation of P. Victoriæ. P. tremula variegata, and that beautiful Fern ally, Selaginella elegans, have, with the others enumerated, received Certificates at the Royal Horticultural Society.

Messrs. W. & J. Birkenhead, of Sale near Manchester, who wholly turn their attention to Ferns and ferneries, sent out some beautiful forms during the past year in Athyrium filix-fœmina var. Girdlestonei cristatum, A. f.-f. var. G. grandiceps, A. f.-f. selligerum corymbiferum, A. f.-f. s. var. Victoriæ, Lastrea æmula densa, Scolopendrium vulgare var. crispum fimbriatum, and S. v. var. digitatum majus; and Mr. Lowe and Mr. C. T. Druery, have both shown fine new hardy Ferns, the forms of Athyrium f.-f. Drueryi rivalling in beauty the finest tropical species; and A. f.-f. revolvens being a very curious one. The Pteris tremula densa of Messrs. Smith, of Worcester, seems also to be a beautiful as well as useful decorative plant.

STOVE AND GREENHOUSE PLANTS.

These have been augmented chiefly by the products of the hybridist, and in that field Messrs. J. Veitch & Sons have been active workers, as in former years, although the excellence of their work previously done makes difficulties for themselves in regard to further improvement. Of their grand strain of Amaryllis some dozen or so were admitted by competent judges to be fine novelties, and of those the best were Eclipse, Crimson King, Sylvia, Orion, and Argus. The pretty race of Streptocarpus is rapidly finding favour in the eyes of cultivators, and the brighter colours being now constant, it is possible to divide them into sections. Gloxinias are still being worked up by Messrs. J. Veitch & Sons, and among their novelties are Hector, Aida, and Cicely, all very distinct and beautiful. Of their famous strain of greenhouse Rhododendrons, the new double R. balsaminæflorum varieties are much sought after, and for neat habit their R. multicolor varieties are all that could be desired, R. m. Neptune, a fine crimson, being one of the best. The pretty dwarf hardy Rhododendron racemosum should be very useful, both as a greenhouse and as a hardy plant. Other good plants of Messrs. J. Veitch & Sons, are Grevillea robusta elegantissima, Aglaonema costata, Begonia Marie Louise, B. decora, and the nearly white Vallotta purpurea amabilis.

Following the pretty yellow spotted Calla Elliottiana, which made good its claim to notice by a group of it being awarded a Silver Banksian Medal at the last Temple Show of the Royal Horticultural Society, we have another good yellow in C. Pentlandii, introduced by R. Whyte, Esq., of Pentland House, Lee; and yet another under the name "Pride of the Congo" has been sold at auction; while M. Deleuil, of Marseilles, has raised a hybrid yellow Calla (Richardia aurata), and others are said to be forthcoming, so that in this instance the demand has been followed as is customary by an increased supply—let us hope that the articles will be all found according to description.

With Messrs. B. S. Williams & Son, their fine Allamanda Williamsii has exceeded even their expectation; some good new Amaryllis and Imantophyllums have been flowered by them; and they have received awards for the two pretty-coloured Dracænas, D. Coullingi and E. Princess May.

Messrs. John Laing & Sons and Messrs. Cannell still continue to offer novelties in tuberous Begonias of considerable merit; and the fine show of Chinese Primulas made by Messrs. Cannell at the Royal Horticultural Society in January last, out of which P. s. Pink Queen and P. s. Peach Blossom were certificated, show that there are still further possibilities of new beauty in this favourite florist's flower. At the different shows, too, Messrs. Laing & Sons exhibited some fine new Bertolonias, Caladiums, Dracænas, and Crotons.

Messrs. Paul & Son, of Cheshunt, far from confining themselves to their specialty of Roses, have a fine and distinct strain of Amaryllis, of which Mars, Silver Queen, and Firebrand secured Royal Horticultural Society Certificates during 1892. The same firm is also doing good work on the showy-flowered Cannas, and especially the dwarfer strains.

Other good things which have come into prominence during the past year are Tacsonia Smythiana× of Mr. Smyth, Basing Park Gardens, Alton; Dracæna australis rubra of Mr. Elliott, Stourvale, Christchurch; Anthurium Andreanum sanguineum of Sir Trevor Lawrence, Bart.; Utricularia Humboldtii and U. longifolia, imported by Messrs. Sander; Tradescantia regina, and other pretty foliage plants introduced by Messrs. Linden; Kniphofia paucifiora, a fine yellow species flowered at Kew, and K. Nelsoni, Mast.; described in the *Gardeners' Chronicle;* the extraordinary bi-generic hybrid, Urceocharis Clibrani, of Messrs. Clibran, Altrincham, also figured in the *Gardeners' Chronicle;* Streptocarpus Galpinii from Kew, Cyrtanthus Tuckii and C. Galpinii, and a number of others, of which more will be known by next year. Among other attempted introductions should be noted Trichodesma physaloides, figured in the *Gardeners' Chronicle*, p. 363, vol. xi., which would make a fine garden plant, but of the thousand imported, probably not half-a-dozen plants are now alive.

HALF HARDY AND HARDY FLOWERS.

Nemesia strumosa, the fine strain of which, with its varied colours, ranging from cream-white to orange-scarlet and crimson, was so generally admired when it was so well exhibited by Messrs. Sutton & Son of Reading, is a most valuable introduction, for it is a plant easy to cultivate, free to flower, and of brilliant colours.

Come chiefly from the raisers of garden varieties, of these there has been a great show of Pæonies from Messrs. Dicksons of Chester, Paul & Son, Ware and others, at the Chiswick Gardens of the Royal Horticultural Society on June 14, when there was a good general show of flowers for the open garden. Carnations, always favourites, continue to be raised by Mr. Charles Turner of Slough with unvaried success; last year, specially good being the varieties King of Scarlet and Salamander, and Picotees Nellie Bath, Old Coin, Duchess of Sutherland, and Mrs. Arthur Barrett. Messrs. Pearson of Chilwell showed a good thing in Carnation Acme; as were Carnation George Fry, shown by Messrs. John Laing & Sons; C. Mrs. A. Hemsley, and C. Cyril by Mr. H. B. May, and C. Baronne Rothschild, and Mrs. Leopold Rothschild—all good things in their different sections.

Messrs. Dobbie & Co., Rothsay, Fife, N.B., continue to work wonders with their rich strains of Violas, French Marigolds, and the other popular flowers to which they give special attention; and Messrs. Kelway are successful as ever with Gladioli, Delphiniums, Gaillardias, &c. By the way, a pretty thing was flowered by the Rev. W. Wilks, of Shirley Vicarage, Croydon, and the Rev. E. Arkwright, in Gladiolus byzantinus albus, a white form of the favourite garden Gladiolus.

To enumerate the new Chrysanthemums, Dahlias, &c., would be a very heavy task. Suffice it, therefore, to say, that good progress is shown in all classes, and the garden work of 1892 gives a very good account of itself, although we should have liked to have had more really distinct and new hardy trees and shrubs, and flowering shrubs for the open ground put in an appearance.

Among novelties and uncommon plants illustrated in the *Gardeners' Chronicle* in 1892, are:—

Athyrium f.-f. revolvens, September 10, p. 301.
Cyrtanthus Tuckii, August 6, p. 155.
Emmenantha penduliflora, March 12, p. 339.
Humulus japonicus variegatus, October 8, p. 429.
Iris Lortetii, August 6, p. 153.
Kniphofia Nelsoni, April 30, p. 561.
Kniphofia pauciflora, July 16, p. 65.
Nemesia cynanchifolia, for comparison, p. 276.
Nemesia strumosa vars., September 3, p. 277.
Nepenthes stenophylla, March 26, p. 401.
Rhododendron balsaminæflorum, December 24, p. 769.
Rhododendron racemosum, July 16, p. 63.
Streptocarpus Galpini, January 30, p. 139.
Tacsonia Smythiana ×, December 10, p. 704.
Thrinax Morrisii, January 23, pp. 112, 113.
Tradescantia regina, May 28, p. 699.
Trichodesma physaloides, March 19, p 363.
Urceocharis Clibrani ×, August 20, p. 215.
Watsonia iridifolia O'Brienii, July 16, p. 63.

FRUIT REGISTER.

APPLE JAMES GRIEVE.

THIS new dessert Apple was sent out a few years ago by Messrs. Dickson & Co., Edinburgh, and named after their manager, to whose skill as a raiser of new fruits (especially Apples) it bears good testimony. As grown here upon the broad-leaved paradise stock, it has proved excellent in regard to quality and productiveness. The fruit resembles Cox's Orange Pippin in flavour, and the rich colouring of the flesh; but, it is considerably larger, and of a more conical form, and after being gathered for a few weeks, assumes a much brighter colour. Season from September to January, forming a fitting link between the early autumn Apples and Ribston Pippin. The tree is a vigorous and healthy grower, and without, so far as my observations go, any disposition to canker, which affects Cox's very badly in some parts. The variety will in time be much sought after, and prove to northern growers of equal value to Cox's in the south. *James Day, Galloway House Gardens, Garliestown.*

NURSERY NOTES.

MESSRS. B. S. WILLIAMS & SON.

The Paradise and Victoria Nurseries of Messrs. Williams never fail to reveal some features of interest, some plant or flower that is rare or beautiful, and shall we say "old," that has found a refuge here, and therefore stands a chance of resurrection some day. Amongst plants in flower, mention must be made of Eucharis candida which has the merit of flowering really well in small pots, 48's, every bulb producing a flower-spike. The bulbs are some of an importation, and are doubtless, well-matured, hence their general floriferousness. Eucharis Sanderiana is almost the equal of E. candida in the latter attribute, and some flowers of it were observed nearly as large as those of E. amazonica, and, although it may be heresy to say it, with much more substance in the segments and tube, hence their dead white.

The gorgeous inner-leaves of Nidularium fulgens were making themselves visible. It is a pity this and other Bromeliads do not meet with more favour on this side of the water. Of Alocasias, beautiful in their leaf-markings, though they are much neglected, here is one of the finest collections in the country in which to pick and choose from. The best of all Dracænas for the table—dinner-table or other—and with great enduring powers, is D. gracilis, of which a nice stock was noticed. Dracæna Coullingi, an English seedling with green foliage, broad, and semi-erect, boldly striped and bordered with white, is a good plant—one of the best of its class, and still rare; D. considens is a pendulous, narrow-leaved variety, with narrow leaves 2 feet long—very pretty. Another enduring house-plant is Raphis humilis, a very graceful Palm, with the hardiness of Chamærops humilis; a perfect miniature plant, with true well-developed leaves, standing not more than 1 foot high.

A plant which is sure to take the popular fancy, is Poinsettia pulcherrima, with leaves margined with a broad irregular band of a yellow colour; the flowers and bracts being normal. Of Orchids in flower, mention may be made of those of which the fogs have spared the bloom, and Holloway, although situated on our northern heights, can boast of as bad a description of fog as Southwark. Odontoglossum superbissimum is a very starry flower, with some redeeming brown patches, and rather narrow sepals and petals. We opine that Orchid naming needs revision in face of our latter-day acquisitions, the superbums and superbissimums of forty or fifty years ago being now of small account. We observed some choice types of O. crispum are about to open their flowers; also of O. Chestertoni in some numbers. Flowers were open of the new cross-bred Cypripedium Adonis, C. Spicerianum × Harrisianum, and of C. Pitcherianum, in which the parentage is the same, but reversed. The latter is a fine showy, strong-growing variety, and both have pleasing tints and markings. Nice plants of C. œnanthum superbum were in bloom, C. Williamsi opening theirs; whilst those of C. Measuresianum, which are almost of an orange-yellow when mature, were going off. The pretty C. amandum of Mr. Bull's introduction was nicely in bloom; it is very prettily spotted on the petals. C. Fitchianum was flowering freely, as is its wont, and also C. Morganiæ, of which it is rare that a plant is not found with some blooms upon it. Of others we may mention C. politum and C. Harrisianum. The fog had spared some flowers of Lælia anceps Stella and L. a. Sander's var., almost the loveliest things there. The white form of Odontoglossum Rossi, named albens, had still a few flowers left—a delicate little bloom, but we prefer the type.

ENQUIRY.

"He that questioneth much shall learn much."—BACON.

BREDEMEYER, BOOS, SCHOLL.

THESE collectors were despatched to various parts of America, and the two latter also to the Cape, in 1783—1785, by the Emperor Joseph II., to collect plants and other objects of natural history. Their comings and goings are known, but little is known of the plants introduced by them. Scholl is said to have returned from the Cape with very large collections, and amongst them numerous succulents. Any further information regarding the plants introduced by these collectors will be welcome to *Eug. de Duren.*

MARKETS.

COVENT GARDEN, January 12.

MARKET still quiet, with good supplies. Prices generally unaltered. *James Webber, Wholesale Apple Market.*

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Azalea, per doz.	24 0	42 0
Adiantum, per doz.	6 0	12 0
Aspidistra, per doz.	15 0	30 0
— specimen, each	7 6	21 0
Chrysanthemum, doz.	4 0	12 0
Cyclamen, doz.	9 0	18 0
Cyperus, per dozen	4 0	10 0
Dracæna, each	1 0	5 0
Erica, various, doz.	9 0	18 0
Ferns, various, doz.	4 0	9 0
Ferns, small, per 100	5 0	8 0
Ficus elastica, each	1 6	7 6
Hyacinths, doz. pots	8 0	12 0
Marguerite, per doz.	6 0	12 0
Mignonette, doz pots	6 0	12 0
Palms, various, each	2 0	10 0
— specimens, each	10 6	84 0
Solanums, per doz.	9 0	12 0
Tulips, per doz. pots	6 0	9 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Apples, p. half-sievel	0	3 6
— Nova Scotia, per barrel	10 0	17 6
Cobs, per 100 lb.	120 0	125 0
Grapes, per lb.	0 6	2 6
Lemons, per case	12 0	20 0
Pine-apples, St. Michael	4 0	6 0
Oranges, Florida, per case	10 0	16 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arum, per doz. bl.	4 0	8 0
Bouvardias, per bun.	0 9	1 0
Carnations, 12 blms.	2 0	4 0
Chrysanthemums, p. doz. blooms	1 6	3 0
— p. doz. bunches	4 0	15 0
Cyclamen, doz. blms.	0 6	0 9
Eucharis, per dozen	4 0	6 0
Gardenia, per dozen	6 0	12 0
Heliotrope, per doz. sprays	0 6	0 9
Hyacinth, Roman, doz. sprays	0 6	1 0
— dozen spikes	3 0	6 0
Lilac, white French, per bunch	4 0	5 0
Lilium Harrisii, doz.	8 0	10 0
Lily of the Valley, doz. sprays	0 6	1 0
Maiden Hair Fern, 12 bunches	4 0	8 0
Marguerite, per doz. bunches	4 0	6 0
Mimosa, French, bun.	1 0	2 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blms.	2 0	6 0
Daffodil, double, doz. blooms	1 0	1 6
— single do.	1 3	2 0
Mignonette, 12 bun.	3 0	6 0
Narciss, various, French, doz. bun.	4 0	6 0
Pelargonium, scarlet, per 12 bun.	6 0	12 0
12 sprays	1 0	1 6
Poinsettias, per doz. blooms	4 0	9 0
Primula, double	0 6	1 0
Roses, Tea, per dozen	2 0	4 0
— coloured, dozen	3 0	6 0
— yellow (Maréchals), per doz.	4 0	9 0
— red, per dozen	1 0	2 0
— (French) p. doz.	1 6	4 0
Tuberose, 12 blms.	0 9	1 6
Tulips, red, doz. bm.	0 6	0 9
— white, doz blm.	1 6	3 0
— yellow, doz blm.	1 6	2 0
Violets, Parme French per bunch	5 0	7 0
— Czar, French, per bunch	3 0	5 0
— small French, p. doz. bunches	3 0	6 0

ORCHID-BLOOM in variety not in quantity.

VEGETABLES. — AVERAGE RETAIL PRICES.

	s. d.	s. d.
Beans, French, lb.	1 0	1 6
Beet, red, per dozen	2 0	3 0
Carrots, per bunch	0 4	0 6
Cauliflowers, each	0 3	0 6
Cucumbers, each	0 9	1 6
Endive, per dozen	2 0	3 0
Herbs, per bunch	0 9	1 0
Lettuces, per doz.	1 6	2 0
Mushrooms, punnet	2 0	
Mustard and Cress, punnet	0 4	
Parsley per bunch	0 3	0 6
Seakale, per basket	2 6	
Shallots, per lb.	0 6	
Tomatos, per lb.	0 6	1 0
Turnips, per bunch	0 4	0 6

POTATOS.

The weather being more favourable, farmers are loading freely, and stock is increasing. Prices still continue firm. Best samples, 90*s.* to 100*s.*; ordinary kinds, 55*s.* to 60*s.* *J. B. Thomas.*

SEEDS.

LONDON: *Jan.* 11.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that there is now more business doing in seeds. Increased attention is being given to samples of German Red. French Clovers are, of course, this season quite out of the running. Prices from America come very strong. Alsyke (White) and Trefoil unchanged. Rye-grasses tend upwards. For Peas and Haricots there is an improving inquiry. Spring Tares continue very cheap. Canary seed is dearer. There is no change in Hempseed. Mustard and Rapeseed keep firm. Linseed steady. The Board of Trade Returns just issued give the imports into the United Kingdom for the past year of Clover and grass seeds as 297,323 cwt., value, £335,125; as against 256,920 cwt., value, £353,977, for 1891.

FRUITS AND VEGETABLES.

BOROUGH, *Jan.* 10.—Quotations:—Cabbages, 3*s.* to 3*s.* 6*d.*; Savoys, 4*s.* per tally; Cauliflowers, 1*s.* to 2*s.* per dozen; Spinach, 1*s.* 6*d.* to 2*s.* per bushel; Sprouts, 1*s.* 9*d.* to 2*s.* per half-sieve; Carrots, 2*s.* 6*d.* to 3*s.*; Turnips, 1*s.* 6*d.*; Parsley, 4*s.* per dozen bunches; English Onions, 6*s.* to 7*s.*; Dutch do., 5*s.* to 6*s.* per cwt.; Horseradish, 1*s.* 6*d.* to 1*s.* 9*d.* per bundle; English Apples, 2*s.* 6*d.* to 10*s.* per bushel.

SPITALFIELDS: *Jan.* 10.—Quotations:—Collards, 2*s.* to 3*s.*; Savoys, 4*s.* to 6*s.*; Cauliflowers, 8*s.* to 10*s.* per tally; Curly Kale, 1*s.* to 1*s.* 6*d.* per bushel; Sprouts, 1*s.* 6*d.* to 2*s.* per half-sieve; Turnip-tops, 2*s.* to 2*s.* 6*d.* per sack; Seakale, 1*s.* 6*d.* per punnet; Greens, 2*s.* to 3*s.*; Turnips, 2*s.* 6*d.* to 3*s.*; Carrots, 2*s.* to 3*s.*; Parsley, 3*s.* to 4*s.* per dozen bunches; Parsnips, 8*d.* to 10*d.* per score; Celery, 1*s.* to 1*s.* 3*d.*; Horseradish, 1*s.* 6*d.* to 1*s.* 9*d.* per bundle; Beetroot, 1*s.* to 1*s.* 6*d.*; Cucumbers, frame, 3*s.* to 6*s.*; Leeks, 1*s.* 6*d.* to 2*s.* per dozen; English Onions, 7*s.* to 8*s.* per cwt.; Spanish do., 6*s.* to 8*s.* per case; Belgian and Dutch do., 5*s.* to 6*s.* per bag of 110 lb.; bag Turnips, 2*s.* 6*d.* per bag; English Apples, 2*s.* 6*d.* to 6*s.* 6*d.* per bushel; American do., 10*s.* to 17*s.* per barrel; Tomatos, foreign, 1*s.* to 1*s.* 6*d.* per box; forced Rhubarb, 1*s.* 3*d.* to 1*s.* 6*d.* per dozen bundles.

FARRINGDON: *Jan.* 12.—Quotations: — Turnips, 3*s.* per bag; Carrots, 3*s.* 6*d.* do.; Parsnips, 4*s.* per cwt.; Sprouts, 1*s.* 6*d.* per half-sieve; English Onions, 7*s.* 6*d.* per cwt.; Spanish, do., 5*s.* 6*d.* per case; Parsley, 2*s.* per bushel; Apples, American, greenings, 12*s.* to 14*s.* per barrel; Horseradish, 1*s.* 9*d.* per bundle; Grapes, 16*s.* 6*d.* per barrel.

CORN.

Averages.—Official statement of the average prices of British corn, imperial measure (quarter) for the week ending January 7, and for the corresponding period last year:—
1893: Wheat, 25*s.* 10*d.*; Barley, 24*s.* 9*d.*; Oats, 16*s.* 8*d.*
1892: Wheat, 36*s.* 2*d.*; Barley, 29*s.* 2*d.*; Oats, 20*s.* 6*d.*

POTATOS.

BOROUGH: *Jan.* 10.—Quotations:—English Magnums, 50*s.* to 65*s.*; Hebrons, 60*s.* to 70*s.*; Snowdrops, 60*s.* to 75*s.* per ton.

SPITALFIELDS: *Jan.* 10.—Quotations:—Main Crop, 70*s.* to 95*s.*; Imperators, 60*s.* to 70*s.*; Regents, 55*s.* to 70*s.*; Magnums, 55*s.* to 75*s.* per ton.

LONDON AVERAGES: *Jan.* 11.—Magnums, 55*s.* to 75*s.*; Hebrons, 60*s.* to 80*s.*; Imperators, 60*s.* to 70*s.*; Snowdrops, 60*s.* to 80*s.*; Regents, 55*s.* to 70*s.* per ton.

FARRINGDON, *Jan.* 12.—Quotations:—Magnums, 65*s.* to 70*s.*; Bruce do., 80*s.* to 85*s.*; Main Crop, 100*s.* to 105*s.*; Sutton's Abundance, 90*s.* to 95*s.*; Hebrons, 70*s.* to 75*s.* per ton.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 80*s.* to 115*s.*; do., inferior, 70*s.* to 75*s.*; hay, best, 75*s.* to 112*s.*; do., inferior, 65*s.* to 75*s.*; and straw, 28*s.* to 44*s.* per load.

THE WEATHER.

[BY the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature.					Rainfall.			Bright Sun.	
	Above (+) or below (—) the Mean for the week ending January 7.	Accumulated.				More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1893.	Total Fall since Jan. 1, 1893.	Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1893.
		Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1893.	Below 42°, difference from Mean since January 1, 1893.					
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	10 —	0	95	— 7	+ 65	11 —	4	0·2	13	13
1	10 —	0	106	— 6	+ 65	3 —	5	0·4	7	7
2	10 —	0	95	— 6	+ 58	1 —	5	0·4	21	21
3	12 —	0	111	— 9	+ 68	1 —	5	0·4	18	18
4	12 —	0	117	— 10	+ 73	2 —	3	0·4	18	18
5	13 —	0	108	— 11	+ 79	4 —	2	0·2	23	23
6	10 —	0	85	— 8	+ 55	11 —	4	0·2	18	18
7	10 —	0	88	— 9	+ 58	5 —	4	0·2	21	21
8	10 —	0	73	— 14	+ 54	7 —	2	0·3	23	23
9	8 —	0	70	— 14	+ 47	3 —	4	0.5	16	16
10	7 —	0	50	— 20	+ 35	5 +	4	1·5	15	15
*	8 —	0	41	— 23	+ 32	1 +	4	0·9	20	20

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; (* Channel Islands.)

THE PAST WEEK.

THE following summary record of the weather for the week ending January 7, is furnished from the Meteorological Office:—

"The *weather* continued very cold and wintry all over the Kingdom; occasional falls of snow occurred in Great Britain and over the northern parts of Ireland, while in the south of Ireland the conditions, after being fine and dry, became very rainy. Over the inland parts of England some dense fogs were experienced.

"The *temperature* was again very low, the deficit ranging from 7° in 'Ireland, S.,' and 8° in 'Ireland, N.,' and the 'Channel Islands,' to 10° in most other districts, to 12° in 'England, E.' and the 'Midland Counties,' and to 13° in 'England, S.' The highest of the maxima were registered on rather irregular dates, and varied from 48° in the extreme south-western districts to 35° in the 'Midland Counties.' At several of the inland English stations the daily maxima were below 32° throughout the whole period. The lowest of the minima were recorded during the middle part of the week, when the thermometer fell to — 2° in 'Scotland, E.' (at Braemar), to + 2° in 'Scotland, N.' (at Fort Augustus), to 5° in the 'Midland Counties,' 7° in 'England, S.W.,' and 8° in 'England, N.E. and E.,' in most other districts the minima ranged from 10° to 14°, but in 'England, N.W.,' the lowest reading was 18°, and in the 'Channel Islands,' 20°.

"The *rainfall* was more than the mean in 'Ireland, S.' and the 'Channel Islands,' but less in all other districts.

"The *bright sunshine* was rather less than the mean in Ireland and the east of Scotland, but above it in most of the English districts. The percentage of the possible duration ranged from 23 in 'England, S. and S.W.' to 13 in 'Scotland, N.,' and 7 in 'Scotland, E.'"

NOTICES TO CORRESPONDENTS.

TO OUR READERS.—*The Editor begs leave to solicit from the readers and contributors to the Gardeners' Chronicle:—*
Short Practical Notes on Cultural Matters;
Early Intelligence of Local News likely to be of general interest;
Notes and Memoranda useful to the trade;
Specimens of New or Interesting Plants, Fruits, &c.;
Drawings or Photographs of Gardens, Trees, Flowers, &c., and which if suitable for reproduction will be utilised so far as possible.

CHRYSANTHEMUM EXHIBITORS: *W. W.* The paragraph referred to was received from the secretary of the society.

CONIFERS: *A. P.* These trees must be lifted by means of a lifting-transplanting machine, if the ball weigh more than half a ton. The soil containing the roots should be moved in a solid mass, and unless this can be done with large specimens, they will not succeed. No cutting of the branches is necessary or advisable. The removal of large trees is difficult, and should be carried out under experienced guidance.

EUCHARIS, EIGHT-PETALLED: *H. B.* Such specimens, although quite abnormal, are not rare. It may be attributed perhaps to uncommon luxuriant growth, or to the union of two flowers.

GLASS: *Chrysanthemum.* We cannot recommend dealers; the task would be very invidious. Consult our advertising columns.

HARDY ANNUALS, USEFUL FOR TABLE DECORATION, AND FOR SOWING NEAR THE SEA: *A. P.* Chrysanthemum tricolor Burridgeanum, Sweet Peas, in distinct colours; Adonis, Calandrinia speciosa, Calliopsis Drummondi, C. tinctoria, C. bicolor atrosanguinea, Candytuft, various colours; Clarkia pulcherrima, and others; Dianthus Heddewegii, Erisymum Peroffskianum, Escholtzia in variety; Godetia Lindleyana, G. Lady Albemarle, G. Witneyii, Leptosiphon densiflorus, L. aureus, Linum grandiflorum rubrum, Poppies in variety.

IMPORTED PANCRATIUMS: *K. E.* As red spider and mealy bug are likely to be on the bulbs, first remove the more loose coatings, but do not expose the bulb; especially clear them away about the neck of the bulb, dusting snuff into the crevices, or dip in a safe insecticide, or fumigate with nicotine cones, &c. Having done what is needful in this way, prepare some clean pots that will just hold each bulb by carefully crocking them, putting some rough loamy siftings to the depth of 1 inch over the crocks. For a potting soil use sandy, sifted loam three-quarters, with one-quarter leaf mould in a fine state, and sufficient sand to make the compost porous. Pot the bulbs to about two-thirds of their height below the surface, and pot firmly, leaving plenty of space for water. No water will be needed before the bulbs start, and they may be stood on a shelf in a greenhouse or frost-proof pit till February or March, when it will be time to start them; making up a hot-bed of hard tree leaves, covered with leaf-mould, plunge the pots in this when the bed has acquired a bottom heat of 85° to 90°; maintain a top heat of 60° to 70°, the lower figure at night; and never quite close the frame all night. Afford no water till the leaves have been made 3 or 4 inches long, and only then if the soil be dry. As the season advances afford more air by day, shutting up about half-past 3 P.M. after damping them, or the surface of the bed. Lift the pots occasionally to prevent too early rooting into the soil; and if the leaves touch the glass, raise the frame on bricks put under the corners. Once well rooted they may remain where they have grown, or be placed in a warm pit, for the foliage to ripen. Store in winter in a dry, moderately warm place.

NAMES OF FRUITS: *Neptune.* 1 and 3, Lord Derby; 2, Dumelow's Seedling.—*J. G.* 1, Blenheim Orange Pippin; 2, not known; 3, Round Winter Orange Pippin; 4, Cox's Orange Pippin; 5, Rosemary Russet; 6, not known; 7, King of the Pippins; 8, not known; 9, Keddleston Pippin; 10, Hollandbury.

NAMES OF PLANTS: *J. M.* Asplenium rhizophyllum.—*W. O.* 1, Lælia furfuracea; 2, Tillandsia psittacina; 3, Davallia Tyermanni; 4, Niphobolus lingua.—*J. B.* 1, Dracæna amabilis; 2, Croton angustifolius var.; 3, C. angustifolius maculatus; 4, C. Disraeli; 5, C. variegatus.—*W. R.* Stanhopea Wardiana, probably, judging from your description and the photo sent.

ORANGE WITH SEEDS OUTSIDE: *J. D.* Some malformation, to which Oranges are particularly subject.

PINE-SHOOT DYING AT THE TIPS: *D. L.* The injury to the Pines is caused by the Pine-beetle, Hylurgus piniperda (see fig. 11). The insect causes some damage to Conifers by burrowing beneath the old bark in forming a breeding-place; but the mature insects do much more by perforating the tender shoots 1 inch or more from the end for food and shelter. In the case of small trees, many beetles might be caught in October and November in the manner weevils are caught, i.e., by spreading a white cloth below an affected tree without in the least disturbing it, and having done this, give the stem a smart rap, when many of the beetles will fall on to the cloth. By repeating this work at short intervals, many of the mature beetles can be caught. The injured tips should be collected in the summer, or cut off later, allowing

Fig. 11.—1, 2, Pine shoots pierced by beetles; 3, 4, Pine beetle, natural size and, magnified; E, E, jaws; F, G, chin, with feelers, &c.

them to fall into a deepish bag, and carried away and burnt. Where large trees are concerned, not much can be done beyond removing thinnings, bark felled Pine-wood in which the insect can form breeding tunnels, and burn them forthwith. Traps may be made, says Westwood, by placing, in the month of May, a young Pine trees, cut in the previous January, not earlier, against the stems of standing timber. In these the beetles will bore their galleries and lay eggs, and afterwards these traps may be collected and burnt.

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COMMUNICATIONS RECEIVED.—A. Hope.—Alfred A. Lee, quite unsuited for the *Gardeners' Chronicle*.—W. Williamson.—W. R.—E. M.—H. M.—G. T. M.—D. Mariano Vergara, Madrid.—C. B., Brussels.—B. D. J.—National Rose Society.—D. L.—Dundee Horticultural Association.—O. T., Wandsbeck.—M. C. C.—E. S., Oxford.—W. S., Carshalton.—H. W. W.—G. S. S.—J. O'B.—R. McL.—F. W. B.—A. W. K.—J. G. B.—M. F.—J. R. J.—G. W. B.—Dickson's.—J. S.—M. R.—H. J. V.—Lord K.—W. W.—Vagabond.—Stuart & Mein.—H. J. Veitch.—W, K.—A. P.—W. W. P.—W. J. S.—F. C. H.—W. Beckett.—M. S.—H. N. Ridley.—J. K.—H. J. J.—W. R.—G. G.—B, C.—F. J.—J. M.—H. W. W.—H. M.—E. M.—J. B. W.—R. M.—B. W.—D. K.—C. E. B., Port Elizabeth, S. Africa.—J. B.—D. T. F.—J. J. W.—T. H. S., Oodeypore.—A. D.—Wild Rose.—E. C.—Emigrants' Information Office.—W. J. T.

PHOTOGRAPHS RECEIVED, WITH THANKS.—W. B. H., Cork.

SPECIMENS RECEIVED.—Stuart & Mein.

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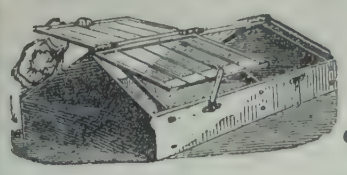

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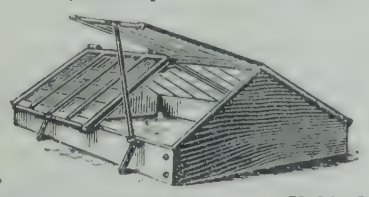

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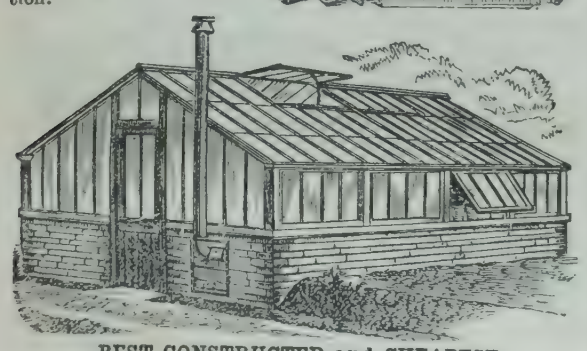

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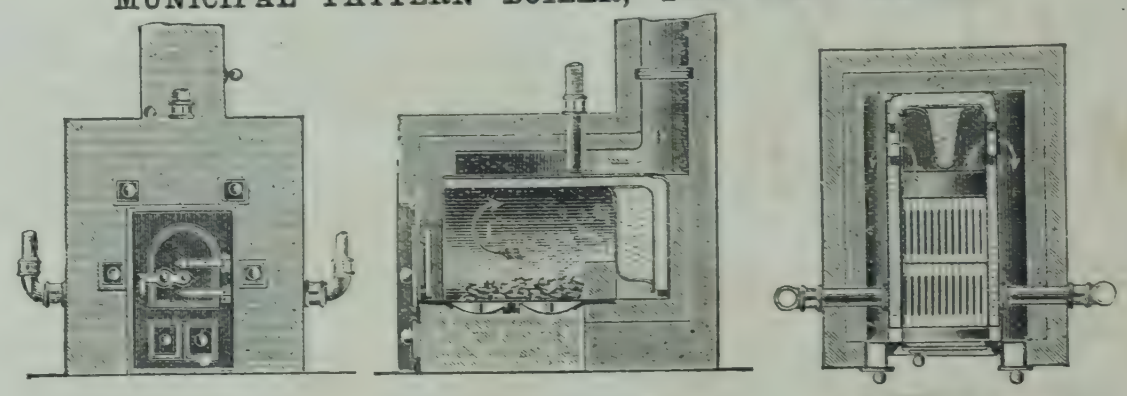

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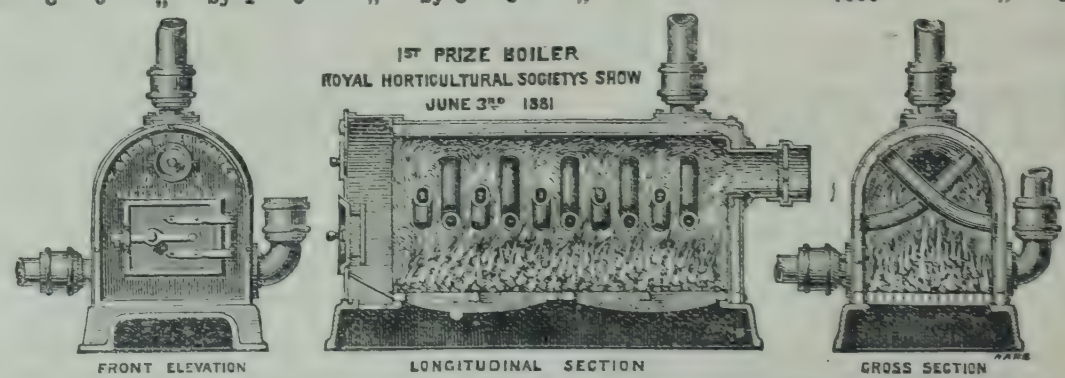

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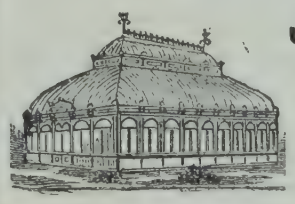

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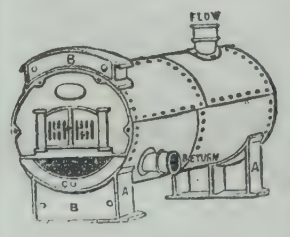

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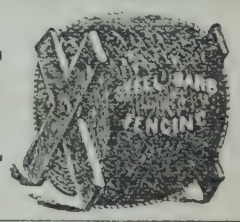

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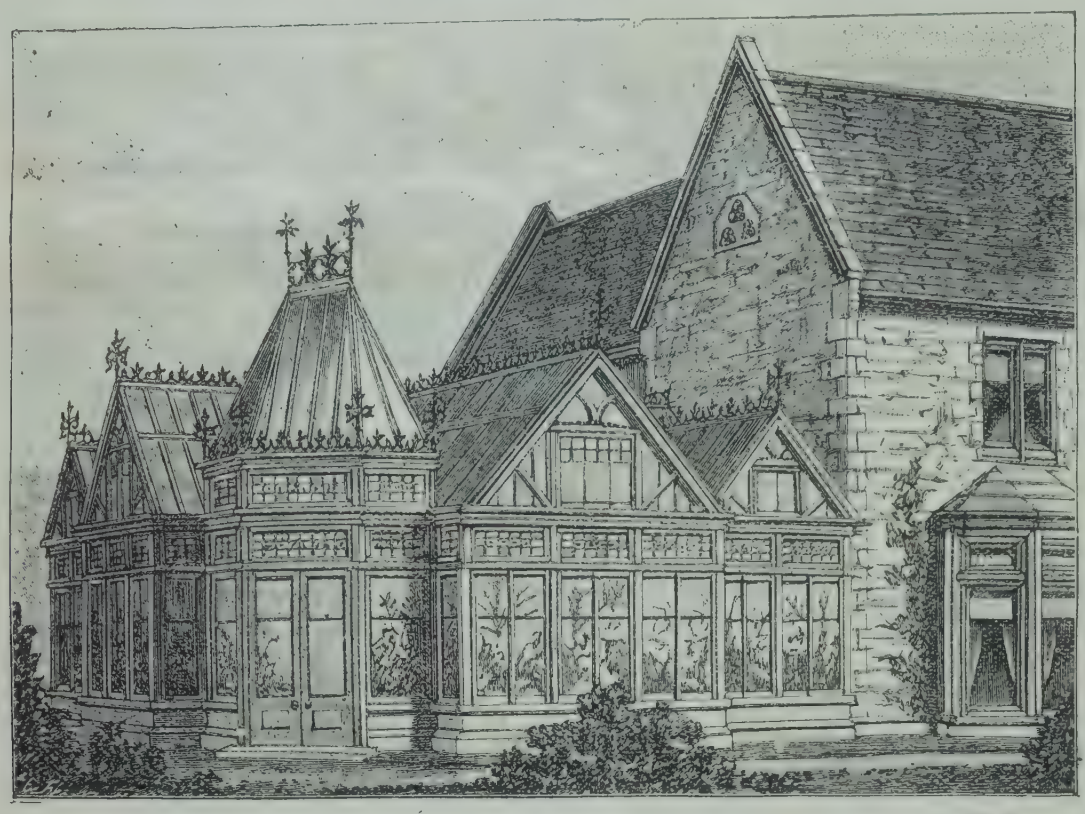

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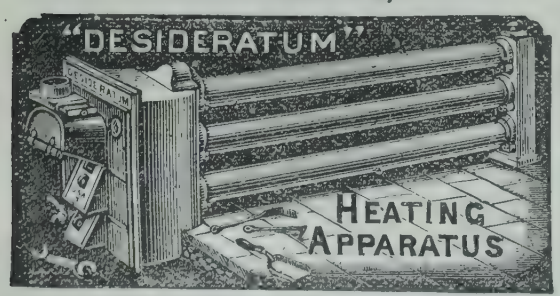

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CONTENTS.

Asparagus for forcing ... 78
Books, notices of—
A Gardener's Story ... 81
Das Kleine Haus mit Garten 81
Botanist, the selfish ... 75
Cannæ, a synopsis of the species of 70
Cocoa-nut, double, at Kew 74
Emigration to the Colonies and South America 77
Florists' flowers—
Anemone, the garden ... 77
Fruit from South Africa ... 76
Gardeners Royal Benevolent Institution 74
Gardens, grave and gay ... 67
Gladiolus Childsii ... 78
Grape, Muscat Champion 78
Home-grown timber, prices of 78
Hypoestes moschata ... 77
Macrozamia spiralis ... 74
Nursery note—
Low, Hugh & Co. ... 79
Obituary—
Sheppard, J. 82
Parsons' paintings in Japan 76
Phalænopsis culture ... 71
Plants, new or noteworthy 68
Railway rates, new ... 75
Rainfall, the year's ... 79
Rosery, the—
Good Roses for the general cultivator ... 70
Scotland :—
Dryden Bank 79
Societies :—
Royal Horticultural 75, 79
Scottish Horticultural 76
Technical instruction ... 75
Tomatos and cancer ... 78
Traveller's notes, a ... 68
Turin, Royal Academy of Sciences of 75
Veitch Memorial prizes ... 76
Vine-dressing and petroleum 78
Week's work, the—
Apiary, the 71
Flower garden, the ... 72
Fruits under glass ... 73
Hardy fruit garden ... 72
Kitchen garden, the ... 73
Orchid-houses, the ... 72
Plants under glass ... 73

ILLUSTRATIONS.

Cocoa-nut, double, germination of 69
Cocoa-nut, double, leaf of 71
Cycnoches pentadactylon 80
Hypoestes moschata 77
Macrozamia spiralis. (Supplement.)
Lodoicea seychellarum, double Cocoa-nut. (Supplement.)

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January, 1893.

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SALES BY AUCTION.

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MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, January 23, at 12 o'Clock, Home-grown and other LILIES, BEGONIAS, 40 Lots of STOVE and GREENHOUSE FERNS and PLANTS, LILY of the VALLEY Berlin Crowns; Hardy Border BULBS and PLANTS, &c.

On view morning of Sale, and Catalogues had.

Tuesday Next.—Special Sale.

3500 GLADIOLI in variety, including Lemoinei, Kelway's Hybrids, Seedlings, Brenchleyensis, &c.; 4000 Japanese LILIES, 1000 extra fine VALLOTA PURPUREA, 2000 extra choice BEGONIAS, single and double, to colour; PEARL TUBEROSES, SPIRÆAS, three varieties; TIGRIDIAS, in four finest sorts; AMARYLLIS JOHNSONII, spice-scented; Dwarf ROSES, PALMS, AZALEAS, ANEMONES, RANUNCULUS, 40 Lots of STOVE and GREENHOUSE FERNS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, January 24, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

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Consignment received direct for Unreserved Sale.

140 LÆLIA SPECIES.

150 LÆLIA ARNOLDIANA.

200 ODONTOGLOSSUM CITROSMUM.

MESSRS. PROTHEROE AND MORRIS will include the above in their Orchid Sale on TUESDAY NEXT.

On view morning of Sale, and Catalogues had.

Thursday Next.—Hardy Plants and Bulbs.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, January 26, at 12 o'Clock, English-grown LILIES, Single and Double BEGONIAS, 20,000 LILY OF THE VALLEY, Berlin Crowns; DAHLIAS, Cactus, Pompon, and Single; CARNATIONS, PÆONIES, 100 Lots of STOVE and GREENHOUSE FERNS and PLANTS, 100 LILIUM SZOVITZIANUM, Hardy Border PLANTS and BULBS, GLADIOLUS, &c.

On view morning of Sale, and Catalogues had.

Friday Next, January 27.

LÆLIA GRANDIS TENEBROSA.

ONCIDIUM MARSHALLIANUM.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. Charlesworth, Shuttleworth & Co., Heaton, Bradford, and 213, Park Road, Clapham, S.W., to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY NEXT, January 27, at half past 12 o'Clock, a valuable consignment of newly-imported ORCHIDS, consisting of the new and handsome

LÆLIA GRANDIS TENEBROSA.

Our Collector did not exaggerate when giving a glowing description of the richness and diversity of colour. We have proved this with the plants which have flowered surpassing our most sanguine expectations.

In appearance the plant resembles Lælia purpurata, keeping the same character under cultivation, and is seemingly very free-flowering, as the plants, in our possession some considerable time, have made sheaths and improved every season; the growths are made during the summer months, and produce the flowers the following spring. The flowers are of immense size, 8 or 9 inches; petals and sepals are a brilliant bronze, varying in colour; quite recently we had one with golden-yellow sepals and petals as near as possible the colour of a good Cattleya aurea. The petals are broad, and do not reflex, as in Lælia purpurata, giving the flower a bold appearance. The lip varies considerably, some plants have a dark purple throat, others being magenta-purple, both having white veins radiating from the centre. Many old flower-spikes show up to 7 flower-seats. The plant has proved itself to be of very easy culture and free blooming; some extraordinary varieties having been flowered out of the consignment we had last year. A. Brooman White, Esq., of Ardarroch, showed at the Drill Hill one of the largest and finest-coloured forms yet seen, and it was admired by everybody who saw it.

The plants are in special fine condition, superior to any offered yet, they can be recommended with every confidence. Our collector is the only one who knows the habitat of this grand old Lælia, which is quite distinct from any other or the old small-flowered Lælia grandis.

ONCIDIUM MARSHALLIANUM.

A fine healthy consignment of this charming Orchid, very useful for show and cutting purposes.

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On view morning of Sale, and Catalogues had.

Wednesday Next.

GREAT SALE of LILIES, received direct from Japan. ABSOLUTELY WITHOUT RESERVE.

5000	LILIUM	AURATUM.
3415	,,	SPECIOSUM RUBRUM.
4700	,,	,, ALBUM.
300	,,	WITTEI.
50	,,	RUBRO-VITTATUM.
270	,,	SPECIOSUM MACRANTHUM.
600	,,	LONGIFLORUM.
100	,,	BATEMANNIÆ.

Just received from Japan.

6000 Excelsior PEARL TUBEROSES, 500 LILIUM SZOVITZIANUM, just arrived from the Caucasian Alps; GALANTHUS REDOUBTII; 10,000 LILY OF THE VALLEY Berlin Crowns; Seedling AMARYLLIS, from the best named crosses; CYCLAMEN HEDERÆFOLIUM, hardy Border PLANTS and BULBS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, January 25, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Seedling Amaryllis.

A grand strain from the best named crosses. Without reserve.

MESSRS. PROTHEROE AND MORRIS desire to call special attention to the above, included in their SALE of LILIES, on WEDNESDAY NEXT.

Wednesday Next.

200 Choice Dwarf ROSES, Collection of ORNAMENTAL SHRUBS and PLANTS, very fine; CARNATIONS, PINKS, PICOTEES, and other BORDER PLANTS, 100,000 Crowns of LILY OF THE VALLEY, 1000 Clumps of same, 1000 SPIRÆA, 2000 ANEMONES, PÆONIES, BEGONIAS, Japanese LILIUMS, CYPRIPEDIUM SPECTABILE, and a large quantity of DUTCH BULBS.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, January 25, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

The Studley Castle Collection of Orchids, Palms, FERNS, STOVE and GREENHOUSE PLANTS, &c.

MR. J. C. STEVENS has received instructions from the Official Receiver in Bankruptcy to SELL by AUCTION, EARLY in FEBRUARY, the valuable COLLECTION of ORCHIDS formed by T. Walker, Esq., of Studley Castle, Warwick, including, amongst others—

Cypripedium Spicerianum, best variety
,, cardinale
,, Schroderæ
,, Hincksianum
,, Haynaldianum
,, Elliotianum
,, bellatulum
,, œnanthum superbum
,, Measuresianum
Dendrobium prismatocarpum, fine plant
Dendrobium thyrsiflorum, fine specimens
Cattleya Warocqueana
Cœlogyne cristata, fine specimen
Lælia anceps alba
Cypripedium insigne
Lycaste Skinneri alba
Maxillaria Lehmannii
,, picta
Cymbidium Lowii
Stanhopea tigrina
Cœlogyne Massangeana, &c.

Also the well-grown PALMS, FERNS, and other STOVE and GREENHOUSE PLANTS.

Auction Rooms & Offices, 38, King St., Covent Garden, W.C.

Heston, Middlesex,

On the main Bath road, near Cranford, Whitton, Hounslow, Isleworth, &c.

VALUABLE FREEHOLD PROPERTY, comprising about 12 acres of prolific Market Fruit Gardens, with all the requisite appliances for carrying on the business of Fruit and Vegetable growing on a large and profitable scale. Also a capital brick-built and slated Residence of eight rooms and foreman's lodge, the whole enclosed within fences, and with extensive frontage to the Bath road, about 1¾ mile from the station at Hounslow within half a mile of Hounslow Barracks Station, and about a dozen miles of Covent Garden Market.

MESSRS. SAMUEL B. CLARK AND SON will offer the above important FREEHOLD PROPERTY for SALE by AUCTION, in one Lot, at the MART, Tokenhouse Yard, E.C., on TUESDAY, January 31, 1893, at 1 o'Clock precisely.

Particulars, with conditions, of the Solicitors, Messrs. BIRCHAM AND CO., 46, Parliament Street, and at the Auctioneers' Offices, 8, New Cavendish Street, W., and 10, Hanover Square, W.

WANTED to RENT or LEASE, a small NURSERY or GARDEN, containing a few modern Glass Houses, and an Acre or Two of Ground. Lancashire preferred.—N. Y., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, to RENT or LEASE, GLASS-HOUSES, either with or without Heat. Rent not to exceed £80.—H., Riston Cottage, Erith Road, Erith.

TO BE SOLD, an Old-established NURSERY, with some 50,000 feet of Glass, and 8 Acres of Land, well-stocked, and in going order; or a PARTNER would be entertained. Terms very reasonable. Apply to—
T. HAWKINS, Horticultural Builder, Ashford, Middlesex.

A Chance of a Lifetime for an Energetic Man or Men.

TO BE SOLD, Cheap, nearly 4 Acres of LAND, with HOUSE, &c. Suited for a Nursery (or covered with Glass). Close to Station and Colliery in a populous centre, and rapidly-increasing district. No opposition. Part of purchase-money can remain. Apply—
J. BUTLIN, Nuneaton.

FOR SALE.—Two FREEHOLD COTTAGES, with Stabling, Cart-sheds, and about 1¼ Acre of Orchard Land, situated in the healthiest part of Cheshunt, Herts. Good position for Glasshouses.—Particulars of THOMAS CHASE, Waltham Cross, Herts.

FOR SALE, a Small MARKET NURSERY BUSINESS, close to High Road and Rail, 6 miles from Covent Garden. Good position, 1¾ acre, low rent, incoming low.—Mrs. COX, Minerva Cottage, High Road, East Finchley, N.

FOR SALE, satisfactory reasons for disposal, a small compact NURSERY, mostly Glass. Substantial houses; low ground rent; over 90 years unexpired lease. Price, including Stock and Fixtures, £1500. £500 could remain at 5 per cent. Good business-growing district of Seaside Town.—Apply, M. G., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

NURSERY TO LET, or SELL; good opening for practical man; 1000 feet run of Glass, adapted for Fruit or Plant Growing; 12 miles from Covent Garden.

Address R. F., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

North Finchley.—To Market Growers and Florists.

On Main Road.

TO BE LET, on Lease, the FRONT PORTION of the WOODSIDE NURSERY.—Eighteen Greenhouses, 2 acres of Land, and 8-roomed House. To a responsible Tenant, the low rent of £90 would be taken. No stock.

Particulars and orders to view, of PROTHEROE AND MORRIS, 67 and 68, Cheapside, London, E.C.

PROTHEROE AND MORRIS, HORTICULTURAL MARKET GARDEN and ESTATE AUCTIONEERS and VALUERS, 67 and 68, Cheapside, London, E.C., and at Leytonstone, E. Monthly Horticultural Register had on application.

G. A. WILLIAMSON, NURSERYMAN and FLORIST, Smithfield Market, Manchester, is open to RECEIVE CONSIGNMENTS of CUT FLOWERS and MAIDENHAIR FERN ON COMMISSION. Cheques as desired.

GEORGE PIKE, 97, 98, and 99, Flower Market, Covent Garden, W.C., is open to receive CHOICE CUT FLOWERS for SALE on COMMISSION.

Boxes and Labels supplied on application.

MESSRS. SQUELCH AND WOOD, FRUIT SALESMEN, North Row, Covent Garden, W.C., are open to RECEIVE CONSIGNMENTS of GRAPES, TOMATOS, CUCUMBERS, and all kinds of HOT-HOUSE PRODUCE.

Our business connections being amongst the best houses in London, we are in a position to secure the highest prices for all choice goods. Account Sales forwarded daily, and cheques weekly, or daily if required. Empties and labels supplied. Reference, London and County Bank, Covent Garden Branch.

FLOWERING LILY OF THE VALLEY. —Magnificent Samples. 100, 6 marks; 1000, 60 marks, for Post-office Order. Guaranteed to arrive in a fresh condition.

BLUMENBOERSE, Magdeburg, Germany.

To the Seed Trade.

H. AND F. SHARPE have posted their GENERAL WHOLESALE LIST to their customers and others, and shall feel obliged if those who have not received it will inform them, and another copy will be sent.

SEED GROWING ESTABLISHMENT, WISBECH.

The Best Present for a Gardener.

VINES AND VINE CULTURE.

The most complete and exhaustive Treatise on Grapes and their Culture ever published.

Third Edition just out.

Price 5*s*., post free, 5*s*. 6*d*.

A. F. BARRON, Royal Horticultural Society, Chiswick.

MYATT'S PROLIFIC, for Sale.—Grown on high land, and true; 50*s*. per ton up to 2 tons; less for larger quantity.

G. F. YOUNG, Swineshead Abbey, Boston.

FRUIT TREES. — Apples, Pears, Plums, Cherries, per 100 or 1000. Prices on application.

FLETCHER BROS., Ottershaw Nurseries, Chertsey.

ORCHIDS.—New and rare species, a special feature. Catalogue forwarded post-free on application.

SEEGER AND TROPP, Ltd., Orchid Nursery, East Dulwich, London, S.E.

THE LIVERPOOL HORTICULTURAL CO.

(JOHN COWAN), Limited,

THE VINEYARD AND NURSERIES,

CARSTON, NEAR LIVERPOOL,

Have this season splendid stocks of the following:

GRAPE VINES,

For fruiting in pots and planting Vineries.

TEA and other ROSES, in pots.

ERICAS, AZALEAS, PALMS, FERNS, &c., &c.

CATALOGUES, with full particulars, post free on application.

Special Quotations to the Trade.

FRIDAY NEXT, January 27.

LÆLIA GRANDIS TENEBROSA.
ONCIDIUM MARSHALLIANUM.

MESSRS. PROTHEROE & MORRIS have received instructions from Messrs. Charlesworth, Shuttleworth & Co., Heaton, Bradford, and 213, Park Road, Clapham, S.W., to SELL by AUCTION, at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on FRIDAY NEXT, January 27, at half-past 12 o'Clock, a valuable consignment of newly-imported ORCHIDS, consisting of the new and handsome **LÆLIA GRANDIS TENEBROSA.**

The plants are in special fine condition, superior to any offered yet, they can be recommended with every confidence. Our Collector is the only one who knows the habitat of this grand old Lælia, which is quite distinct from any other, or the old small-flowered L. grandis.

ONCIDIUM MARSHALLIANUM.—A fine healthy consignment of this charming Orchid, very useful for show and cutting purposes.

Also a grand lot of ECUADOREAN ORCHIDS, namely, ODONTOGLOSSUM EDWARDII, the violet-coloured Odontoglot, sweetly scented; the useful and pretty ODONTOGLOSSUM CIRROSUM and O. HALLI.

For fuller Particulars, see Auction Columns.

EXHIBITION.

WOLVERHAMPTON FLORAL FÊTE.
In the Public Park, July 11, 12, and 13, 1893.
For Schedules, &c., apply to the Horticultural Secretary—
Corporation Street. W. A. GREEN, Junr.

To the Trade.

IMPORTANT NOTICE.—When you are in London, it will be well worth your time to pay a visit to Albert Nurseries, Peckham Rye, S.E.; or Fleet, Hants. You can make your notes, and have a business look round, combined with an outing; you will NOT be worried to order.
E. D. SHUTTLEWORTH AND CO., LTD.
Awarded Silver-gilt Flora Medal by the Royal Horticultural Society; also Gold, Silver-gilt, Silver, and Bronze Medals, Prizes, and Certificates at other First-class Shows. Our specialty—really good stuff grown for the Trade.

VINES.—Gros Colmar, a few hundreds cheap, in 48-pots, suitable for planting, 50*s.* per 100.
FOULGER, Potter's Bar, Middlesex.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for List, free.—P. MCARTHUR, The London Nursery, 4, Maida Vale, London, W.

Novelty for 1893.

VARIEGATED HOP.—Most ornamental and fast-growing climber. See report of the *Gardeners' Chronicle* of Oct. 8, 1892. Descriptive LIST free on application.
FRED. RŒMER, Seed Grower, Quedlinburg, Germany.

HUMEA ELEGANS, HUMEA ELEGANS, English-saved Seed, of strong germinating powers. Per Packet, 1*s.*
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TRADE.—10 PEAR TREES, 8 feet high, the lot 15*s.* 6*d.*, want the room. SPIRÆA JAPONICA, 12*s* 6*d.* per 100. 50,000 CHRYSANTHEMUM CUTTINGS, strong and healthy, in thirty best varieties, including Lady Lawrence, Madame Desgranges, &c. Cash with order.
E. L. JONES, Clayton Nursery, Peckham, S.E.

GRAPE VINES.—Hard and Short-jointed Fruiting Canes. Victoria PLUMS, fine Standards, and rough cheap Trees; CHERRIES, PEARS, MEDLARS, DAMSONS, PEACHES, NUTS, &c. First Quality, and moderate Price, Wholesale and Retail.
WILL TAYLER, Nurseries, Hampton, Middlesex.

FERNS! FERNS!!—Trade.—Greenhouse and Stove, 25 saleable sorts, in 2½-in. pots, 12*s.* per 100; 10 best market sorts, in 48's, 6*s.* per doz.; stores, 6*s.* per 100. Large Adiantum cuneatum, value in fronds, 6*s.* and 8*s.* per dozen. Cyperus, Aralias, Solanums, and Grevilleas, in 48's, good value, 6*s.* per dozen. Palms, Ficus, Erica hyemalis, Cyclamen, and Dracænas, in 48's, 1*s.* each. P. tremula and A. cuneatum, for making large plants quickly, 16*s.* and 20*s.* per 100, well packed, put on rail free for cash with order.—J. SMITH, London Fern Nurseries, Loughboro' Junction, London, S.W.

MILLER'S SEEDS.
BEST AND CHEAPEST.
CHELSEA GEM PEA, best early dwarf Marrow, 1*s.* 9*d.* per quart; EARLIEST-OF-ALL PEA, earliest round Blue, 10*d.* per quart; NE-PLUS-ULTRA, DWARF FRENCH BEAN, earliest and best for Forcing, 1*s.* per quart; HAM GREEN FAVOURITE TOMATO, best scarlet fruited sort, 6*d.* per packet; SEAKALE, good roots for planting, 4*s.* 6*d.* per 100.
Illustrated CATALOGUE free.
F. MILLER AND CO., 267, Fulham Road, London, S.W.

FORBES' EAST LOTHIAN STOCKS.—Sow now for a continuous and brilliant summer and autumn display. For Massing in Beds, for Herbaceous and Shrubbery Borders, and for Cutting, this Stock has no rival. My superb Strain, which is Perfectly True, contains a larger percentage of Double Flowers than any other. It has had a successful run of about twenty years uniform good quality, and its reputation is world-wide. In 6 perfectly distinct and grand sorts, viz., crimson, purple, scarlet, white, crimson Wallflower-leaved, and white Wallflower-leaved, each sort, 1*s.*, 2*s.* 6*d.*, and 5*s.* per packet.
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FOR ORCHIDS and GARDENERS to Grow Them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

Trade Price Current, 1893.

PETER LAWSON AND SON, Limited, Edinburgh, have posted to their Customers their CATALOGUE of KITCHEN GARDEN and FLOWER SEEDS for the present season, and if any have been inadvertently omitted, copies will be forwarded on application.

To the Trade.

NUTTING AND SONS have now posted their ANNUAL WHOLESALE CATALOGUE of GARDEN and FLOWER SEEDS to all their Customers. If it has not been received, they will be pleased to forward a copy on application.
NUTTING AND SONS, 106, Southwark Street, London, S.E.

CUCUMBER SEED, Rochford's variety, best for Market or Private Use, beautiful new seed, per 100, 5*s.* 2*d.*; per 1000, £2 2*s.* Post-free.
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OUR ILLUSTRATED CATALOGUE of CHRYSANTHEMUMS, PELARGONIUMS, DAHLIAS, BEGONIAS, CANNAS, AMARYLLIS, GLOXINIAS, &c., and SEED LIST, is ready for distribution, and will be sent free on application. 24 First Prizes and 6 Gold Medals awarded.
REID AND BORNEMANN, The Nurseries, Sydenham, London, S.E.

BOX'S BEGONIA SEED.—For germination and quality of flowers superior to all others. Half packets, single mixed, 6*d.*; larger packets, 1*s.* and 2*s.* 6*d.*; double mixed, half packets, 10*d.*; larger packets, 1*s.* 6*d.* and 2*s.* 6*d.* Sow now. Ask for PRICE LIST of Tubers, and Pamphlet on Culture.
JOHN R. BOX, Seedsman and Begonia Grower, Croydon.

TO BE SUCCESSFUL in Growing FLOWERS and VEGETABLES to Perfection, you must have DOBBIE'S CATALOGUE and COMPETITOR'S GUIDE as your constant companion.—"I thank you for your excellent and practical guide, which is the best I ever had." A specimen of hundreds of testimonials.—The Book is ready now; it consists of 160 pages, and is sent free by post for 4*d.*—Please apply early, if you want to be sure of getting a Copy.—DOBBIE AND CO., Florists and Seed Growers, Rothesay, Scotland.

ASPARAGUS, of fine quality—for Forcing, 5-yr. old, splendid roots, 12*s.* 6*d.* per 100, free on rail; 6-yr. old, extra fine, 15*s.* per 100. Cash with order. My Asparagus always makes top price at Covent Garden.

Read the following unsolicited testimonial:—"Please send me another 200 of 5-yr. old Asparagus Roots. I may say that the last 200 were the best lot of forcing roots I ever bought, and my employer says the quality is excellent.—C. H. PERKINS, The Gardens, Milton Abbey, Blandford."
J. J. CLARK, Market Gardener, Goldstone, Brighton.

Walls of Fern.—The best Way to make them.

BARE and UNSIGHTLY WALLS in Greenhouses, Porches, &c., may be luxuriantly covered with Ferns, Foliage, and Blooms, by using our WALL TILE TROUGHS and PLANT BOXES (Patent). Easily fixed and universally adopted, entirely superseding Wire Netting and Corkwork. Photograph of our Tiled Wall of Fern, 110 feet long, and LISTS on application. Ferns and Soil supplied. Try our Scentless PLANT FEEDERS (Patent Compressed), 1*s.* per 100.—A. BOOTY AND CO., 18, Bride Lane, London, E.C.
(Late Florists, &c., of Harrogate.)

THE CORINIUM GUINEA COLLECTION
OF HIGH-CLASS SEEDS

Is probably the cheapest and best assorted ever offered. It contains 12 pints best Peas for succession, 4 pints Broad Beans, 1½ pint French Beans, 3 ounces Carrot, 3 ounces Onion, 1 ounce Parsnip and Beet, Broccoli, Brussels Sprouts, Cabbage, Cauliflower, Celery, Cress, Cucumber, Leek, Lettuce, Mustard, Melon, Parsley, Radish, Spinach, Turnip, Tomato, Vegetable Marrow, Herbs, &c., &c., in sufficient quantities for a medium-sized Garden. Carriage and package free.

For Smaller Collections, see Vegetable and Flower Seeds Catalogue, free on application.

JNO. JEFFERIES & SON,
SEED MERCHANTS, CIRENCESTER.

GARDENERS' ORPHAN FUND.
NOTICE.

THE ANNUAL GENERAL MEETING of the SUBSCRIBERS to this FUND will be Held at the CANNON STREET HOTEL, on FRIDAY, FEBRUARY 3 next, for the purpose of receiving the Report of the Committee, and the Accounts of the Fund for 1892; Electing Officers for the ensuing Year, and for the ELECTION OF EIGHT CHILDREN to the Benefits of the Fund.

The Chair will be taken at 2 o'Clock precisely, and the Ballot will close at 4 o'Clock. A. F. BARRON, Hon. Sec.
Royal Horticultural Society's Gardens, Chiswick, W.
January, 1893.

P.S.—The Voting Papers have all been issued, any Subscriber not having received one is requested to communicate with the Secretary.

CALCEOLARIAS.

H. CANNELL AND SONS have many thousands of lovely plants, both in boxes that can be sent by post, 1*s.* 6*d.* per dozen; in sixties, 3*s.* 6*d.* per dozen; in 4-inch pots, 4*s.* 6*d.* per dozen; and in 5-inch pots, 6*s.* per dozen. Remember these are not all spotted, but mostly the loveliest rich self colours ever seen, and of our own choicest strain.
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CHARLES SHARPE AND CO.'S ILLUSTRATED CATALOGUE OF SEEDS for 1893, is now ready, and will be sent post-free to any address on application. Intending buyers should write for this Catalogue before purchasing.
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LARGE SHRUBS, &c.—Arbor-vitæ, American, 1½ to 2 feet, 12*s.* per 100; do., 3 to 3½ feet, 20*s.* per 100; Aucuba japonica, variegated and green, 1 foot, 25*s.* per 100; Berberis aquifolia, 2 feet, 10*s.* per 100; B. Jamesonii, 2 feet, 20*s.* do.; Box Tree, 1½ to 2 feet, 12*s.* per 100; 2 to 3 feet, 20*s.* do.; B. japonica, 10 inch, 20*s.* do.; Cotoneaster microphylla, 2 feet, 10*s.* per 100; C. Simonsii, 2½ to 3 feet, 10*s.* do.; Dogwood, 2 feet, 10*s.* per 100; Escallonia macrantha, 2 feet, 24*s.* per 100; Greslinea littoralis, 10 inch, 30*s.* per 100; Laurel, Colchic, 1½ to 2 feet, 12*s.* per 100; 2 to 2½ feet, 14*s.* do.; 3 to 3½ feet, 20*s.* do.; rotundifolia, 1½ foot, 13*s.* per 100; 2 to 2½ feet, 16*s.* do.; Portugal Laurel, 1½ to 2 feet, 20*s.* per 100; 2 to 2½ feet, 24*s.* do.; Rhododendron ponticum, 1½ foot, 22*s.* per 100; 2 to 2½ feet, 27*s.* do.; 3 feet, 40*s.* do.; 3½ to 4 feet, 80*s.* do.; Veronica Traversii, fine, 1 foot, 20*s.* per 100; Yews, English, 1½ foot, 24*s.* per 100; 2 to 2½ feet, 35*s.* do.; Abies Douglasii, 9 to 12 inches, 10*s.* per 100; 1 to 1½ foot, 16*s.* do.; 1½ to 2 feet, 25*s.* do.; Araucaria imbricata, 2 to 2½ feet, 24*s.* per doz.; 3 to 3½ feet, 33*s.* doz.; 4 to 4½ feet, 48*s.* doz.; Cedrus deodara, 2 feet, 8*s.* doz.; Cupressus macrocarpa, 2 feet, 30*s.* per 100; spring-moved C. Lawsonii, 2 to 2½ feet, 20*s.* do.; 3 to 4 feet, 30*s.* do.; 4 to 5 feet, 40*s.* do.; C. striata, 3 to 3½ feet, 40*s.* do.; Erecta viridis, 2 to 2½ feet, 30*s.* per 100; 3½ to 4 feet, 40*s.* do.; Picea nobilis, 1½ to 2 feet, 6*s.* per 100; P. Nordmannia, 2½ feet, 18*s.* do.; 3 to 3½ feet, 24*s.* do.; Retinospora plumosa, 2½ feet, 30*s.* per 100; 3 to 4 feet, 50*s.* do.; R. squarrosa, 2½ feet, 30*s.* per 100; 3 to 3½ feet, 60*s.* do.; Thuia, 1½ to 2 feet, 12*s.* per 100; 3 feet, 30*s.* do.; 4 to 5 feet, 50*s.* do.; 6 feet, 80*s.* do. Fine Thuiopsis dolabrata, 2 feet, 30*s.* per 100; 2½ feet to 3 feet, 70*s.* do.; 4 to 4½ feet, 30*s.* per dozen,
The finest Specimens in England.
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APPLES, PEARS, PLUMS, and all kinds of Hardy Fruit Trees. The best varieties for Garden or Market, new and rare sorts not obtainable elsewhere.

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NORMAN DAVIS

Begs to intimate that he has among the New Chrysanthemums of the present season, several of exceptionally fine quality, including the two magnificent New Crimson Japanese—

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the finest introductions of recent years, and which will be distributed by him during the coming spring. *CATALOGUE ON APPLICATION.*

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SELECT VEGETABLES,
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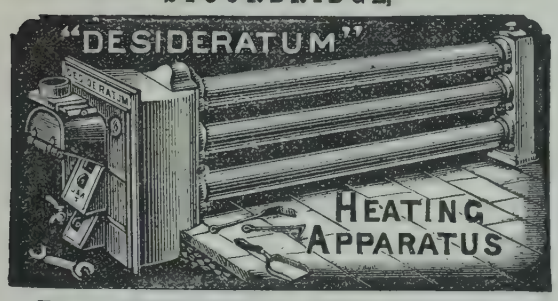

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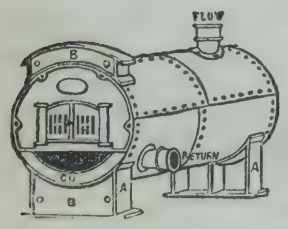

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With Special Provision for Cleaning the Inside thoroughly (a Most Important Point).

These Boilers, after long experience, have proved themselves the Most Efficient, Economical, and Lasting Boilers extant.

Every other kind of Boilers, Sockets, Flanges, and Expansion-Joint Pipes and Fittings for all kinds of High and Low-Pressure Heating.

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THE FRUIT GARDEN of the UNIVERSE. —THE AUSTRALIAN IRRIGATION COLONIES (Chaffey Brothers), established and regulated by Government, OFFER an enjoyable life and OCCUPATION, a sunny and salubrious climate, and most highly remunerative returns to Cultivators with small or large capital; pamphlet free.

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THOMAS METHVEN & SONS

(By Royal Warrant, Nurserymen and Seedsmen to the Queen),

Beg to intimate that their Descriptive Priced

CATALOGUE OF GARDEN AND FLOWER SEEDS,

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METHVEN'S JUNE BROCCOLI, in Sealed Packets only, per Packet, 1*s.* 6*d.*

EAST LOTHIAN INTERMEDIATE STOCK (Methven's choice strain), White, Purple, Scarlet, Crimson, and Snow-white, wall-leaved, in Packets, 1*s.*, 2*s.* 6*d.*, and 5*s.* each colour.

Seed Warehouses:—

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SHARPE'S STANDARD SEEDS

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VANDA CŒRULEA.

A magnificent importation just received in splendid condition, and collector writes:—"I have never seen such a sight of this beautiful Vanda before. Every plant was in flower, and the colours grand—of the deepest indigo-blue, and the flowers very large. You cannot say a word too much of the colour and size of flowers. Every plant is the same."

INSPECTION RESPECTFULLY INVITED.

HUGH LOW & CO., Clapton Nursery, London, N.E.

THOMAS GREEN & SON, LTD.,

LEEDS and LONDON,

HORTICULTURAL ENGINEERS to HER MAJESTY THE QUEEN, call Special Attention to their Patent Wrought-Iron Municipal or Angular Chambered and Tubular

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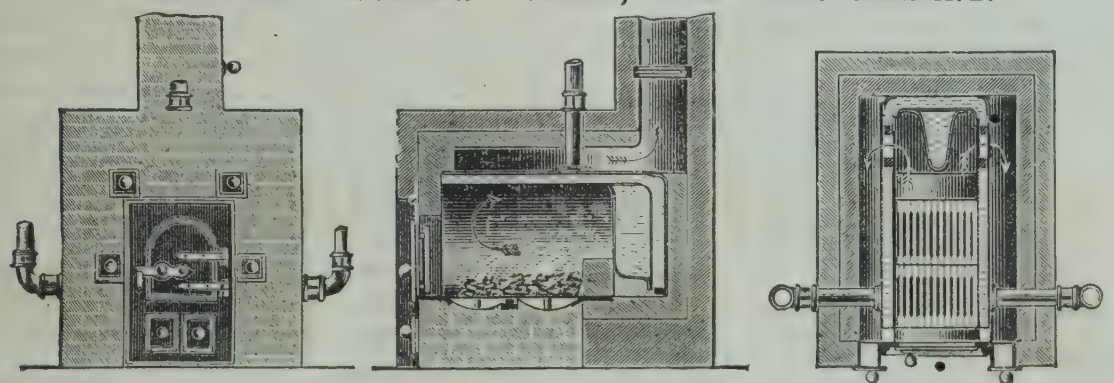

—FRONT ELEVATION— —LONGITUDINAL SECTION— —SECTIONAL PLAN—

The longitudinal section gives a view of the fire-box, water space, flues, &c. The cross section gives a view of the fire-box, water space and V-shaped back. The front elevation shows it set in *brickwork, which is necessary for this class of boiler.*

SIZES AND PRICES.

M B 1	3 ft.	2 in.	long	by 2 ft.	0 in.	wide	by 2 ft.	0 in.	deep	1000 ft.	Price	£15 0 0
M B 2	4	0	„	by 2	0	„	by 2	0	„	1280	„	21 0 0
M B 3	5	0	„	by 2	3	„	by 2	6	„	2200	„	32 0 0
M B 4	6	6	„	by 3	0	„	by 3	0	„	4000	„	60 0 0
M B 5	8	6	„	by 4	0	„	by 3	9	„	7000	„	85 0 0

Calculated to heat 4-in. piping as follows:—

FRONT ELEVATION LONGITUDINAL SECTION CROSS SECTION

Sizes & Prices, including Sole-Plate, Grate-Bars, Fire Door, Dampers, & one Flow and one Return, complete.

Boilers.	Width.		Length.			Height.		Length of 4-inch Piping calculated to heat	Price.		
	ft.	in.		ft.	in.		ft.	in.	feet.	£	s. d.
B	1	6	by	3	0	by	2	0	600	16	0 0
C	1	9	by	3	6	by	2	0	800	22	0 0
D	1	9	by	4	0	by	2	2	1100	29	0 0
E	2	0	by	4	6	by	2	4	1400	36	0 0
F	2	3	by	5	0	by	2	6	1750	43	0 0
G	2	6	by	5	6	by	2	6	2000	50	0 0
H	2	9	by	6	0	by	2	6	2500	60	0 0
I	3	0	by	6	6	by	2	6	3000	70	0 0

TESTIMONIALS.

Re HEATING APPARATUS. Borough Engineer's Office, Municipal Buildings, Leeds. *January* 9, 1886.

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GENTLEMEN,—I have great pleasure in bearing testimony to the efficiency and satisfactory working of the Hot-water Heating Apparatus you erected in these public buildings.

The buildings are four storeys high, and we have a total length of about 28,000 feet of piping in them, varying in size from 1½ in. to 6 in. diameter, with their connections, &c. The several offices and rooms can all be in operation at one time or separately, and the heat regulated by means of the valves to the temperature required, even in the coldest weather.

Two of your Patent Municipal Pattern Boilers, No. 4, work the whole of this piping easily, although we have three of them fixed. They are very powerful and economical in the consumption of fuel, and I am pleased to be able to report of them and the apparatus so favourably.

I am, Gentlemen, yours truly, THOS. HEWSON, Borough Engineer.

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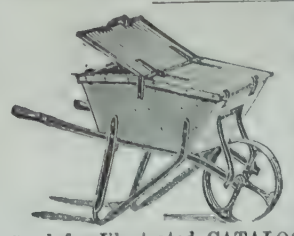

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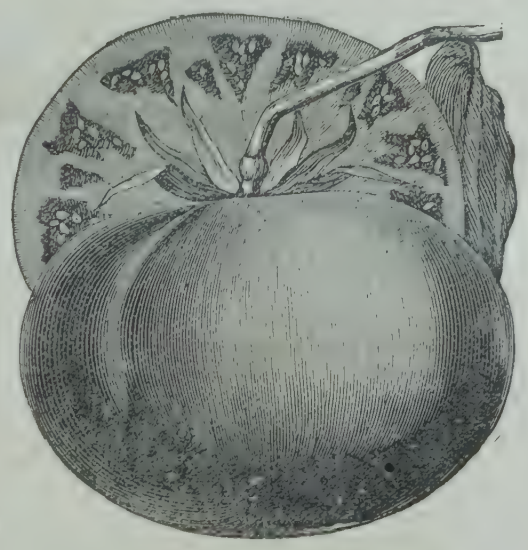

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THE

Gardeners' Chronicle.

SATURDAY, JANUARY 21, 1893.

GARDENS, GRAVE AND GAY.

UNDER this fanciful designation, the Fine Art Society has opened a small but select exhibition of seventy water-colour drawings, by Mr. George S. Elgood, R.I. The interest and permanent value of the catalogue of this exhibition are very considerably enhanced by the excellent prefatory note—which runs into eight pages—from the pen of Mr. Reginald Blomfield. Mr. Elgood has succeeded equally well in his portrayal of the formal and of the natural styles of gardening in this country, although his love for extreme brightness has had the effect of rendering some of his purely floral pictures crude and unnatural.

The artist has been happy in his choice of the examples to illustrate the formal garden in England, for both those at Levens and at Melbourne are highly characteristic of an effete fashion. Each is, however, exceedingly interesting, the architect of the former, which is in some respects Dutch, being a Frenchman, M. Beaumont; whilst the latter was laid out in a purely French design by Henry Wise during the first decade of the last century. Concerning the latter, the prefatory note to the catalogue in question states, "Long alleys with palisades of Limes were formed, and an amphitheatre of Limes, with vistas radiating in all directions from a superb lead urn in the centre. The ground is of irregular plan, but the difficulties are met by the design in a most masterly manner. With the exception of some alterations made about fifty years ago, the original design is substantially perfect, and is a very valuable instance of a garden laid out when the French influence was still dominant in England." Of Levens, of which illustrations have appeared in the *Gardeners' Chronicle*, Mr. Elgood gives us charming little views, first of the formal garden itself with its trained Yews, and full of the work of the topiarist. "A garden place I found well-flowered"; of the dial—one of the best bits of the show and of the Yew arch. The Melbourne pictures deal first with an autumnal view, in which the artist's passion for contrast in colouring is perhaps a trifle too pronounced, the yellows and browns of autumn and the dark green hue of the Yew predominating; and secondly with the "Dark Arbour." Both these examples of the formal garden are essentially characteristic of the eighteenth century, "so strong in intellect, so utterly barren in imagination." Although the formal garden is perhaps dead, beyond the possibility of survival, it undoubtedly presented many features which were not antagonistic

either to good taste or to artistic effect. Its abominations were its clipped Yews and its mazes—features which to the majority of cockney tastes are still the most complete embodiment of high-class gardening. The modern revolt against the formal garden, which was not English, but of Dutch, French, and Italian origin, has, to a great extent, succeeded in sweeping away many features that might well harmonise with the natural style which is now so prevalent, and so much more in accord with English tastes than any of the rule-of-thumb introductions from the Continent.

In spite of the great popularity during the last century of the formal garden, with its trained Yews from Holland, and its statuary from Italy, the old English garden was never quite "snuffed" out, although it more or less suffered from the craze that prevailed for two centuries. Condover, Losely, Arley, and Penshurst are given as illustrations of the old gardens which are essentially English—formal without being artificial. Mr. Elgood's picture of "The Garden House, Arley," is quite idyllic in its exuberant beauty, with the rustic wooden-house covered by a wealth of Virginian Creeper and other climbing plants, of the old-fashioned border gay with the flowers such as Shakespeare loved, and of which our greatest poets have sung. "The Vicar's Garden," too, if a trifle crowded on the canvas with tall gaudy flowering-plants, is just one's ideal of what a vicar's garden should be, and the same may be said of "A Cottage Garden." Mr. Elgood is, as a rule, very successful in his floral portraiture, his "Stocks," "Purple Iris," "Pæonies," and "'The pale Sweet-William ringed with pink and white,'" being remarkably good. But the picture of the "Shirley Poppies" does not accurately represent the negligent kind of beauty which is a peculiar characteristic of these Poppies.

All interested in gardens, ancient and modern, would be well repaid by a visit to the Galleries at 148, New Bond Street, for among Mr. Elgood's exhibition of "Gardens, Grave and Gay," there are many charming views of the Riviera, the Italian Lakes, Verona, Genoa, and Nîmes in Provence, in nearly all of which the floral element is conspicuous and good.

"A View in the Garden at Speke Hall," with the timbered house showing in the background, exhibits some good uses to which the Irish Yew may be put in conjunction with herbaceous borders, the time of year being late summer.

"In a Quiet Hour" we have a tall Yew hedge fashioned like a folding screen, to shelter a zig-zag constructed seat. The idea is not bad; standing alone, as it does, it seems to need a link as it were to some group of trees or shrubs or substantial building.

"Azaleas, Birstall," is a gay delineation of Ghent and Mollis Azaleas, Pontic and other Rhododendrons. With few exceptions, the colours of the blooms are pale.

A curious effect is produced in "The Villa Giulia, Palermo," by the ancient wind-worn, clipped avenue of Cypress, with an incongruous narrow border edged with Box at their foot.

We wonder how our garden designers would like the big red washing-basin-looking plant-pots which contain the Orange trees in the Giardino Giusti, Verona. The Box hedges that go so well with an ancient garden and the slender Cypress, are quite as characteristic of Italy as the washing-basin pots. Grand masses of Opuntias, on the Arbutus Ridge, Mentone, are well delineated, as also the curious effect of contrast of a Peach tree in blossom standing against a background of dark Pine, possibly P. pinea.

The "Lesser Cloister, Certosa," shows excellent use of broad high Box edging, Lilium candidum, Begonias, and Pelargoniums in clumps.

NEW OR NOTEWORTHY PLANTS.

KNIPHOFIA TUCKII, *Hort. Leichtlin.**

THIS new Knophofia has been introduced into cultivation by Herr Max Leichtlin, who has done so much to improve our stock of the garden forms of this genus, of which upwards of forty distinct species are now known, against six only half a century ago. For many years he has been trying to re-introduce K. pumila (Tritoma pumila, Gawler, in *Bot. Mag.*, t. 764). At his instigation, Mr. Tuck recently undertook an expedition to the province of Colesberg, where T. pumila was last gathered by the late Dr. John Shaw. He brought home the present plant, which, although nearly allied to K. pumila (of which we have at Kew fine specimens collected by Burchell), differs from it by its shorter, broader, green leaves, perianth-tube widening gradually from the base to the throat, and less exserted stamens. Practically, it will answer every horticultural purpose which K. pumila fulfilled, as it possesses the same dwarf habit and the same dense raceme of bright red-yellow flowers.

Leaves ensiform, bright green, 1 to 1½ foot long, tapering gradually to the apex, ½ to 1 inch broad, low down, flat, with a prominent keel, distinctly serrated and scabrous on the edge. Pedunc'e moderately stout, shorter than the leaves. Raceme very dense, oblong-cylindrical, 5 to 6 inches long, 1½ inch diameter; flowers deflexed, yellow, at first tinged with red; pedicels very bright short, bracts oblong-lanceolate, scariose, ⅓ inch long. Perianth subcylindrical, ⅝ inch long; tube ⅛ inch diameter at the base, ⅛ inch diameter at the throat, widening gradually from the base to the throat; lobes ovate or oblong, obtuse, ⅙ inch long; stamens and style finally protruded, ⅜ to ⅙ inch beyond the tip of the lobes. *J. G. Baker.*

BEGONIA GLORY OF LORRAINE.

This new variety, figured in the January number of the *Moniteur d'Horticulture*, is the result of a cross effected by M. Lemoine between B. socotrana and B. Dregei. The seeds were sown in March, and the plants flowered in November of the same year. The habit is dwarf and bushy, the leaves more or less lobed, and the flower-panicles profuse. The individual flowers measure 1½ inch, and are of a delicate pink colour, and remain for a long time in good condition. Warm greenhouse treatment is required during the winter. In May or June the plants are placed in the open air, with due precautions, and returned to the greenhouse in the autumn.

A TRAVELLER'S NOTES.

(*Continued from vol. xii., p. 773*)

Batavia, February 6, 1892.—I arrived at Batavia at 10 A.M. on January 29, and left it again by the same vessel on February 6, in the meantime having spent the most interesting eight days I remember since leaving home. The island is very beautiful, and most interesting. One is struck even on the first day with the difference between the Dutch and the English in their colonies. What would be most *infra dig.* in India is done commonly in Java, as one instance, the ladies—all of them—dress as natives.

Buitenzorg.—On January 30 I went up to Buitenzorg, a journey lasting some two hours. Buitenzorg is some 900 feet above sea-level, and is much resorted to by people living in Batavia, some even living there, and going to and fro every day. The hills are not high, but prettily situated; not forming a continuous range more or less of the same elevation as in Ceylon, but low ranges and separate groups.

Tea is cultivated, and the quantity of Rice is extraordinary. Splendidly irrigated, there are miles on miles of it, not only as far as Buitenzorg, but right up to Garvet. The Javanese get three crops in two years, always from the same land. The Cingalese get more, but it is considered the above does not impoverish the land, as may occur in Ceylon. In the island twenty-three kinds of Rice are cultivated, one, I noticed, with black seeds. When young they rather differ in leaf, and I first thought I saw a different grain, but a German I met with, who has been twenty-five years here, tells me Rice only is cultivated. The Rice is sown in beds under water, and comes up very thick. In six weeks from the time of sowing it is pulled up by hand, and pricked out in the vast fields about 6 inches apart. The labour of hand-planting, or, rather, sticking the root downwards in the mud, for it is nothing else, speaks well for the industry of the Javanese.

Bread and Jack fruits are fairly common; Cocoa-nut and Areca Palms are very abundant. Musas and Bamboos, a fine strong variety, are also plentiful. The uses to which the stems of the latter are put to are innumerable. Houses and fences are composed of it; it serves as spouts to water-cans, to hold drinking water, and a smaller stem as a tumbler to drink out of; their bridges are composed of it from the supports to the floors; it is used in their hand-carts, it is eaten in curry, they fish with it, and put it to many other uses.

The vegetation along the railway line is rich. Lantana grows as a thick hedge, as freely as in Ceylon, but the Palms are nothing like so rich, nor do I think is the general vegetation. We passed over a good many waterfalls, sometimes hundreds of feet below us, and now pretty full, as it is the rainy season. It is hot, thermometer ranging from 80° to 86°. The early morning and evening, in each case then for about an hour, is the only pleasant time.

Coffee and salt are government monopolies. This appeared to me strange, but it is explained in this way: all rich virgin land the government acquires, and as it does not pay to plant on poor soil; a very considerable revenue is acquired in this way. A good deal of Tea is planted, though I saw but two big plantations, and met the owner of one. He told me that during a drought last year, which lasted seven months without a drop of rain, he lost 1,000,000 plants. John Chinaman is represented in Java, but not to such an extent as at Penang and Singapore; the Dutch do not encourage them—perhaps they are wise—it is certain in some things they have ousted the English in Penang, being content with smaller profits; more particularly is this the case with spices.

Buitenzorg Botanic Garden.

The Botanic Department in Java has three places—a mountain garden, some 50 acres in extent; an agricultural garden, about 2½ miles out of Buitenzorg, some 200 acres in extent; and the scientific garden at Buitenzorg, 90 acres in extent. The last is severely scientific and very thorough. It is laid out in plots on undulating grounds on the banks of a small river; the plots are irregular in shape and size, and divided by small paths of small round stones—owing to the heavy rain, no other kind of path could stand. These stones are stuck into the earth on end, and though they answer the wished-for end, are not pleasant to walk upon.

In the corner on each of these plots, and facing the paths, are wooden posts about 4 feet high, painted white. On these in plain black letters are the names of the order or orders represented in that particular quarter. Of each genus, each species is represented by two specimens, one of which has a good large white label with its name clearly painted thereon in black, whilst both have leaden labels nailed to their trunks, should the wooden one be lost. On the leaden label is a number corresponding to a numbered catalogue.

The garden has existed seventy-five years, and was arranged in the above-described manner fifty years ago, thus nearly every specimen is a tree, and as one turns from plot to plot, and from order to order, one looks through a small forest of trunks. If a specimen of foliage is required for comparison, a man has to go up the tree and get it.

The house of the Governor-General of Java is in the garden, and there are some pretty points round it: in front is a large pond, with two arms, one filled with Victoria regia in flower, with many dozen fine leaves, some developed, some in their prime, and some decaying, all touching each other, as one sees in pictures from South America. I have never seen it so fine as on this pond.

The other arm is filled with a white Nelumbium, flowering freely, its large flowers, pointed buds, and flat-headed seed-receptacles, standing on a stalk sometimes 3 feet out of the water; its foliage

* *Kniphofia Tuckii*, Hort. Leichtlin.—Foliis ensiformibus acuminatis viridibus pedalibus vel sesquipedalibus margine scabris serrulatis; pedunculo foliis breviori; racemo densissimo oblongo cylindrico; pedicellis brevissimis; bracteis magnis scariosis oblongo-lanceolatis; floribus deflexis rubro-luteis; perianthio 7—8 lin. longo, tubo e basi ad oram sensim ampliato; genitalibus exsertis.

is very thick, and forms a splendid mass. In the centre of this pond is an island with bushes of Duranta Ellisii, their long bunches of golden yellow seeds hanging thick to the water's edge, a lovely sight; as well as some fine Acalyphas and tall Cyrtostachys Renda, with its pretty scarlet leaf-sheaths.

From the Governor's house to the entrance, runs a fine avenue of Canarium commune, forming a lovely tunnel some 80 feet high. The stems of these Canariums are covered with creepers in the wildest profusion; some parts of some of the stems are quite hidden. Pothus aurea, with a stem sometimes 2½ inches in diameter, clings with extraordinary tenacity, ascending and encircling the trunk in a corkscrew-fashion, its fine, highly-coloured leaves hanging down on all sides; Philodendrons and Anthuriums grow with equal freedom, their rich glossy foliage producing a fine effect. Hoyas are creeping up some, but were not in flower; Asplenium nidus was most common in this avenue, high up in the forks of the branches and encircling the main stem itself. Near this avenue are Dr. Treub's house, offices, laboratory, nursery, and gas-engine.

Another small avenue of Oreodoxa regia leads from the Governor's house to the main road of Buitenzorg. These trees are yet young; there are finer specimens of this Palm in the garden. Behind this are some magnificent Bamboos, 50 to 60 feet high, and many yards in diameter, gracefully drooping over; and a fine avenue of Livistona, chiefly rotundifolia and ovalifolia, many of the stems not less than 90 feet high. It produces a very curious effect, these long straight stems with the small tuft of leaves on the top. This avenue is one of the finest sights in the garden. On one side, the stems, all of them, to about 12 feet from the ground, are covered with the purple-flowering Ipomœa, blooming freely. This avenue leads from an entrance in the main road past that portion of the grounds set aside for the collection of Rattans, on to the nursery, offices, &c. On one side of it are young Palms, species lately received, and there planted, as the original Palmetum is now full.

On the other side in the centre of a large grass plot, relieved by an edging of purple-leaved Oxalis, is a plain small red stone obelisk, on the base of which in gold letters are suitable words stating it to have been erected to Johannes Elias Teysmann. Round the oblong grass plot is a narrow path and beds filled with China Roses in good condition, whilst at one end is a thick impregnable bank of Bamboos.

The collection of Rattans is most interesting. Care is necessary in walking through as the young shoots armed with their short rows of strong sharp thorns, half circular in shape, hang down in all directions. The main stems twist and curl over themselves and over each other, like long snakes all over the ground, and often up the stems of the tall Cedrelas, which shade them. Tall Oreodoxas, O. oleracea in particular, with the stem not less than 90 feet high, like the barrel of a great cannon, and almost as straight and smooth as a lead-pencil, as well as many Arecas, Cocos, and other Palms edge this interesting Rattan enclosure. One of the Cocos, C. oleracea, with leaves strong and stiff, from 25 to 30 feet long was a fine sight. With one or two other Palms near the Governor's house, and an avenue, a short one, but still a veritable tunnel of the same strong-growing Bamboo, the ornamental portion of the garden may said to have been exhausted, and I will now give some little idea of the main portion.

Before entering by the chief entrance is a fine Amherstia, some 40 feet high, a very good specimen, not now in flower, but its long young brown leaves render it still very pretty. Near this on the stem of a Canarium commune, some 4 feet from the ground, is a fine Grammatophyllum speciosum, with forty-six spikes of flower, some with twenty-four open flowers and many more buds to follow; the piece is about 15 feet through, some of its stems being 9 feet long—it was a splendid sight.

On entering the gardens, by far the major portion lies on one's right. The first order one comes to is the Leguminosæ, with some fine trees. Though not now in flower, its Bauhinias, Amherstias, Browneas, and Poincianas, must make a fine show in their season.

Descending a short hill, one soon espies all kinds of Pandanus, their tall, crooked, naked stems, with short tufts of stiff leaves on the top, being sometimes 30 to 40 feet high. This order—Pandaneæ—is certainly a remarkable one to look at. Opposite these is the collection of Cycads—not large, but wonderfully even specimens; whilst on the other side of the path are the Orchids, which Dr. Treub says do not do well. They are nearly all attached to the stems of living Plumieria acuminata, mentioned in my former letters as producing a flower sacred in India. Probably the best amongst these Orchids are Bulbophyllums, some Dendrobiums, and

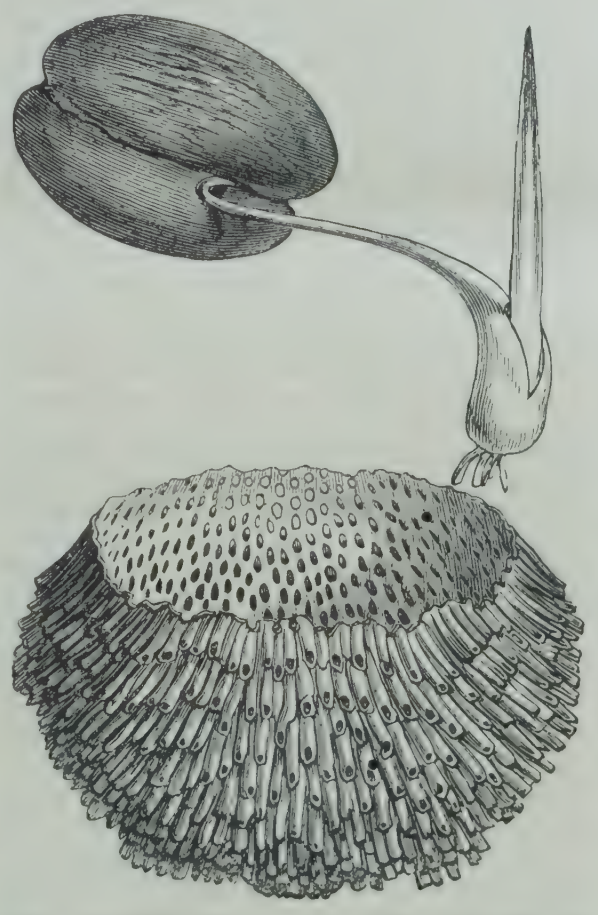

FIG. 12.—GERMINATION OF THE DOUBLE COCOA-NUT AND CUP-LIKE BASE OF THE FULL GROWN STEM (BOTH GREATLY REDUCED).

certainly the Cœlogynes. Erias are good, but Saccolabiums and East Indian Orchids are weak.

The Palmetum is next reached. Dr. Treub tells me, next to Kew, he believes Buitenzorg has a greater number of Palm species than any other botanical garden in the world, and here are

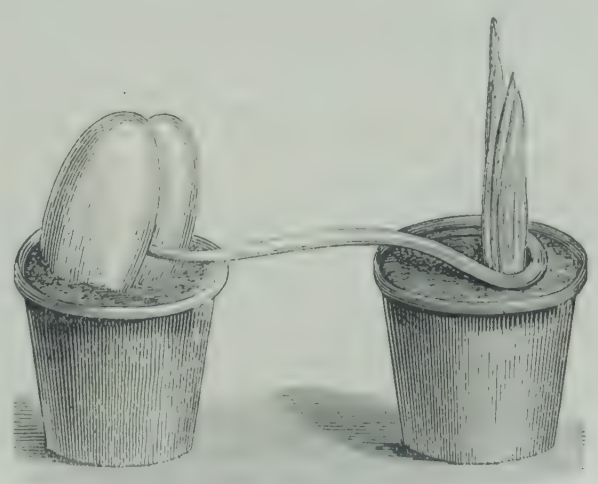

FIG. 13.—GERMINATION OF THE DOUBLE COCOA-NUT AT KEW (MUCH REDUCED).

some fine plants—wonderfully handsome specimens. Amongst the most noticeable is a noble tree of Corypha australis with a stem 3 feet through, and some 35 feet high, with a fine head of its immense palmate leaves. Cyrtostachys Renda is finer here than I have yet seen it—35 feet high—with wonderfully straight stems, and heads of stiff leaves, like Areca lutescens, but the leaves are shorter and stiffer; its red leaf-sheaths are very striking from a distance.

There are also, on the slope towards the river, some fine Attaleas—particularly one, an A. macrocirna (?), with a stem some 36 inches in diameter. Its leaves are between 20 and 25 feet long, forming a splendid spreading head; in their axils are the thick bunches of seed, each as large as an ordinary-sized Plum. Phœnix sylvestris is remarkably pretty; its spreading canopy of leaves is regular and thick, the lower one gracefully drooping over. There were some about with tall stems, varying in height.

Amongst the Oncospermas were some fine specimens, their numerous stems rising from a common base to a great height, with good heads of leaves, some ascend as much as 80 feet; their foliage is both fine and graceful. Caryotas, Phœnix, Borassus, Oreodoxas, and Arecas, many with their bunches of drooping red seeds, are well represented, as well as the various kinds of Cocos, one of the finest of which is another C. oleracea, with a stem 2½ feet in diameter, and a splendid head of thick leaves. Dr. Treub has a fine Lodoicea seychellarum, not so big as Dr. Trimen's, but nearly so; its leaves are 10 feet broad, magnificent, and very hard; when the stalks are tapped with a walking-stick, it is like tapping iron. Metroxylon elatum is a curious Palm; its strong, stiff stalks have circular, always slightly ascending lines of brown hairs; added to this peculiarity, it is a pretty Palm in itself.

Near the Palmetum is another very interesting order—the Coniferæ. Araucarias are well represented; A. excelsa will not thrive here, but Bidwilli and Rulei, some 20 feet high, are good amongst others. Small Cupressus Knightii, and some larger C. Goveniana and funebris, nearly 30 feet high, are pretty. Junipers and Dacrydium elatum also do well. There is also a handsome Podocarpus, P. polystachyus, with leaves 8 inches long, in the way of our P. macrophyllus, but stronger. Two of the finest trees in the Coniferæ are Pinus macrophylla and Dammara alba; both splendid trees, some 60 feet high. Dr. Treub is particularly proud of the latter; it certainly is wonderfully even and handsome.

The fernery under thick shade is a wonderfully pretty place; tall Tree Ferns, with their long, graceful fronds, as well as the dwarfer Nephrolepis, Onychiums, Scolopendriums, Nephrodiums, Microlepias, and others, are doing well.

There are but few flowering plants to be seen in the whole place; an exception to this are the Pavettas (Rubiaceæ). There is a large collection of these, many bearing their Ixora-like heads of bloom.

Beyond the palmetum, Dr. Treub pointed out a large semicircular piece of ground on the river bank, full of only rough stones and boulders, with a little coarse grass, and a bed of Cereus, Opuntias, &c. He told me during a very heavy rain-storm the river had overflowed, and so sudden and great was the rush of water, that the side of the slope was washed clean off. Nothing but these Mexican plants will now grow there.

The collection of Figs (some with fine stems) is very large, and the Euphorbiaceæ is an extensive order, well represented. Probably some of the finest trees are in the tropical order Dipterocarpeæ; but, as I have said, being all more or less fifty years old, you can well imagine there are some fine trunks to be seen. Of the heads one seldom gets a clear view, as all are planted in the quarter amongst many others belonging to their order.

The herbarium of tropical plants is most complete, and in course of revision, a most arduous task. Owing to the dampness of the climate, all dried specimens are enclosed in tin cases opening outwards and painted black. Beneath this, on the ground floor, is a museum of economic products, all carefully arranged and labelled in glass cases. One contains all kinds of fibres, others seeds, gums, rattans, oils, guttaperchas, and barks. This museum is a very interesting place.

Outside this is a laboratory at the disposal of the analyst. Here, arranged in glass bottles, are plants, and the various parts of plants, all reduced to powder, ready for experiment.

The library contains many fine works, and receives the scientific journals of every society of note in Europe. From time to time Dr. Treub also purchases rare and valuable works. The gardens publish three journals, one a practical one in Dutch, and one scientific, in which the articles must be in French, German, or English—Dutch is excluded. Dr. Treub tells me all plants, with the exception of ornamental ones, are given away free to applicants; but ornamental ones are only given in exchange—no

money is ever taken for anything from anybody. The temperature at Buitenzorg varies all the year round from 73° to 86° F., and the rainfall is between 4 to 4½ mètres. The offices are fairly extensive. In the office work Dr. Treub has two Europeans to assist him, his post being from twenty to thirty letters a day.

But the most interesting thing in Buitenzorg is the system and the thoroughness of the whole concern. The staff Dr. Treub has at his disposal includes twelve Europeans—all (with the exception of one, German) Dutch, and five of whom are doctors of science. These thirteen in all have six departments—scientific and practical. At the disposal of the scientific portion is a large well-fitted-up laboratory. All instruments, &c., necessary to pathology, physiology or bacteriology are here, and a gasometer filled with gas made from petroleum, has been recently erected. This gas is not used for lighting purposes, but for creating excessively high temperatures and other scientific purposes. There is also a fine dark room, and another close by with a large camera for scientific and photographic purposes. In the large laboratory are five tables at the disposal of any Dutchman or foreigner desirous of following a course of study at Buitenzorg. There are usually three or four availing themselves of this privilege—now there are five, including an Oxonian. Germans are those who usually come, often with a grant from some scientific society. Holland gives a biennial grant for one man, and at the present time there is a professor here with a grant from an Austrian society. The usual method is to have six months—a month for the journey each way, and four months to work at Buitenzorg. All is free—tables, instruments, an extensive library—in fact, everything. *James H. Veitch.*

(To be continued.)

A SYNOPSIS OF THE SPECIES OF CANNA.

(Continued from p. 43.)

4. C. COCCINEA, Miller, *Gard. Dict.*, edit. viii. (1768), No. 3; Rosc., *Scit.*, t. ii. *C. rubra*, Willd. Stem slender, green, 4 to 6 feet long. Leaves oblong, acute, longer than those of *C. indica*. Inflorescence a lax simple raceme; bracts small, green, orbicular. Sepals lanceolate, tinged with red, ⅓ to ½ inch long. Petals lanceolate, tinged with red, 1½ inches long. Upper staminodia three, oblanceolate, often distinctly emarginate, 2 inches long, under ¼ inch broad; lip red-yellow, distinctly emarginate. Capsule globose, small.

Var. C. SYLVESTRIS, Rosc., *Scit.*, t. 10. Upper staminodia longer, with a long claw like the emarginate lip, plain deep crimson.

Hab.—Widely spread in tropical America. Here apparently belong *C. cinnabarina*, *fulgida*, *formosa*, *portoricensis*, and *surinamensis*, of Bouché. We have at Kew an excellent unpublished drawing of *C. sylvestris* made by J. Curtis in 1819. *J. G. Baker.*

5. C. LATIFOLIA, Miller, *Gard. Dict.*, edit. viii. (1768), No. 2; Rosc., *Scit.*, t. 4. *C. gigantea*, DC., in *Red Lil.*, t. 331; *Bot. Mag.*, t. 2316; *Bot. Reg.*, t. 206. *C. macrophylla*, Bouché. Stem stout, pubescent, reaching a length of 12 to 16 feet. Leaves oblong, acute, green, the lower ones reaching a length of 3 to 4 feet. Inflorescence a panicle formed of several lax racemes; final bracts oblong, green, ½ inch long; lower branch-bracts brown, scariose, reaching a length of 6 to 8 inches. Sepals oblong, green, ½ inch long. Petals lanceolate, tinged with red, 2 inches long. Upper staminodia three, oblanceolate, bright red, 2½ to 3 inches long, ¼ inch broad, entire or emarginate at the apex; lip plain bright red, distinctly emarginate. Capsule much larger than in *indica* and *orientalis*.

Hab.—Venezuela, *Moritz*, 1714! Andes of Bogota, alt. 8000 feet, *Triana!* Here, according to Horaninow, belong *C. neglecta*, Weinm. and *C. gemella*, Nees.

6. C. HELICONIÆFOLIA, Bouché, in Linn., viii., 164. Stem 6 to 8 feet long. Leaves oblong, resembling those of *Heliconia Bihai*, thin, papery, green, the lower 2 to 3 feet long, above 1 foot broad. Inflorescence a panicle of several lax racemes. Sepals lanceolate, above ½ inch long. Petals lanceolate, coloured, ½ inch long. Upper staminodia three, oblanceolate, scarlet, not much longer than the petals; lip the same colour. Capsule large, ellipsoid.

Hab.—Mexico, valley of Cordova, *Bourgeau*, 1871. I have no material for separating *C. xalapensis*, Bouché.

7. C. PEDUNCULATA, Sims. in *Bot. Mag.* t. 2323; Rosc. *Scit.*, t. 8. *C. Buckii*, Weinm; *C. reflexa*, Nees. Stem slender, green, glaucous, glabrous, 5 to 6 feet long. Leaves oblong-lanceolate, green, glaucous, the lower 1½ to 2 feet long, 3 to 4 inches broad at the middle. Inflorescence a many-flowered lax raceme, with a hairy rachis, and long erecto-patent pedicels to each flower; bracts small, oblong, obtuse. Sepals oblong, small, green. Petals lanceolate, green, reflexing, 1 inch long. Upper staminodia three, oblanceolate, pale yellow, emarginate, 1 to 1¼ inch long. Lip oblanceolate, plain yellow, emarginate. Capsule small, globose.

Hab.—South Brazil, *Glaziou* 898! Very distinct, but not worth cultivating either for its leaves or its flowers.

8. C. LAMBERTI, Lindl., in *Bot. Reg.*, t. 470 (excl. syn.), Rosc. *Scit.*, t. 2.—Stem stout, green, glabrous, reaching a length of 12 to 14 feet. Leaves oblong, green, acute, the lower 1½ foot long. Inflorescence a lax few-flowered simple or forked raceme. Bracts large, oblong, green. Sepals lanceolate, pale green, ½ inch long. Petals lanceolate, 2 inches long, much tinged with red. Upper staminodia three, oblanceolate, bright crimson, entire, scarcely longer than the petals, ½ to ¾ inch broad. Lip plain, bright crimson, entire. Capsule oblong, 1½ inch long.

Hab.—Introduced into cultivation from Trinidad in 1820 by Mr. A. B. Lambert. Dominica, *Imray*, 423! Represented in the gardens of to-day by the form called *Revoil Massot*. I have no material for separating *C. Poeppigii*, Bouché, a native of the Upper Amazon region.

9. C. EDULIS, Ker, in *Bot. Mag.*, t. 2498; *Bot. Reg.*, t. 775; Rosc., *Scit.*, t. 5; Bentley and Trimen, *Med. Plants*, t. 266. *C. esculenta*, Lodd. Rootstock large, tuberous, edible. Stem stout, purple, reaching a length of 8 to 12 feet. Leaves oblong, green, or bronzed, the lower 1½ to 2 feet long. Inflorescence a lax simple or forked raceme; flowers usually in pairs; bracts oblong or orbicular. Sepals oblong-lanceolate, tinged with red, ½ inch long. Petals lanceolate, 1½ to 2 inches long. Upper staminodia three, oblanceolate, plain bright red (rarely orange-yellow), entire or emarginate, 2½ inches long, ⅓ to ½ inch broad; lip bright red or red-yellow, emarginate. Capsule much larger than in *C. indica*.

Hab.—Tropical America. Our Kew specimens are from Peru, South Brazil, and Uruguay, but its native area is quite uncertain. From its rootstock is procured the Canna starch, or *Tous les mois*, and it is grown in the Paris parks for the sake of its foliage. I have seen cultivated specimens from Madeira and the Friendly Islands, but not from St. Kitts, or any of the West Indies. Lambert raised it from seeds that were taken from a herbarium specimen of Pavon, which was thirty years old. It is called Achiras in Peru.

10. C. FINTELMANNI, Bouché, in *Linn.*, xviii., 487; K. Koch, Allg. *Gartenzeit.*, 1858, 358, with coloured figure. Stem green, glaucous, 4 to 5 feet long. Leaves oblong, acute, green, glaucous; the lower a foot long. Inflorescence, a lax, few-flowered, simple raceme; bracts green, oblong. Sepals oblong, green, ⅓ inch long. Petals lanceolate, pale green, 1½ inch long. Upper staminodia three, oblanceolate, obtuse, entire, plain bright yellow, 2½ to 3 inches long, ½ inch broad; lip oblanceolate, entire, yellow mottled with red. Capsules larger than in *C. indica*.

Hab.—Probably Tropical America, if it is not a garden hybrid between *glauca* and *indica*. *C. Schlechtendahliana*, Bouché, placed next to this, has the upper staminodia spotted with red. The form called *Guillaume Coustouy*, figured in the *Gartenflora*, t. 1203, matches the description.

11. C. GLAUCA, Linn., [*Sp. Plant.*, 1 (excl. syn.); Smith, *Exot. Bot.*, t. 102; Rosc., *Scit.*, t. 7. Stem green, glaucous, reaching a length of 5 to 6 feet. Leaves green, glaucous, oblong-lanceolate, very acute, the lower 1½ foot long, about 4 inches broad at the middle, tapering gradually to the base. Racemes lax, simple or forked. Sepals lanceolate, green, ½ inch long. Petals lanceolate, yellowish-green, 1½ to 2 inches long. Upper staminodia three, pale yellow, unspotted, entire, 2½ to 3 inches long, ½ to ¾ inch broad; lip linear, pale yellow, emarginate. Capsule oblong, 1½ to 2 inches long.

Hab.—Throughout Tropical America, from Mexico and the West Indies to Peru and La Plata. It is the Albara of Piso's book on the *Economic Plants of Brazil*, published in 1648, and *C. angustifolia*, Linn. as regards the plant of Morison, from which the specific name is taken. Here also belong *C. stolonifera*, *mexicana*, and *longifolia* of Bouché. Linnæus confused it with *C. flaccida*, Salisb., which belongs to another subgenus. *J. G. Baker.*

(To be continued.)

THE ROSERY.

GOOD ROSES FOR THE GENERAL CULTIVATOR.

THE number of Roses that are at the present time catalogued bewilder many a would-be purchaser selecting his varieties for a good collection, for after having read a catalogue over and over again, he at last makes up his mind as to those he will purchase, but do they turn out to his expectation, and give entire satisfaction? Some may, others will not do. Much of this disappointment with purchases could be remedied by informing the nurseryman the situation of the garden, the nature of the soil, and if the Roses are for outside, or for the greenhouse, or Rose-house. The same advice applies to the purchase of Roses for forcing, on which subject I may at a future time have a few remarks to make. The following list of varieties are, I think, still worthy of a place in most gardens; and, although they are old, may be depended on to give good results. Twenty-four hybrid perpetuals suitable for standards or bushes: — Alfred Colomb, bright carmine-red; Baroness Rothschild, very light rosy-pink; Beauty of Waltham, bright rosy-crimson; Boule de Neige, purest white; Charles Lefebvre, fine bright red, shaded; Dr. Andry, bright red, shaded crimson; Duchesse de Morny, clear light rose; Duke of Edinburgh, rich vermilion; Duke of Teck, very light crimson-scarlet; Dupuy Jamain, bright cherry-rose; Earl Dufferin, rich velvety-crimson; General Jacqueminot, brilliant velvety-red; John Hopper, fine rosy-crimson; La France, silvery-peach; Madame Gabrielle Luizet, light silvery-pink; Madame Lacharme, pure white; Madame Victor Verdier, vivid carmine; Magna Charta, bright pink; Marie Baumann, light crimson-red; Marquise de Castellaine, pure rose; Merveille de Lyon, white, slightly tinted; Monsieur Boncenne, blackish-crimson; Prince Camille de Rohan, very dark crimson-maroon; Sénateur Vaisse, showy-red.

Six best varieties for walls, with south, south-eastern, or south-western aspects:—Gloire de Dijon, Tea, yellow, shaded salmon; Reine Marie Henriette, H.T., deep carmine; Cheshunt Hybrid, H.T., cherry-carmine; W. Allen Richardson, Noisette, orange-yellow, beautiful in bud; Celine Forestier, Noisette, rich sulphur-yellow, requires light pruning; Maréchal Niel, Tea, golden-yellow, but best indoors. And a few of the hardier Teas for dwarfs and standards:—Gloire de Dijon, Tea, yellow, shaded salmon; Grace Darling, H.T., white, shaded rose—good; Francesca Kruger, Tea, copper, shaded yellow and rose; Madame Lambard, Tea, bright rose; Niphetos, Tea, pure white; Marie Van Houtte, Tea, yellowish-white—edge of petals rose.

Six climbing Roses, suitable for covering old trees, arches, &c., all being rapid growers:—Alice Gray, Ayrshire, white, edged pink; Félicité-Perpétue, evergreen, creamy-white—beautiful; Polyantha simplex, single immense bunches of white flowers; Polyantha grandiflora, single white large flowers, 3 inches across; The Garland (hybrid Musk), nankeen and pink—large bunches; Splendens, Myrrh-scented, white, edged with red. *W. T. C., Kingston Hill.*

PHALÆNOPSIS CULTURE.

This genus of Orchids is seldom taken in hand by small growers, probably owing to the prevailing belief that other than professional orchidists have no success with it, and it is for the encouragement of those who are not Orchid specialists, that I venture to write a few notes on the culture of these beautiful plants. There exist some grounds for the opinion generally held respecting the difficulty of managing Phalænopsis, and to keep them in good health even for only a few years, and one is, that few gardens have special means provided for the accommodation of the plants; still they may be grown with a fair amount of success in an ordinary plant stove with the other plants, by paying attention to their simple requirements. And as an illustration of this fact, I will jot down some particulars of their culture on a limited scale, that is, with twelve plants that are under my charge.

These plants were bought in the spring of 1887, when they were very small, and growing in pans, and although there is now nothing remarkable about them, they are nevertheless satisfactory, considering the circumstances under which they are grown. The best plants are P. amabilis, with eight healthy leaves, the largest being 13 inches long by 4 inches wide, and having at the present time a spike with fifteen flowers; P. Schilleriana, with six leaves, the largest of which is 15½ inches by 4¾ inches; and P. Stuartiana with eight leaves, the largest being 15¾ inches by 4 inches. These last two plants are now pushing strong flower-spikes, as are also most of the others. The smallest is a plant of P. violacea with five healthy leaves.

The house in which the plants are grown is half-span, with a walk along the back, and in the front a bed of ashes on which Palms, and other ornamental-foliage plants are arranged, while two shelves overhang the path, and are filled with Calanthes. A water-tank with an open dipping-space is placed beneath the end of the bed, and it is over this open part of the tank that the Phalænopsis are suspended at a distance from the glass of about 2½ feet, the remaining portion of the roof being occupied by plants of Nepenthes.

In February, 1888, the plants were taken from their pans, their roots washed well by means of the syringe, and then placed in baskets of Teak, which they still occupy. Pieces of charcoal, clean crocks, and sphagnum were the substances used as a rooting medium, and in February of each year the sphagnum, and such particles of crocks and charcoal not fixed to the roots, are carefully removed, and replaced with fresh, after the roots, &c., have been thoroughly cleaned with tepid water, and a top-dressing of sphagnum-moss is again afforded them in August. Although the most healthy roots are found where they are exposed to the light, and either clinging to, or hanging from the baskets, constant care is exercised to prevent the direct rays of the sun reaching them, and for this reason the first shade over them is a constant coating of "Summer Cloud," and it is moreover, covered with canvas when the sun shines. No point connected with the culture of these lovely plants is more important than that of shading, and any slight carelessness in attending to it may bring about the ruin of the plants. Watering is another matter of vital importance, and our plants are examined each morning, and twice in a day during very dry weather, when, if the sphagnum, &c., is found approaching dryness, the baskets are lifted down, and plunged in tepid rain-water. The foliage is never syringed, but atmospheric moisture, more or less, is always maintained in the house, and regulated according to the conditions of the weather, for indiscrimination in this respect would work much mischief, by causing spot, if the amount of moisture were excessive; and, on the other hand, injury will soon accrue from the contrary, the Phalænopsis, unlike many Orchids, having no pseudobulbs in which to store a reserve of sap—consequently, it readily suffers from the effects of evaporation. In order to counteract the possibility of injury arising from a sluggish moist atmosphere, a circulation of the air is brought about by means of small pipes placed at intervals along the apex of the roof at the back and front walls of the house, those in the last named, which abut on the flow ripe of the warming apparatus, being left constantly open, while the others are closed during the winter. Ordinary stove temperature is kept, that for the night in winter being 60°, except in severe weather, when it falls to 55°, the blinds at such times being run down to save fuel, and lessen the evil effects of much artificial heat.

The Phalænopsis sometimes becomes enfeebled if allowed to go on flowering unchecked in the free way that seems natural to the plants, and it is therefore advisable to rest any plants which appear to be exhausted from this cause, by rubbing off the flower-spikes as soon as they appear for a season. I have adopted this practice with much advantage to the plants, and have likewise observed the benefit derived through cutting off the spikes as soon as their blossoms have expanded, instead of leaving them for a time upon the plants. I cannot help thinking that very little, and what to some may appear insignificant, circumstances, have much to do with the welfare or otherwise of many plants, particularly those of a sensitive nature, such as the Phalænopsis. The fact of the plants described above being over a water-tank (which I may mention has no pipes in it), and which is placed at the north end of the house, and therefore is not reached by powerful sunshine at any time, has a great deal to do with their good condition. This belief was strengthened lately by the following remarks of an "old hand," distinguished for his knowledge of Orchids. "Oh! I have before noticed the Phalænopsis doing well in gardens where least expected, and *vice versâ*. What apparently trivial thing do you think you have to thank for the welfare of these plants?" The position was the answer. "Yes, just so, the tank." I cannot, however, accept the first remark as a compliment; although it was good-naturedly passed. I should have been more pleased if something good to be seen had been expected here. *Nemo.*

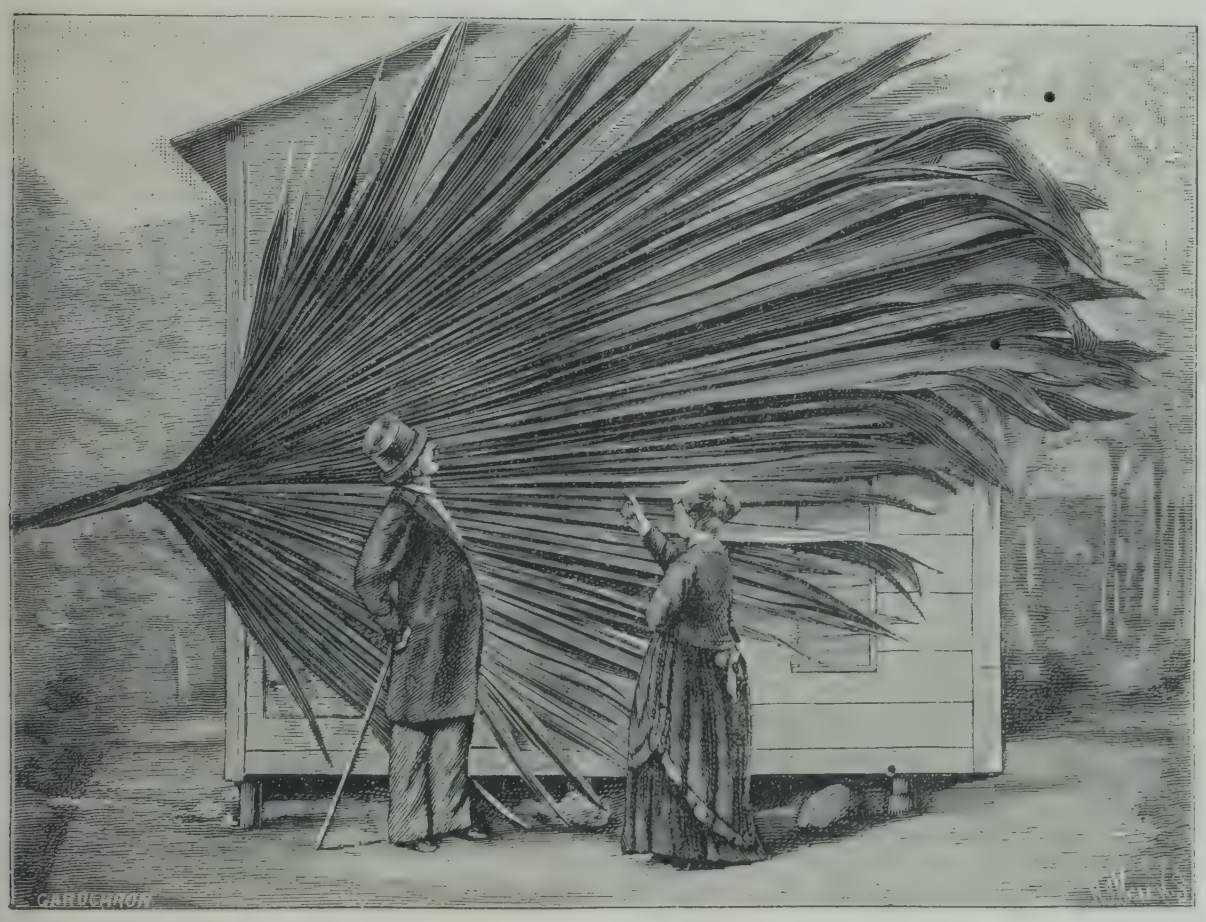

Fig. 14.—Leaf of the double cocoa-nut, illustrating its dimensions. (see p. 74.)

VEGETABLES.

LAXTON'S CHOU DE BEDFORD.

This new variety of Borecole, which is to be introduced this season by Mr. T. Laxton, Bedford, I have already tried, and I find it to be excellent, in fact, superior to other kinds of winter Greens which come into use at the same time. The seed was sown with those of ordinary winter Greens, and the plants grown under similar conditions. The plant grows vigorously in rich soil, and requires ample space to develop properly. It produces heads in the form of a large loose Cabbage, which, when properly cooked, are of delicious flavour, as are the footstalks of the outer leaves of the head. In my opinion in this respect it is unsurpassed by any other kindred subject of its class which comes into use at the same season, namely, during the autumn and early winter months. [Couve tronchuda? Ed.] So far as my experience goes with it, it appears hardy, and likely to produce sprouts later on; it will, I believe, be an indispensable subject in most gardens when it becomes known and tested. *G. T. Miles, Wycombe Abbey.*

THE APIARY.

WRAPPINGS.

Warmth is all-important to stock directly brood rearing is started by the bees, and any help that can be afforded them in keeping up the internal temperature of the hive in the breeding season will be a gain to the colony. For this purpose existing wrappings should be increased in thickness at an early date. Various materials are brought into requisition to serve for wraps, but anything composed wholly or in part of wool is the best.

Entrances.

Entrances to hives should be looked to, and kept clear of accumulated rubbish and dead bees. A piece of bent wire is the handiest thing to use for the purpose, and can be passed in without disturbing the colony. Skeps with their usually small entrances are more likely to get completely blocked than frame hives, and it is a real source of danger, as bees often get suffocated from this simple cause.

Candy Feeding.

Candy is the only permissible food at this season, and it is only those stocks that have been neglected that will require artificial feeding for some weeks to come. Should any stock be short, which can be

ascertained by turning back the quilt and examining the combs, or by feeling the weight of the hive, a 2-lb. cake of candy should be placed over the cluster.

INDOOR PREPARATIONS.

This is the time when all plans should be thought out, and decided on, for carrying out next season's work, and every article likely to be required got in readiness. It has been truly said that in beekeeping everything must be done at the proper time, and that to do otherwise is to give success away. If, therefore, appliances are not to hand, and cannot be procured at the moment they are required, when honey is coming in, it is impossible to act on this truism. A list should be made of such things as brood and super foundations, sections, frames, excluder zinc, &c., which should be ordered as soon as possible. When these come to hand, the work of fitting the foundation in frames and sections can be proceeded with, the latter being then put into the crates, two of which must be provided for each hive intended to be worked for comb honey.

EXCLUDER ZINC.

A prejudice appears to exist with many bee-keepers against the use of queen-excluding zinc. It seems to be the impression that it acts as an impediment to the working of the bees. Opinions having been expressed that they lose time in passing through the perforations, and that they must of necessity knock the pollen pellets off their legs. The best way to dispel these ideas is to place a piece of the zinc over the entrance of a populous hive, and watch the result. It will be found that after a short time the bees will pass in and out of the hive as expeditiously and safely as before. Having proved this much, it will be found to be a good plan to use excluder zinc in all hives, whether worked for comb or extracted honey. In the case of the former, in addition to keeping the queen below, it will be a distinct advantage to have the bottoms of the sections free from attachments to the tops of the frames, and will make it much easier to lift up the crate when it is required to remove it it, or to slip a super-clearer underneath. *Expert.*

THE WEEK'S WORK.

THE ORCHID HOUSES.

By W. HOLMES, *Gardener, Pickering Lodge, Timperley.*

GENERAL REMARKS.—Work is not pressing at present; we are busy sponging and cleaning Cattleyas and Lælias, which I prefer to do rather than wait till the plants are in a more active state, there being now less danger of injuring the plants, as the pseudobulbs are matured, and the plants are resting. The cleaning of Orchids during growth is productive of much mischief to roots and new growths. I employ soapy-water only, and when cleaning a Cattleya plant, the sheaths embracing the pseudobulbs are not pulled off doing this, injuring and disfiguring the plant. When a plant is infested with white scale (Aspidiotus sps.), the pseudobulbs can be cleaned by a careful man without stripping off the sheath, using a soft brush and pointed wooden peg. If this species of scale insect be not well searched for at this season, it will greatly increase when the plants commence to grow. Having cleaned the plants, the pots should be washed, and the house put in good order. Cattleya Trianæ and C. Percivalliana will require a little more water now, which will be of assistance to them in opening their flowers.

THE MEXICAN-HOUSE will be made gay with the flowers of Lælia anceps, dark and white varieties. Lælia anceps Dawsoni still holds its own, with the exception of L. anceps Schroderiana, which, in my opinion, is the finest white-flowered Lælia. L. anceps Sanderiana is another good white form. Our white varieties are flowering more freely this season than previously, and I think we are either beginning to understand their needs, or they are getting acclimatised. Another fine Lælia is Gouldiana, which should be in every collection. The Mexican-house here makes a capital show-house at this season, and in it are grown Cœlogynes, Lælias, Cymbidiums, and Sobralias, with plenty of green foliage to set off the flowers. Any species of Orchid or stove plant can be placed in this house with safety, and we place Cattleyas, Calanthes, Odontoglossums—in fact, anything, as the house is kept rather dry, and will be so kept for some little time longer. The Cœlogynes must be watched, and not allowed to shrivel for want of water; their flower-spikes will now be so far advanced as to be almost out of danger from damp, and when they have arrived at this stage, a heavy watering will assist the plants to push up the flower-spikes. I prefer this house for showing off flowering plants rather than usual show-houses, which are, I think, very injurious to Orchids, for the simple reason that when there is a good show, gardeners are apt to forget the well-being of the plants, and allow the flowers to remain on them for too long a time. It is better to flower the plants in the house they are grown in, the flowers lasting quite as long, and it is better for the plants, unless it be in the summer months, when the show-house is kept moister.

THE FLOWER GARDEN.

By T. W. CRASP, *Gardener, Canford Manor, Wimborne.*

CHRYSANTHEMUMS AND CLIMBING PLANTS, &C.—All the required Chrysanthemum cuttings having been taken by this time, the stools should be put for a time into cold pits and frames, affording them air when it is not frosty, or in very mild parts of the country they may be turned out of their pots, and planted between shrubs and in the herbaceous border, and thus assist to brighten the garden in late autumn. It is not too early in some parts to sow clumps of Sweet Peas in the open ground in prepared trenches, sowing the seed about 4 or 5 inches below the surface of the ground. The Peas may be sown in clumps or lines, covering the surface with finely-sifted coal-ashes as a protection against frost, and to a certain extent against slugs; at the same time a sharp look-out must be kept on the latter when the plants begin to come up. These Peas will be in bloom at a very early date. There are many species of climbing plants, as Roses, Jasmines, Bignonia radicans, Clematis, and a host of others, which may now be planted for rendering beautiful the bare and unsightly places on walls and buildings. The old-established flowering-plants on walls, &c., should be looked over, and pruned, by taking out the useless and flowerless shoots, being careful not to prune such as produce their flowers on last season's growth before the blooming-period is over. After pruning and regulating, each plant should be made secure by fastening to the wall, &c., in such a manner as will best show off its beauty. Never use the shears, as some do, in pruning a flowering-plant, as this practice may render a plant neat-looking, but it will effectually spoil its flowering, unless it be a Jasminum officinale, or some of the Clematises which flower on the current year's wood. The early-flowering Clematis of the montana group, as C. patens, C. florida, and C. Sieboldi, flower on the long shoots of the previous season, and naturally these will be retained. Clematis lanuginosa and some of its varieties may, if trained to walls, be cut down to 3 feet from the ground, they will then furnish the base of the wall with foliage, instead of running away at the extremities. If they do not die down so far as this, they will need to be cut down, unless the bottom of the wall is wanted for other plants. The pruning-back may be done in February. We may mention a few, C. l. candida, C. L. nivea, and C. l. violacea. Clematis of the Jackmani type require a deep rich soil, and with plenty of space for the roots to ramble. They flower on the strong summer shoots, and form dense masses of bloom. The plants require a heavy mulch before winter, which may be forked in at the end of winter. The pruning may be done then or at the present time; for late bloom April is a good time to prune. They should be pruned hard back, whether in beds or on walls and poles. The varieties are numerous, and mostly beautiful. John Gould Veitch, Juanita, Jackmani alba, John Murray, Lady A. Neville, and Lady Bovil are good types of this race. The best way to prune Escallonias and Ceanothus is to cut out the old shoots and lay in a fair amount of young wood each year, and thus secure abundant flowering of the various species.

DISLODGING SNOW.—After a heavy fall of snow followed by a severe frost, very little work can be done outside; all the smaller evergreen trees and shrubs should be looked over daily if snow fall, to see that the pressure of the snow is not breaking down the branches. The snow can be easily dislodged from the taller specimens by means of a long staff having a crutch-end wrapped round with soft cloth, with which the branches should be lifted and allowed to fall, thus dislodging the snow without injury to the plant.

PROPAGATION.—Plenty of work may now be done in the matter of propagating and potting various kinds of plants required in the flower garden for summer bedding. Dahlias should be taken from the place where they have lain during the winter, and placed in a gentle moist temperature under the stage of the propagating-house or any similar place, so as to cause them to start. So soon as the young shoots are about 3 or 4 inches long, they should be pulled off with a heel, if possible, and placed singly in small pots containing good friable soil, in a temperature of about 60° or 65°, where they will root very readily. As soon as the pots are full of roots, they should be potted on into larger pots, using good rich soil, large 48-sized pots being a useful size to grow them in. They should then be placed in a slightly cooler temperature, and with an occasional pinching, and the usual hardening off as the season advances, they will make good serviceable plants by the time they are required for the flower garden. Some people divide the old tubers of Dahlias as soon as they have started, and pot them at once into 32 or 48-sized pots; but I believe that plants obtained in the manner first alluded to flower more freely, and grow on much quicker when first planted out than those having the old tubers attached to them.

CANNAS.—Few plants are more easily grown and propagated than these beautiful plants, now so largely used in sub-tropical bedding. They can be raised from seed, and the good strains come true from seed. If the seed is soaked in tepid water twelve to twenty-four hours previous to sowing, the process of germination will be much assisted. Propagation can also be effected by division of the root-stock, which work should be proceeded with at once. If each portion of the root-stock with a bud and roots attached be placed in 4-inch pots, containing rich porous soil, and plunged into bottom-heat of 60°, or thereabouts, they will quickly resume root-action, and grow rapidly; they can be propagated without any bottom-heat, but it is a slow process compared with the other, and should not be adopted, excepting large quantities are required. Another way is to divide and place the roots at a certain distance apart in boxes containing the same sort of soil, and then if they are stood in a moist heat, growth soon commences. They can be transferred from the boxes to the open ground when the proper season for doing so arrives. In sheltered situations with a dry subsoil I have seen Cannas wintered safely in the open ground with a covering of the depth of 1 foot or so of dry litter or Cocoa-nut fibre refuse over the crowns, but this plan of protecting the plants cannot be generally adopted.

THE HARDY FRUIT GARDEN.

By T. TURTON, *Gardener, Maiden Erlegh, Reading.*

CURRANT BUSHES.—Red and white Currants will produce full fruit for many years if closely spurred-in, and with or without leading shoots being left at the ends of the main branches. Sometimes the fruit-spurs get too thick together, in which event, some of them should be cut away. Black Currants should have the very old and the fruitless shoots thinned out, cutting these mostly to the ground level, but leaving sufficient new wood to replace that which is cut out, also shortening back strong young shoots if the bush is too thin. After pruning, afford the bushes a good mulch of rich manure, and in the case of old quarters the addition of fresh soil is to be recommended. Currant bushes are much benefited by heavy watering with liquid manure, one or two of which may be afforded before growth commences, as well as during the summer. Exhausted soil under bushes would be much improved if some good fresh soil or burnt earth could be incorporated with it. This would also replace to a certain extent that which gets removed when clearing off summer weeds. Stiff soils only should be shallow dug with a fork between the rows of bushes, and are benefited by previously dressing them with burnt garden refuse. Light soil, if long under bush fruits, becomes so full of roots, that digging amongst the bushes, unless it be for a foot or two in width in the middle of the alleys, is unadvisable, and mulching and surfacing with fresh soil, &c., are the only suitable methods of enrichment.

APRICOTS.—In weather that will enable the gardeners to work efficiently, push forward the

pruning and nailing of Apricot trees; and as these fruits suffer from a too free use of the knife, the aim should be to check the tendency of the tree to make very strong shoots, by timely root-pruning or replanting. Although it is now late for root-pruning established trees, those which have been planted not longer than two or three years, and are growing too vigorously, may still be so treated. In doing this, open a trench at 4 feet from the wall, and cut back all the strong roots met with to about 3 feet from the stem, which will prepare the trees for replanting early in the autumn of the current year. It is generally admitted that it is owing to excess of vigour that whole branches die off, and even entire trees at times. Where the preparation of fruit tree borders is being undertaken at this date, if the natural soil should be found unsuited to the Apricot, I would advise the construction of a 4½-inch brick wall, at 4½ feet distant from the fruit wall, so as to form a narrow border for the roots, and then, by lifting and replanting the trees until they come into free-bearing, I believe there would be fewer failures than is now the case, and little or no winter-pruning necessary, except that young trees would need to have their young shoots shortened. Some few years ago, after root-pruning the trees on our principal Apricot wall, a trench was taken out parallel to and 4½ feet distant from the wall, and a wall of chalk was built, 9 inches in thickness, to confine the roots, stout boards being used in forming the confining framework, these being kept in place with stout posts, and the chalk well rammed together as it was filled in. This made a strong wall, the top of which was a few inches below the ground, thus preserving it from frost. The results of confining the roots in this way have been good. If brown-scale is found on the trees, paint them with Gishurst soap, 3 oz. to the gallon of water; or some other safe insecticide. In training the branches, examine every one of them, and see that old ties and other fastenings which are still serviceable do not grip too tightly, and make all secure for the season. I may say here, that of all methods of fastening trees to walls, that of nails and shreds is the worst.

FRUITS UNDER GLASS.

STRAWBERRIES.—Where supplies of ripe fruit are required within twelve weeks from now, an early variety must be selected with strong crowns (the weaker crowns will answer for late forcing), the pots washed if dirty, the soil pricked out to a slight depth, renewing it with rich loamy soil, pressing it firmly all over with the fingers, and cutting away any wholly decayed leaves. If a heated brick-pit is at command, it is a good place wherein to plunge the pots up to the rim, in a bed of hard tree leaves, there to remain without watering them once, unless the soil be very dry, till they come into bloom. The bed should have been made up about two weeks, and got slightly warmed previous to plunging the pots. The top-heat must not exceed 50° at starting, nor the bottom-heat 75°; therefore, half plunging the pots is at first safer than wholly so doing. A slight dewing over after sunny days is desirable, but in dull weather the moisture of the bed will be sufficient. Always leave on a small amount of ventilation, but affording more when the day temperature reaches 60°. Every week there should be a slight increase of top-heat; and when a quantity of bloom shows on the plants, shift them into a more airy place, and afford water if necessary. Any plants whose leaves start to grow much in advance of the bloom-spike are useless. Sometimes aphis is troublesome, and must be got rid of by fumigation. When a number of plants is removed, slightly turn over the leaves, rearrange the rest of the plants, and introduce more of them, remembering that as time advances fewer plants will meet the demands for fruit.

VINERIES.—The late vineries may now be pruned and generally put in order for the season, as was recommended in earlier calendars. Take every care to eradicate mealy-bug by the use of smothering mixtures, laid thickly on the rods after clearing them of the more loose parts of the bark. Keep the Vines very cool previous to starting them.

GOOSEBERRY-HOUSE.—The bushes should be pruned forthwith, dressed afterwards with quick-lime made into a wash and used immediately, and the surface-soil removed to a slight depth from below the plants, replacing it with fresh rich soil; a mulch need not be used before the fruit begins to colour. Indoors, Gooseberries are usually grown on trellises, and afforded plenty of sunlight; they will not do satisfactorily under the shade of other things. The house may soon be started at 40° to 42° by night. The Cape Gooseberry, Physalis edulis, grows well under Peach-house or Vinery treatment, but it also needs full sunlight. It crops abundantly on one-year-old shoots, and needs a trellis for its support. The treatment afforded the English Gooseberry is suitable also for it.

CHERRIES.—A house of these fruits, and almost any kind of a house that is very well lighted, in any aspect, if started now, will produce ripe fruits from pot trees, trained or untrained, or such as are in borders, in about three months. Start at a temperature at night of 40°, and by day of 45° to 50°. The same kind of pruning as that suited to the needs of sweet Cherries out-of-doors is the one to adopt. If in pots, prick out the inert top soil, replacing it by good rich loam and manure, rammed firmly; and if in borders, take away the upper crust, also redressing them with fresh soil, &c. See that the drainage is in the best order, both in borders and pots, and when starting the trees, let them have a thorough soaking of water. Do not let the temperature rise higher than 50° by artificial heat for the first month, damping down twice daily, more or less in amount according to the weather. Good varieties for forcing are Knight's Early Black, Early Rivers, Early Prolific, Werder's Early Black-heart, May Duke, Royal Duke, &c.

THE KITCHEN GARDEN.

By H. C. PRINSEP, *Gardener, Buxted Park, Uckfield.*

EARLY PEAS. — Preparations should now be made for sowing these on a warm border. Little or nothing is gained by sowing earlier, except in very warm sheltered situations, on warm, light, dry soil. On heavy land, we have found that to sow earlier entails much trouble, and it often results in disappointment, unless the winter and spring are unusually mild. Many are the devices of gardeners to forestall their neighbours in the production of an early crop of Peas. Many do so by sowing the seed in pots, on turves, in troughs, boxes, or other contrivances; but all these modes necessitate the use of cold frames and kindred structures to harden off the plants previous to planting out, and it is not every establishment that can command these, especially at this season. The most portable and also the simplest mode that I have adopted is to procure some stout match-boards, and, having cut them into lengths the width of the border, to take off one side of the edge that is ploughed. This will leave a rebate on which glass can rest with ease, when the boards are stood up edgeways. The plan is to manure the ground intended for early Peas in the autumn, allowing it to remain till the time of sowing before digging it in. By treating the ground in this manner, the soil which is turned up is much drier and warmer than that on the surface, which has been exposed to frost, snow, and cold rains. The seed is sown as digging proceeds, as this saves trampling on the ground afterwards, for the soil, being freshly turned up, does not adhere to the boots. As each row is sown, match-boards are stood up edgeways on either side, about 2 inches from the drills, with the rebates inside. Pieces of glass, as wide as the space between the boards are then laid on, their edges resting on the rebates formed as described above. The seed soon germinates, and as frost and cold winds are excluded by the match-boarding, the young plants make rapid progress. If the boards are fastened together, they may be removed bodily during fine weather, and replaced at night, with little trouble. By this mode of treatment, there is no difficulty in gathering Peas by the first week in June, and some of the more tender kinds may be had by the second or third week of that month. For early sowings I prefer such varieties as Chelsea Gem, Exonian, or Sutton's A1, which are all good, and are better flavoured than the round varieties.

BROAD BEANS.—Make a sowing of these in the open. By planting two rows, 9 inches apart, and allowing 4 inches between the seeds in each row, ample room will be provided till the plants are 2 or 3 inches high, when every alternate plant should be taken out. If more than one row be required, they should not be less than 6 feet apart, a dwarf crop of early Turnips, Lettuce, Spinach, or the like, being sown between.

SMALL SEEDS.—Where early Celery is required, make a sowing of some white kind, as these varieties blanch more readily than the red or pink ones. It is well to sow the seed not too thickly, or the plants may get drawn while in a young state. The great secret in growing early Celery is to prevent the young plant receiving any check whatever. The seed should be sown in rich soil, and the plants kept growing till planted out, taking care that they do not become drawn either by overheating or overcrowding.

RADISHES should be sown to form a succession, sowing the seed thinly by itself, and not with other crops. See that all young Carrots, Cauliflowers, and Lettuce get plenty of air when the weather is mild, but avoid cold draughts. The Cauliflower is very apt to damp off if kept a little too close.

SPINACH may now be sown in the open, either between the rows of Peas or Broad Beans, or by itself. If the ground has been dug for some time, and is wet and sticky on the surface, wait a few days till it is drier, for the seed would only perish if sown when the soil is in uncongenial condition.

PLANTS UNDER GLASS.

By BAILEY WADDS, *Gardener, Birdsall Gardens, York.*

VIOLETS FOR WINTER AND SPRING FLOWERING.—Where a daily supply of these flowers is required, the best varieties to grow are New York, Marie Louise, Lady Hume Campbell, de Parme, Czar, or Victoria Regina, and White Queen. The three first varieties should be planted in garden frames placed on beds of cold manure, and protected from frost; the last three named are best planted in brick span-roof pits, about 8 feet wide, and receive no protection in frosty weather but what the closed lights afford, and be afforded abundance of air night and day during fine weather. Those in the protected frames, if well watered at the time of planting, say, the beginning of October, will not require any further watering during the first three months of winter. Those in the unprotected pits will flower much later, and onwards into the spring. For furnishing a supply during such weather as we have had for the past month, a few lightfuls of New York and Marie Louise should always be left ungathered from the beginning of November. If damp proves troublesome in the frames, cover the soil with powdered charcoal.

STOVE FLOWERING PLANTS IN POTS.—Allamandas, Bougainvillea glabra, Clerodendron Balfouriana, and other deciduous plants that have been kept comparatively dry in a cool house during the winter, and are required for decorative or exhibition purposes early in the season, should be pruned well back, shook out of the old soil, and repotted into a compost of good turfy loam, leaf-mould, and peat, in about equal parts, with a nice quantity of rough silver-sand, and a free addition of dry cow-dung and started into growth at once; let the pots be clean and well-drained, and for training use strong deal stakes painted green, but not more than required of them. Ixoras for the same purpose cut back and repot, find them more peat than for the above plants, and they may be placed at the warmest part of the stove. Rondeletia speciosa major may receive the same treatment; water well with tepid water, and syringe daily. Pot Dipladenias into clean, well-drained pots. Soil should be about equal parts of good peat and loam, with a little silver-sand; let the young shoots twine on their string till they are required for the wire trellis. They delight in a hot, moist temperature; a wood trellis over a hot-water tank is a suitable place for them. As the days become longer and warmer, let the stove range 5° higher at night, 5° to 10° higher by day.

TUBEROSES.—Pot a good batch of bulbs for succession about every three weeks, single bulbs into 5 or 6-inch pots, or three bulbs into 8-inch pots, clean and well-drained. A good loam, with some leaf-mould, and sea-sand, will suit them, and give a nice bottom-heat to start them at this season.

SHOW AND FANCY PELARGONIUMS. — The best place for these is a span-roof house, with a wood-staging for the plants, as near the glass as possible, where they will get plenty of light and air all about them. Old plants will be growing apace; regulate the shoots, and keep them well down over the sides of the pots. For exhibition plants, use pots with perforated rims. Pot young plants as required into good turfy loam, leaf-mould, peat, and sea-sand; do not stop them until about three weeks afterwards, and do not over-water at this season; the temperature should be 45° by night, and 50° to 55° by day.

EDITORIAL NOTICES.

PLANTS, &c., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be carefully packed and numbered, and not more than six should be sent at one time.*

Advertisements should be sent to the PUBLISHER.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

SATURDAY, JAN. 28—Royal Botanic Society.

SALES.

MONDAY, JAN. 23 { Hardy Border Bulbs and Plants, at Protheroe & Morris' Rooms.

TUESDAY, JAN. 24 { Special Sale of Gladioli, Japanese Lilies, Pearl Tuberoses, &c., at Protheroe & Morris' Rooms. Orchids from F. Horsman & Co., at Protheroe & Morris' Rooms.

WEDNESDAY, JAN. 25 { Japanese Lilies, at Protheroe & Morris' Rooms. Plants at Stevens' Rooms.

THURSDAY, JAN. 26 { Lily of the Valley Plants and Bulbs, at Protheroe & Morris' Rooms.

FRIDAY, JAN. 27 { Consignment of Newly-imported Orchids from Charlesworth, Shuttleworth & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—38°.3.

The Gardeners' Royal Benevolent.

THE annual meeting held on Tuesday last at Simpson's, under the presidency of Mr. HARRY VEITCH, was of the usual satisfactory character. The main business of the year was transacted a short time since. On Tuesday last there was little to be done except formally to confirm what was done before, to appoint the officers for the year, and to thank those who served last year for their services. Most of the officers remain, but a few changes were made in conformity with the regulations. The financial statement shows a balance on the right side of £935 11*s.* 7*d.*, as contrasted with £898 16*s.* 11*d.* at the corresponding period of last year. The annual subscriptions for the year amounted to £1397 13*s.* 6*d.*, much too small an amount, considering the numbers of gardeners in Great Britain and Ireland, and the many claims on the Institution which cannot be met for want of means. The donations include one of £500 as a thank-offering on the part of Mr. and Mrs. H. J. VEITCH, on the occasion of their silver wedding. The collecting cards brought in £219 10*s.* 8*d.*, besides which there are two sums of £695 3*s.* and £330 13*s.* 9*d.* respectively, one of which, we presume, represents the amount collected at or in consequence of the annual dinner. The investments amount to upwards of £29,000 in Consols and other approved stock. On the other side of the account we find the amount granted in pensions amounted to £2634 6*s.* 8*d.* The annual dinner is debited with £76 18*s.* 9*d.*, but nothing is said as to the receipts from this source, unless the surmise above-mentioned is correct.

It was proposed that J. MITCHELL, aged seventy-seven, and ELIZABETH ROGERS, aged sixty-three, be, in accordance with the rules, voted on the pension list without election from December 25, 1892. This proposition was seconded, and carried unanimously. In consequence of two deaths among the pensioners, it was also proposed that, after the ten candidates were elected, the two next highest on the poll be elected, making, in addition to the two above mentioned, twelve pensioners. This motion was unanimously adopted.

Messrs. H. CUTBUSH, G. MUNRO, J. WEBBER, H. WILLIAMS, and B. WYNNE were appointed scrutineers, and later in the afternoon declared the poll, those with an asterisk prefixed being elected pensioners of the Institution. The total number of votes polled was 42,337.

John Butler, 1559; Jane E. Nichols, 1156; *W. Coleman, 1992; *James Munro, 2375; *H. Woolford, 2147; *T. H. Bowler, 1860; *Henry Bridden, 2975; Clara E. Brown, 612; John Collier, 184; Henry Fielder, 725; Emma Kendall, 1240; *George Macintosh, 2932; Ann Nixon, 587; *James Ricks, 2160; Thomas Thomas, 1030; *Samuel Tisdale, 2137; *George Woodgate, 2183; Francis Woodhams, 737; Thomas Bundy, 97; James Clarren, 514; John Comber, 674; David Cornell, 34; Hester Falconer, 147; Thomas Gooch, 845; *Mary Gray, 2012; John Guyett, 1113; William Hale, 49; Ann Harding, 633; *Margaret Kefford, 2837; Richard King, 475; *Agnes Merritt, 1931; Ambrose Minty, 170; John Pearcey, 131; Robert Pettit, 601; James Strachan, 129; Eliza Webb, 252; William Pamplin, 760.

When the business of the day had been concluded, was held the annual friendly dinner, under the presidency of H. SEYMOUR FOSTER, Esq., M.P., who was supported on the right by Mr. H. J. VEITCH, and on the left by Mr. N. SHERWOOD. The chairman, during an appropriate speech, when proposing the toast of the Institution, took occasion to congratulate the members upon the good and economical management of the funds, and upon the wise alterations that had been made in the rules at the recent revision. We think he was right in recommending the Institution as worthy of support in proportion to the encouragement it gave to gardeners to help themselves. Three instances were given by Mr. FOSTER to show that in the election on Tuesday these facts were not lost sight of. In one case, a gardener had been elected at the age of seventy-seven years, and who had been a subscriber to the Institution for no fewer than forty-six years; in the second case, for as many as thirty years; whilst in a third case the unfortunate applicant had been reduced to this extremity through the attack of some brain disease, at the comparatively early age of forty-seven. This man had collected £10 in 1887 towards the Institution. This is as it should be, and we think that the more clearly our gardeners see that these matters are considered during an election, the more ready will they be to become members. All will regret that the funds did not admit the election of all the candidates—none of whom are undeserving or ineligible; and we feel sure that greater efforts will be made during the coming year than have been made in the past, although we would not for a moment disparage the hard work that has already resulted in the success which has been achieved. The toast of the Institution was coupled with the name of Mr. SHERWOOD, who touchingly referred to the enforced absence of Mr. JNO. LEE, of Hammersmith, who has seldom, if ever, been absent from the annual meeting before, for a period of about fifty years. All who have worked for the Institution will acknowledge the splendid support it has received from Mr. LEE, and will join in the hope expressed on Tuesday, that the indisposition from which he is suffering will be but temporary.

THE DOUBLE COCOA-NUT AT KEW.—In July, 1890, Kew received two germinating nuts of the double Cocoa-Nut (Lodoicea seychellarum) from the Seychelles, where this Palm is a native. They were nursed along in one of the small private stoves until the beginning of last summer, when they were transferred to the Victoria-house, and placed over the tank in which the Victoria is cultivated. The water in this tank is kept at a temperature of about 75°, the temperature of the atmosphere varying with the sun's warmth; no shading is ever used, and the house is well ventilated. These conditions are suitable for the Victoria regia and for many other plants cultivated in that house, notably some rare and interesting Palms. The fact that such plants as Manicaria, Mauritia, Pholidocarpus, Borassus, Hyphæne, Bismarckia, and Socratea, had not only lived but grown most vigorously in this house, whereas in other houses and with most special treatment they either would not grow or grew very badly, naturally suggested that the double Cocoa-nut would most likely thrive there too. The plant was, therefore, in June, placed over the water-tank, with the bottom of the pot (a 15-inch) touching the water; the nut, still attached, was held in position, and the plant was allowed all the light, air, and moisture that the conditions of the house already mentioned afforded. Here it grew rapidly, the two leaves it made during the summer being very large, and as firm almost as iron. It was hinted that all this growth was kept up by the large quantity of nourishment stored up for this purpose in the enormous seed, and which was absorbed by means of the stout "umbilical cord" connecting the seed with the baby giant. The plant grew so large that the pan it was growing in looked far too small, and after all, there might be plenty of root-growth, notwithstanding all that the doctors had said. A pot 2 feet in diameter was therefore prepared, and the pan carefully removed preparatory to repotting. It turned out that not only had the plant rooted, but the ball of soil was enclosed in a close network of healthy rootlets, with tips which told a very plain story. The nut may be feeding the seedling still, but there are roots enough, I feel certain, to enable it to get along very well on its own account. "Water culture" is a really wonderful restorer of sick plants. It also answers for many plants which, tried in any other way, have always refused to do any good at all. Some day I hope to be able to tell an interesting story of the effects of water culture on plants which, on the face of things, when wild appear to thrive best where water is scarcest. The dimensions of the Lodoicea when re-potted were:—Seed, 1 foot by 1 foot by 8 inches. Number of perfect leaves, three; first leaf: petiole, 18 inches long; blade, 2 feet long by 2 feet in diameter; second leaf: petiole, 2½ feet long; blade, 4 feet by 4 feet; third leaf: petiole, 3 feet long; blade, 4½ feet by 4½ feet; number of folds in blade, fifty-six. This last leaf is not yet quite unfolded. The plant is barely two and a half years old. *W. W.* [See figs. 12, 13, 14, and the supplementary sheet.]

MACROZAMIA SPIRALIS.—The specimen represented in the supplementary plate, is one of a pair which was purchased for Kew at an auction sale in London last July for twenty-nine shillings. They each weigh about half a hundredweight, and measure round the egg-shaped trunk 6 feet. These two were the largest of an importation of Australian Cycads, which probably did not realise when sold more than the cost of carriage. There is practically no market for such plants in England. The plant in the picture is exceptional, in that it produced six full-sized male cones simultaneously, each cone being 8 inches long by 2 inches in diameter, bright green when young, plum-coloured when mature. The female cones are much larger, examples in the Kew museum measuring 12 inches in length by 8 inches in diameter, and being composed of large broad-topped scales, each of which bears a pair of large nut-like seeds. All the Macrozamias are ornamental, and they all thrive in an ordinary stove. They are exceptionally valuable for furnishing large tropical houses. M. spiralis is the common type of a group, which in stem and foliage closely resemble each other, viz.,

Germination of the Double Cocoa-nut in the Royal Gardens, Kew.

Macrozamia spiralis, with Cones, Royal Gardens, Kew.

M. Fraseri, magnificently represented at Kew; M. Moorei, a comparatively new discovery in Queensland, where it forms pillar-like trunks 20 feet high; M. corallipes, and the new M. Dyeri. The most beautiful of all, however, is M. Macleayi, the specimens of which in the Palm-house at Kew, at least equal in elegance the finest examples of Cycas revoluta. Next to this I should place M. Hopei. Of course, some of the newer species may be as good or better garden plants than any of these, but as yet we know them only as small plants. M. heteromera, with bifurcate pinnæ, is one of the most interesting of these, and M. Fawcetti and M. Dyeri also look promising. The Australian representatives of Cycadaceæ comprise Macrozamia, about a dozen species; Cycas, four species; and Bowenia. M. spiralis is said to have been introduced into England in 1796 from New South Wales, where, according to Mr. C. Moore, Director of the Sydney Botanic Gardens, it extends along the coast from Port Macquarie to very near the borders of Victoria, a distance of nearly 300 miles. "It is a gregarious plant; wherever found it is in great abundance, and massed together. In many places it occupies large areas, and indicates a poor stiff ironstone clay soil. In some of its southern habitats it is found with perfectly cylindrical stems, at least 6 or 7 feet high, and from 2 to 2½ feet in diameter; but about Sydney and northward the stem is cone-shaped, and rarely rises above the ground more than from 6 to 18 inches. 'Burrawang' is the name by which it is known to colonists. The upper part of the stem is densely covered with a fine soft wool, which has been used in some districts for stuffing beds, and a good starch has been obtained from the seeds, which also, when washed, or sliced and steeped for some days in running water, or roasted, were largely used by the aborigines for food. Without some precaution of this kind, they are in a fresh state dangerously acrid." (*Notes on the Genus Macrozamia*, by C. Moore, F.L.S., Sydney, 1883). *W. W.*

THE ROYAL HORTICULTURAL SOCIETY.—We are glad to see that the Society has issued a revised list of the awards made at the several committees, completed up to date. Such a document is not only essential to many of us at the present time, but it will be very valuable from an historical point of view, as showing what were considered the best and most noteworthy varieties in the middle and latter half of the present century. No doubt exception could be taken to some of the awards that have been made, as well as to errors of omission, but we feel confident that no other body but the Royal Horticultural Society could have produced a better or more impartial record, or, indeed, anything approaching to it. The well-attended meetings of the committees, and the excellent and interesting fortnightly meetings, prove the correctness of our statement. No one who visited the fortnightly meeting at the Drill Hall, James Street, Westminster, on Tuesday last, would have thought it midwinter. The number of committeemen present was large, a fact not to be wondered at, when we mention that there were no fewer than ten meetings of one sort or another on that day, and that many or most of those present had to attend at more than one of the ten. Besides this, the show was very interesting. The severe weather did not prevent Messrs. Low, Sander, Williams and Veitch from sending choice Orchids. Mr. Bunyard vindicated the unconquered (invicta) county of Kent by a splendid lot of Apples, and Mr. Cheal did valiantly in the same way for Sussex. Cyclamens lent colour; whilst a fine group of Begonia Gloire de Sceaux came from the gardens of Leopold de Rothschild, and attracted the attention of all the connoisseurs. The plants were well-grown, the foliage a rich deep bronze, and the flowers deep rose coloured, and well set up above the foliage. Among the Orchids was a well-grown plant of a Cycnoches, shown under the name of C. Mannii, but supposed to be the male plant of C. pentadactylon. It was shown by W. Mann, Esq., Ravenswood, Bexley, and bore no fewer than 247 expanded flowers. For the rest, see our report in another column.

NEW RAILWAY RATES.—We have received the following letter from Mr. Goodchild, who did such good service in this matter some time since, and who compiled the elaborate table which we published in 1889. "My attention has been drawn to the article on this subject in your last issue, and I am glad to see that at length the interest of the trade in this somewhat complicated subject has been awakened. I believe it is not yet too late to do something, although the extent of that something may be somewhat problematical. The noose is adjusted round the neck of various trades, but (pardon the sepulchral simile), the bolt is not yet drawn. The position of the matter at the present time is not what it was in 1889. Since then the classifications and maximum rates and charges have received the sanction of Parliament, and can be enforced; accordingly the railway companies have the advantage of the position. In replying to a letter from R. Farrance in your issue of January 18, 1890, I, in a letter which appeared in your issue of February 1, 1890, wrote as follows:—"When, however, a comparison is made between the actual rates now paid by Mr. Farrance and the proposed maxima, I quite agree that he will be at a great disadvantage, that is, if the company choose to avail themselves of their full powers to charge their maxima. This is what the trade has hitherto failed to realise, and what my association is endeavouring to obviate. Undoubtedly a vast increase in rates will be the result of the enquiry unless steps be taken to prevent it. When the labours of the enquiry are ended, and the railway companies commence to wield their newly-acquired powers (their protestations to the contrary, notwithstanding), I imagine that the ranks of your correspondents having the same experience as Mr. Farrance will be considerably enlarged. Their consolation of vainly beating the air will be very poor," &c. My object in writing this letter is not to justify my opinion then expressed, but to point out that there is still a *locus pœnitentiæ*, but no time to lose. The companies are now placing out feelers, and inviting the trades to communicate with them, and for this purpose are fixing the rates purposely higher than those formerly charged. Many trades are taking advantage of the *modus vivendi* thus created; but woe to those who do not. When once this opportunity has passed, sad indeed will be their state, for they will be made to bear the burdens of which the other trades will be relieved. In other words, the concessions made to the trades which now agitate for them will be given at the expense of those which do not. Possibly a reference to the articles in your issues of April 20, August 10, October 26, November 2 and 16, December 14, December 28, 1889; January 18, January 25, and February 1, 1890, will refresh the minds of your readers as to the importance of this matter. *F. C. Goodchild, Croydon.*

THE SURVEYORS' INSTITUTION.—The next ordinary general meeting will be held on Monday, January 23, 1893, when a discussion will take place on the papers (1) by Mr. P. D. Tuckett (fellow), entitled "A Short Explanation of the Proposed Bimetallism as affecting British Interests;" and (2) by Mr. A. Goddard (professional associate), entitled "The Currency Question and Land," read at the last meeting. The chair to be taken at 8 o'clock.

THE SELFISH BOTANIST.—There is a type of botanist who is becoming a dreadful nuisance, and he ought to be abated. Wordsworth said he would despoil his mother's grave for a rare plant; and yet in Ireland, according to the *Irish Naturalist*, they stimulate him to activity at meetings of field clubs by offering prizes for a collection of the rarest flowering plants in the ground covered by the excursion. If the collection was of any more use to anybody than a bundle of dry hay, one might not complain. But is it? In this particular case, the only practical result of the prizes must be, not the shedding of new light on biological problems, but simply the extinction of rare forms in the eastern part of Ulster. Perhaps this prize-giving accounts for the disappearance of Saxifraga oppositifolia from these regions. But the disgusting thing about the haymakers who call themselves botanists is, that they are now carrying on a vulgar trade under the cloak of science. We know of a place in Essex where an extremely rare Orchid is to be found. It is with pain that we recently heard it had been ransacked, but not with surprise that we afterwards learnt specimens were being advertised at a high price for sale to collectors. *Daily Chronicle.*

BOROUGH OF CROYDON CHRYSANTHEMUM SOCIETY.—The date at which the above will hold their autumn show is unavoidably altered from November 8 and 9 to November 14 and 15.

THE ROYAL ACADEMY OF SCIENCES OF TURIN, in accordance with the last will and testament of Dr. Cesare Alessandro Bressa, and in conformity with the programme published December 7, 1876, announces that after January 1, 1891, a competition for the ninth Bressa Prize was entered on, and to which according to the testator's will, scientific men and inventors of all nations are admitted. A prize will therefore be given to the author or inventor, whatever be his nationality, who during the years 1891—94 "according to the judgment of the Royal Academy of Sciences of Turin, shall have made the most important and useful discovery, or published the most valuable work on physical and experimental Science, Natural History, Mathematics, Chemistry, Physiology and Pathology, as well as Geology, History, Geography, and Statistics." The term will be closed at the end of December, 1894. The sum fixed for the prize, deducting the income-tax, will be of 10,416 (ten thousand four hundred and sixteen francs), £420. The person who intends to compete must declare his intention within the time above-mentioned, by means of a letter addressed to the President of the Academy, and send the work with which he competes. The work must be printed, manuscripts are not admitted. The works of the competitors, which do not obtain the prize, will be returned to them, when asked for within six months from the adjudication of the prize. None of the Italian members, resident or not resident, of the Turin Academy can obtain the prize. The academy awards the prize to the scientific man considered most worthy of it, even if he has not formally entered upon the competition. The President of the Academy, M. Lessona; the Secretary of the Commission, A. Naccari.

HORTICULTURAL INSTRUCTION.—We understand that Mr. G. Garner, Amberwood, Christchurch, Hants, has been appointed by the Poole Technical Instruction Committee to deliver a course of lectures on horticulture, the first of which was given at Parkstone on January 10 on "The Chrysanthemum."

—— Dr. Jas. Clark, M.A., of the Yorkshire College, Leeds, is giving a course of twelve lectures on "Horticulture" in the National School, Howden, on Monday evenings. The preliminary lecture was held on Monday, the 9th inst. Dr. Clark, who is thoroughly master of his subject, is an able and fluent lecturer, who can impart knowledge in a way that everyone can understand. A summer course was given last year, and the average attendance was then nearly one hundred, which was very creditable considering that the lectures were given in the midst of the election campaign. To add to the interest of these lectures, Messrs. Dickson of Chester, Ware of Tottenham, and Cliburan of Altrincham contributed specimens of cut flowers for the inspection of the class. Howden is in the centre of a horticultural district, and possesses a first-class horticultural show.

—— Two courses of six lectures, in six different centres, upon fruit and vegetable culture, have just been completed in the county of Norfolk, by W. K. Woodcock, under the auspices of the Technical Education Committee of the Norfolk County Council. Most of these lectures have been well attended, and much interest has

been shown in the subjects treated upon, insomuch, that at the meeting of the County Council on January 7, it was decided to appoint Mr. WOODCOCK as permanent lecturer and instructor on horticulture for the county. Previous to entering upon this permanent engagement, however, Mr. WOODCOCK, has to fill a prior one with the Local Committees of Bath, Wincanton, Yeovil, and Taunton, in the county of Somerset, to give short courses of lectures in each of these districts, commencing on Monday, January 16, and continuing until April, after which he returns to Norfolk. In the meantime, Mr. THOS. BUNYARD has been engaged by the Norfolk Technical Education Committee to give one or two courses of similar lectures (from the same syllabus) to those given by Mr. WOODCOCK. The lectures delivered by Mr. WOODCOCK, deal with the following subjects:—I. Allotment Gardens and Potato Culture; II. The Orchard and its Management; III. Garden—Root Crops; IV. Small Fruits; V. Garden—Green Crops; VI. Insects and Fungi.

MR. ALFRED PARSONS.—This distinguished floral and landscape artist, who spent a large portion of last year painting in Japan, gave an exhibition of his pictures in the Imperial Hotel, in Yokohama, towards the end of November. The invitation issued was taken advantage of by nearly the entire foreign community, and the local papers were loud in their praises of Mr. PARSONS' work. "We who live among the beauties of Japanese foliage and flowers," says the *Japan Mail*, "and are accustomed to see them perpetually under her skies of enchanting softness and delicate purity, do not perhaps realise fully what is meant by such a *tour de force* as Mr. PARSONS' perfect representations involve. But to the discriminating section of the public in the West, the pictures will open a new vista of delight. We speak chiefly of foliage and flowers, because, although Mr. PARSONS' landscapes command no less attention, his trees and blossoms stand on a plane of artistic achievement far above anything we have ever had the pleasure of seeing in the same line."

VEITCH MEMORIAL PRIZES.—At a meeting of the trustees of the Veitch Memorial Fund, held on Tuesday last, the 17th, at the Royal Horticultural Society, James Street, Victoria Street, S.W., Dr. ROBERT HOGG in the chair, it was decided that the medals and prizes placed last year at the disposal of the Royal Horticultural Society and the Manchester Botanic Gardens, but not competed for, should be again offered this year, viz., at the Temple Show to be held May 25 and 26, a Medal and prize of £5 for the best six hard-wooded greenhouse plants in bloom; and at the special exhibition of Orchids to be held in the Manchester Botanic Gardens, May 19, a Medal and prize of £5 for the best Hybrid Orchid in bloom, already in commerce; and a Medal and prize of £5 for the best hybrid Orchid in bloom, but not in commerce. It was also decided to place a Medal and prize of £5 at the disposal of the Royal Horticultural Society to be competed for at the Great Fruit Show to be held at the Agricultural Hall, Islington, on August 29, and three following days. Also a Medal and prize of £5 to be competed for at the Ghent Quinquennial International Exhibition to be held in April, for the best Hybrid plant in the exhibition. And a Medal and prize of £5 to be competed for at the annual exhibition of the Clay Cross Horticultural Society in August.

FRUIT FROM SOUTH AFRICA.—Messrs. DONALD CURRIE & Co., following up the special efforts made by the Castle Line last season in connection with the import of Cape fruit to this country, have considerably extended and increased the number of the cool chambers provided in their steamers for the conveyance of fruit. The "Warwick Castle," due in London this week, brings a consignment of Apricots, and a large shipment of Grapes and other fruit is expected to arrive shortly. The Castle Line some time ago fixed the rate of 40*s.* per ton for Apples and other fruit carried as ordinary cargo. A pamphlet, published last winter by Mr. P. A. MOLENO, on the cultivation, packing, and shipment of fruit from South Africa, was very favourably noticed in the press, and copies of this *brochure* may be obtained free on application to Messrs. DONALD CURRIE & Co., 1, 2, 3, and 4, Fenchurch Street, London, E.C.

WIDCOME INSTITUTE HORTICULTURAL CLUB.—The first meeting of the season of this Club was held on Tuesday, January 10, at the Church Rooms, the President, W. PUMPHRY, Esq., in the chair. Mr. S. J. PARITT read an interesting paper on "Planting and Pruning Fruit Trees," for which he received the cordial thanks of the members present.

TORQUAY DISTRICT GARDENERS' ASSOCIATION.—Over seventy members attended the first annual dinner of the above, held last Wednesday at the Exeter Hotel, Torquay. Mr. W. AINSLIE occupied the chair, and Mr. W. B. SMALE was the vice-chairman. The Society is rapidly advancing, the membership being now over 120, and is in a financially good position. The forming a reference library for members is contemplated, and several valuable works have been promised by the President (Mr. W. LAVERS), Mr. AINSLIE, and others.

STOCK-TAKING: DECEMBER, AND 1892.—The past year has been an instructive one, but the lessons have been broken up by us into monthly parts, of which the twelfth has now to be noticed. A large decrease in the imports of the month, as compared with December, 1891, has to be noted—in fact, with one exception, there is a decrease in values, if not in bulk, all round. The following extract from the summary of imports will be found of more than usual interest:—

IMPORTS.	1891.	1892.	Difference.
	£.	£.	£.
Total value for month	£43,261,980	£37,879,129	—5,382,851
§II.—(A.) Articles of food and drink—duty free	15,358,933	12,837,146	—2,521,787
(B.) — do., dutiable	2,388,078	2,355,531	—32,547
§VI.—Raw materials for textile manufactures (including Flax, Hemp, and Jute)...	11,607,560	9,423,354	—2,184,206
§VII.—Raw materials for sundry industries and manufactures (including wood and timber, hewn, sawn, split, dressed; vegetable materials, for paper-making, &c.)	2,942,960	2,812,151	—130,809
§IX. — Miscellaneous articles (including Clover, Grass, Flax, Rape, Linseed) ...	1,811,333	1,475,670	—335,663
(B.)—Parcel Post ...	67,605	41,261	—26,344

Much of the apparent fall in imports is due to the great fall in prices in cotton and bread-stuffs; the terrible weather on the Atlantic during the closing weeks of the year has had much to do with the number of deficits; this is shown by the great reduction of ships entering British ports, as compared with December in 1891; hemp, jute, and other raw material have really fallen off, but, as a rule, the foreign producer is suffering much through low prices on this market. The following figures are taken from the general statement in the section devoted to food imports:—

IMPORTS.	1891.	1892.	Difference.
Fruits, raw:—			
Apples ... ... bush.	579,064	588,653	+9,589
Cherries ... ... ,,	...	...	...
Oranges and Lemons ,,	1,434,150	1,140,924	—293,226
Pears ... ... ,,	...	7,620	+7,620
Grapes ... ... ,,	...	2,694	+2,694
Unenumerated, ,,	48,420	27,898	—20,522
Onions ... ... ,,	303,806	306,161	+2,355
Potatos ... ... cwt.	60,705	305,715	+245,010
Vegetables, unenumerated, raw, ... value	£56,277	£52,405	—£3,872

The line unenumerated still remains in connection with these imports. Months since we asked the President of the Board of Trade to substitute details in lieu of these bare words; the other day he informed us our suggestion was referred to the Departmental Committee of the Board for the revision of the accounts, but, owing to the number of more urgent claims in other directions, the Committee have not felt justified in recommending any further distinctions in regard to these articles, for the present. Possibly growers and others would like to know what it is we import, and whence this comes. Agents are very reticent; they are in the habit of keeping their knowledge to themselves—it is their monopoly. However—

THE EXPORTS

for the month show a reduction of 2¾ per cent. on the record for December, 1891—the fall is in value, not in bulk; manufacturers and all concerned in selling have to put up with reduced profits to retain that hold on markets which it would be unwise to let slip, unless, of course, in cases of decided loss. We may just note here that the exports for the month of December amounted to £19,304,636, as compared with £19,839,815. We may add to these exports of British and Irish produce the figures for foreign and colonial merchandise, viz., £6,468,205, as against £5,521,957 in 1891. It may be as well to give some statistics now relating to the trade of

THE YEAR 1892,

and we may be forgiven the exhibition of a little pride over the record of the enormous extent of our trade. Imports and exports added together foot up £650,952,402. The imports give a total of £423,892,178—a decrease in value as compared with 1891 of £11,799,101. It is scarcely needful here to say that the great fall in the price of raw material has enabled us to compete with foreign rivals; though, wonderful to relate, the heavy fall in the price of breadstuffs has not profited the consumer much, bread being sold at the same price now as it was when Wheat was 10*s.* per quarter dearer! Foreign producers send all their surplus stocks here at a cost which not much more than covers handling and carriage. The figures connected with fruits and vegetables are as follows:—

IMPORTS FOR YEAR.	1891.	1892.	Difference.
Fruit, raw:—			
Apples, raw ... bush.	3,147,373	4,514,700	+1,367,327
Cherries ... ... ,,	...	216,990	+216,990
Plums ... ... ,,	...	413,315	+413,315
Pears ... ... ,,	...	637,211	+637,211
Grapes ... ... ,,	...	764,432	+764,432
Unenumerated ... ,,	3,490,211	841,022	—2,549,189
Onions ... ... ,,	4,281,046	4,420,276	+139,230
Potatos ... ... cwt.	3,192,836	3,008,336	—184,500
Vegetables, raw, unenumerated ... ... value	£932,887	£1,016,280	+£83,393

These figures are well worth the space they occupy here; they prove that it pays the foreigner to send his wares to us—that it might pay us to take this trade out of his hands by growing very much of it ourselves. But we are sadly handicapped in the struggle—what with antiquated laws, insufficiency of capital, and transport charges. Turning, for a brief moment, to the year's exports, we record the figures at £227,060,224 as against £247,235 150, a reduction of £20,174,926. We must place a large amount of this reduction to the credit of reduced prices, and so of profits (before referred to). We have quite got the better of the MCKINLAY tariff, and look forward to an extended trade with our cousins over the water. All sorts of efforts are made to "tariff us" out of various markets, and the struggle is a very hard one. Trade is also hampered by gigantic swindling here and there, and by political jealousies and racial antagonisms. We can only hope that efforts will be made in the present year to ameliorate all these conditions, and so bring profit to producer, manufacturer, and worker.

SCOTTISH HORTICULTURAL ASSOCIATION.—The annual general meeting of the Scottish Horticultural Association was held at 5, St. Andrew

Square on Tuesday night, the 10th inst. There was a very large attendance of members, Mr. W. M. WELSH, the retiring president, in the chair. The secretary and treasurer read their annual reports, which were unanimously approved of, and the following office-bearers were appointed for the ensuing year:—Hon. president, his Grace the Duke of Buccleuch; president, Councillor A. D. Mackenzie; vice-presidents, Messrs. W. M. Welsh and John Methven; secretary, Mr. Robert Laird; treasurer, Mr. Alex. Mackenzie. The following gentlemen were added to the council in room of the five retiring members:—Messrs. D. P. Laird, W. M'Kinnon, George Wood, R. W. E. Murray, and Alex. Milne. It was unanimously agreed, on the motion of Mr. Mackenzie, that "The council of the association be empowered to devote a portion of the surplus funds of each year to the relief of gardeners, their widows or orphans, in necessitous circumstances." A vote of thanks was tendered to Mr. W. M. Welsh, the retiring president, for his past conduct in the chair, and also to the secretary and treasurer.

BECKENHAM HORTICULTURAL SOCIETY.—The above Society, which numbers nearly 200 members, held a social meeting at the Public Hall, Beckenham, on Wednesday, January 11, Mr. BAKER, one of the Vice-Presidents, doing the duties of chairman, in the absence of the President of the Society. Professor CHESHIRE lent microscopes and a splendid lot of stereoscopic slides for the edification of the visitors. At the close of the entertainment a handsome silver tea-service was presented to Mr. THORNTON, the Hon. Secretary, by Mr. A. J. BAKER, in the name of the donors and the members of the general committee of the Beckenham Horticultural Society.

EMIGRATION TO THE COLONIES AND SOUTH AMERICA.—We have the following circular for publication from the Emigrants' Information Office, 31, Broadway, Westminster. The January Circulars of the Emigrants' Information Office, and the Annual Editions of the Penny and other Handbooks, with maps, show the present prospects of emigration. A United States circular is also issued for the first time. Branch offices are now organized at Bradford (Yorks), Cardiff, Devizes, Glasgow, Hereford, Leeds, Liverpool, Manchester, Newcastle-upon-Tyne, Reading, and Wolverhampton—mostly in connection with free public libraries, where all information may also be obtained. Emigrants to Canada should prepare to start in March, so as to arrive when winter is over, and the busy season begins. The Canadian Government is offering bonuses of 5 to 10 dols. a head to those who take up land in the North-West or British Columbia. The Dominion Immigration Agencies are now abolished, except at the ports of landing; in Manitoba and the North-West the Dominion land agents now act as immigration agents also, and new arrivals should apply to these. Young men who are going to Canada with a view to learn farming are strongly advised to pay no fee as farm-pupils, but to apply for information to the High Commissioner for Canada, 17, Victoria Street, London; or, to the chief clerk at this office. Work in New South Wales, especially in the towns, continues to be scarce. Sydney suffers, as usual, most of all from the prevailing depression, and no one without money should go there at the present time unless he has work waiting for him. Between February and October last over 14,000 persons registered themselves as unemployed at the government labour bureau in Sydney; employment was found for about 6,500 of these, mainly in country districts. The late strike at the Broken Hill Silver Mines has thrown large numbers of miners out of employment. With respect to Victoria, over 13,000 persons have registered themselves since last June at the government labour bureau in Melbourne as unemployed. The great bulk of the applicants were labourers, and, among mechanics, carpenters and painters appear to have suffered the most. In South Australia almost the only demand last quarter was for ploughmen, shearers, and general farm and station hands, of whom, however, there was a plentiful local supply. In Queensland the re-introduction of the Pacific Islanders to work on the sugar plantations, has given an impetus to sugar growing at Bundaberg and elsewhere, but work generally is slack, and there is no demand for fresh hands. In Western Australia, farm labourers, men in the building trades, navvies, general labourers

FIG. 15.—HYPOESTES MOSCHATA.

and miners have been well employed. In Tasmania the mining industry at Zeehan has been much depressed; owing to the bad times the government has reduced expenditure on public works, and has introduced proposals for increased taxation. In New Zealand, the main feature during the last few months has been the continued demand for public land, which has been taken up for the most part on the perpetual lease system by large numbers of settlers. Cape Colony and Natal offer reduced passages to mechanics, female servants, and others, for whom there is a limited demand in parts. In all the above-mentioned colonies there is a demand for small capitalists, farmers, fruit-growers, and female servants. As the Brazilian government are endeavouring to introduce European labourers into some of the tropical provinces of Brazil, it becomes necessary to repeat again most strongly the warnings which have been frequently issued from this office against British emigration to that country. The heat of the climate, the strangeness of food and language, the low rate of wages, and the conditions of life generally, which a British farm hand or mechanic must put up with in Brazil, are such as to make that country quite unsuited to him.

HYPOESTES MOSCHATA.

FROM material supplied to us by Baron Sir Ferdinand von Mueller, we are now able to give an illustration (fig. 15) of a plant which is likely to be of importance as a perfume-producing plant. It is an Acanthaceous plant, native to Arnhem's Land, North Australia, and is described by Sir Ferdinand as a perennial herb, pervaded by singularly penetrating musk scent, so that from the foliage a powerful cosmetic [perfume] can be distilled, the odorous principle not being subject to chemical decomposition through gentle heat, see *Select Extra Tropical Plants*, 8th edition, 1891, p. 529. The dried specimens retain their powerful odour of musk. A few seeds furnished us by Sir Ferdinand have been distributed among the curious.

FLORISTS' FLOWERS.

THE GARDEN ANEMONE.

WE were planting out our Anemones the other day, and I thought what a pity it is that these beautiful garden flowers are not more cultivated than they are. They do not require a great deal of attention to grow them well, and when they are in full beauty in the spring everyone admires them; when the flowers open in the early morning, there are no more beautiful sights than a bed of double Anemones in full bloom. The tubers are cheap enough now. In my early gardening days they were 1*s.* each, or 10*s.* 6*d.* per dozen. Now a hundred of the very best named varieties can be obtained for that money. A bed of beautiful flowers for half-a-guinea is within the reach of every admirer of the flower-garden. Those who like rich, bright colours, can have the scarlet-crimson and rich purple varieties, and there is no lack of the softer tints—rose, pale rose, blush, and white, striped and edged with other colours. One would think to look at the tuber of an Anemone, or even the plant itself in bloom, that it could not require a very wide or deep run for its roots, but I find that the Anemone does best in a deep and rich soil. At one time I fancied that the old florists took quite unnecessary pains with the formation of their beds for florists' flowers, but when I have seen the difference between the bloom of Anemones planted in ordinary garden soil and in a prepared bed after the style of the old florists, I have been compelled to modify this view of the matter. A writer in one of the garden periodicals about sixty years since, evidently an ardent florist says:—"It is astonishing that the garden Anemone is not more generally grown, as its culture is easy, and it invariably repays us with a profusion of bloom." We admit the "profusion of bloom," but it was obtained in this wise, and I would here add that this style of preparing the ground was recommended for all the "florists' flowers," as well as Anemones, such as the Pink, Pansy, Ranunculus, Tulip, Carnation, &c. "About the last week in September, take out the natural soil of the bed to the depth of 18 inches, in the bottom spread a layer of cow-dung, 3 or 4 inches thick, then fill up the bed to within 1½ inch of the surface,

with the following compost:—take of thoroughly rotted cow or horse manure, leaf-mould, and heavy loam, of each six barrowfuls, white pit-sand two barrowfuls, mix well together," &c. With this the hole of 18 inches deep was filled; the quantity of manure was too great, if it had not been turned over and over again until nearly all the nutriment had been washed or dried out of it, for they did not care to use the manure until it was at least twelvemonths old. This is the only way we can account for their using it in such large quantities without poisoning the ground, and killing some of their flowers outright. The man was right in recommending the loam to be heavy; both Anemones and Ranunculus require, or at least they do best when the loam is heavy; but it must be made porous by the use of decayed manure and leaf-mould. I have great success with the Anemone by planting the tubers in a border prepared for Vines, and which contains near the surface an unusually large quantity of manure; and in no other part of the garden have the plants ever grown so well or flowered so freely. The tubers are planted in January, and as the ground is well-drained, and has a southern aspect, they start into growth at once. This season they were planted early in December. They may be planted at any time between the end of October and the end of January. Like the Ranunculus, they do not like to be allowed to become dry at the roots when in full growth, and I mulch the beds with decayed manure, and afford water freely in dry weather. As soon as the leaves become yellow, the tubers are lifted, as if left longer than that in the ground, they start to grow again, which is injurious to them. I find if they are left alone in the ground, they will flower in the autumn, and some persons say that they can be established in the open air to grow and flower annually. This they will not do in any garden I have had charge of. They will flower in the spring and again in the autumn the first year after planting, but the second year there are many blanks, and the third year they decline further, gradually ceasing to flower, and at length they disappear. It is easy to save seeds, at least from the semi-double varieties. This should be sown in boxes in the spring, and placed on a hot-bed to vegetate. The young plants should be pricked out about 3 inches apart, they will form tubers which will produce strong flowering plants the following season. *Jas. Douglas.*

HOME CORRESPONDENCE.

MUSCAT CHAMPION GRAPE.—It is many years since I saw exhibited the Muscat Champion Grape. By reason of the large and handsome berries and the fine flavour which it has, great hopes were entertained that it would be a leading variety. I was not aware, however, till I read in the issue of the *Gardeners' Chronicle* of January 7, that the variety was raised by Mr. Meredith. I was at one time very intimate with him, but never heard him speak of Muscat Champion—and in his splendid exhibits of Grapes at Edinburgh, London, and elsewhere, I do not remember ever seeing this fine variety. The first time I ever saw it was in a first prize collection of sixteen kinds of fruit at the first horticultural International Exhibition held in Edinburgh. Four small bunches with large brownish berries composed one of the dishes, and so influenced the decision of the judges, that they awarded the first prize to the collection, and the recipient was the late Mr. Melville, then gardener at Dalmeny Park, near Edinburgh, who was credited with the raising of this (then) new Grape. I remember the circumstance well, by reason of Mr. Melville's success, causing me, along with others, to become a disappointed exhibitor in the same class. This Grape was again shown in Edinburgh by a prominent exhibitor of that time, Mr. Carmichael, then gardener at Sandringham, who told me that this delicious Grape was a great favourite with the Prince of Wales. I have grown it more or less ever since I first became acquainted with its merits (my success, however, is barely worthy of imitation), and all whom I have asked to partake of it speak in the highest terms of its flavour. Mr. Carmichael, replying to some of my questions, naïvely said, "Why should we wish all Grapes to be confined to blacks and whites?" Those referred to were more crimson than brown. I wish our good friend, "Vagabond," would kindly get a little more information for readers. I believe Messrs. Veitch sent it out. *M. Temple, Carron House.*

[Our correspondent, "Vagabond," corrected his mis-statement in our last week's issue. ED.]

ASPARAGUS FOR FORCING.—Many trade growers of Asparagus roots for forcing have mistaken notions as to what forcing Asparagus should be, and before they advertise their "excellent forcing roots," it would be well for themselves and purchasers if these vendors would make themselves acquainted with the properties of "Asparagus for forcing," much disappointment would then be saved to both parties. It appears that some growers believe that large-spreading roots (probably a dozen in one clump) is what the forcing gardener requires. Such are useless without strong, prominent crowns. The roots should be cultivated singly, and plenty of space allowed between them, to allow of strong growth. A daily dish of Asparagus is a welcome vegetable from November onwards, and those who may have been long accustomed to partake of it are disappointed when it is not forthcoming. The writer at one time had about 2 acres to choose forcing roots from, and could get produce easily and as plentifully as one could desire from the open ground; but now we find one can only depend on old-established firms to supply roots which produce crowns worth the trouble of forcing. *T.*

PRICES OF HOME-GROWN TIMBER.—Speaking generally, it may be said that the prices of home-grown timber have slightly improved during the past twelve months, but there is still much room for further advances. When we contrast the prices that are now obtained for forest produce generally with those realised fifty years ago, we cannot help feeling disheartened, for in many instances the selling price at present is hardly one-fourth of what it was in years gone by. Take as familiar examples, the prices of Oak timber, Oak bark, coppice wood, and charcoal as at present realised, and compare them with the prevailing prices of not much more than thirty years back, and the results would hardly be credited. When we think of the £20 per acre that was the ruling price of coppice wood when Hop culture was extensively engaged in, in many of the southern English counties; the 5*s.* or 6*s.* per foot that could readily be got for Oak timber, when wooden vessels were the order of the day, and when smelting iron was engaged in to such an extent that the famous weald of Kent was almost destroyed by the rage for Oak wood for the furnaces; and the £20 per ton for Oak bark that was paid in London not so many years ago, we cannot but reflect on the changes that a few years have brought about. Nowadays the forester is well contented with from £4 to £5 per ton for his brightest and best dried bark, with from £5 to £6 per acre for his coppice wood; and thinks the bargain especially good if he can procure 2*s.* per foot for his Oak timber. Faggots that used to fetch nearly 20*s.* per 100, are now a drug in the market at from 10*s.* to 15*s.* per 100; and small faggots, "pimps," as they are termed in England, only realise about 2*s.* or 2*s.* 6*d.* per 100. A large maker of these faggots, and who has supplied the Government with vast numbers, told me the other day that for 100 faggots he now sold, formerly 300 would find purchasers, and that the small bundles of split wood now sold at many shops were slowly but surely ousting the faggot from the market. In southern England, it may be truly said that in regard to the prices of home-grown forest produce, a few years have brought about marked changes. When Hop-growing was extensively engaged in throughout southern England, coppice-wood, if of suitable size for Hop-poles, was readily disposed of, and at very remunerative prices; but now, with the decline of that crop, the coppice plantation is fast being grubbed out to make room for the more remunerative Strawberry. Creosoting poles, and which lengthens their life by fully one-half, has also had a share in lessening the demand for poles and posts. But to return to the current prices of timber around London, it may be said that these have been fairly well maintained throughout the past year, and the demand is rather more encouraging than heretofore. Oak still finds a ready market at prices ranging from 1*s.* 6*d.* to 2*s.* 6*d.* per foot, the latter for exceptionally good logs of large size, clean, and free from shake. Elm cannot be sold to advantage, the average price of about 8*d.* being indeed discouraging. For Ash, if clean and well grown, from 1*s.* 6*d.* to 1*s.* 8*d.* can readily be got, but local demand affects the price considerably. Sycamore at 1*s.* 8*d.* or 2*s.* per foot is well sold, but the price of this timber varies widely with the locality. For Birch and Alder about 10*d.* per foot is usually offered; and Lime, Horse-Chestnut, and Beech will not at present realise more than about 7*d.* per foot. Amongst Pine-wood, Larch is the only kind that can be said to have a ready market in this country, the usual price of 1*s.* 3*d.* to 1*s.* 6*d.* per foot being well maintained. Scotch, Austrian, and Corsican Pines are not readily got rid of even at the modest price of 7*d.* per foot. Large faggots, for converting into those of smaller size for fire-lighting, are about 12*s.* per hundred; small faggots, 2*s.* 6*d.* per hundred; and firewood, 5*s.* per single horse cart-load. *A. D. W.*

VINE DRESSING AND PETROLEUM.—It is a "far cry" to Cupar, but I dare say a few words from me will reach your correspondent. Petroleum oil is at all times dangerous to use as a wash. I have heard gardeners boast of their success in applying it, but ultimately they have had to confess to misadventure, as so much depends on the degree of care with which is is used. If petroleum be mixed with clay, soft soap, and flowers-of-sulphur, into the consistency of paint, it can be safely applied with a brush, and neither red-spider, thrips, mealy-bug, nor Vine-scale will re-appear, if there be no greenhouse or stove plants in the vinery to serve as a nursery for such insect pests. Red-spider is often induced by keeping the inside border too dry, and the Vines insufficiently nourished. Heavy cropping, and anything else that weakens the Vine, also invites red-spider. If the leaves are too near the glass roof, and that is imperfectly ventilated, red-spider will often appear. Syringing the Vines after the appearance of the young bunches is likely to produce attenuated foliage, liable to scalding, which is often followed by red-spider, instead of leathery leaves of dark green colour, such as should result from proper treatment. Red-spider is another name for bad cultivation. *W. R., Streatham Hill.*

—— Seeing in the last issue of the *Gardeners' Chronicle* Mr. Williamson's experience with petroleum on Vines, I should also like to relate a similar experience that happened at a place in which I was living in Dorchester a few years ago. We had some red-spider lurking about the Vines, and I was instructed to wash them with a wineglassful of petroleum in one gallon of water, and a small quantity of soap only. Two Vines were washed with this mixture the day we mixed it, the rest being finished the next day with the mixture that was left from the previous day, the house being shut up for forcing the Vines soon afterwards. The two Vines that were washed first never broke, being dead down to the ground, but the others broke, although very weakly. There is no doubt that more of the Vines would have been killed had they been washed the first day. We came to the conclusion the strength had left the petroleum by the next day, as it had been kept constantly mixed by an assistant, who used a syringe for the purpose. *A. Gooden, Shopwyke House.*

CANCER AND TOMATOS.—Not long since quite a scare was produced amongst some of the consumers of the popular Tomato, that those partaking of it were liable to that dread disease, cancer! It will be re-assuring, therefore, to such to be informed, on the authority of Dr. Marsden, Chairman of the Medical Committee, the Cancer Hospital, Brompton, that:—"Tomatos neither predispose to, nor excite cancer formation, and they are not injurious to those suffering from this disease; but, on the contrary, are a very wholesome article of diet, particularly so if cooked." *J. B.*

GLADIOLUS CHILDSII.—I have received numerous enquiries relative to an advertisement which has recently appeared in the English papers, offering corms of a Gladiolus under the above name, and mentioning me as having spoken highly of this plant. Permit me to state that I know nothing of G. Childsii beyond what the advertiser tells us. The plants I wrote about in the American *Garden and Forest* in September, 1890, were six seedlings which were obtained from Messrs. Hallock & Son, New York, and which flowered at Kew in 1890. It is, of course, possible that Mr. J. L. Childs, the advertiser, has become possessed of the stock from which the Kew plants came, and which were originally the property of Herr Max Leichtlin, who raised them about ten years ago from G Saundersii, crossed with some of the G. gandavensis kinds; but I repeat, I know nothing of the qualities of G. Childsii. *W. Watson.*

THE YEAR'S RAINFALL.—The total rainfall for the year 1892, just ended, according to the rain-gauge of Sir J. B. Lawes, at Rothamsted, which is of one-thousandth acre area, and stands 420 feet above the sea-level, amounts to about 25¼ inches; this is 3¾ inches, or 354 tons of water per acre less than the average for the previous thirty-nine years, 1853-1891. The months of January, February, March, April, May, September, November and December each gave a deficiency of rain, while June, July, August, and October recorded an excess of rain. Thus, during the period of active plant-growth of our crops, there was a deficiency of moisture in the soil; while during the hay, grain, and Potato harvests, the soil was in a saturated condition. However, although these periods could not be called uniformly unpropitious, neither could they be called uniformly favourable. *J. J. Willis, Harpenden.*

NURSERY NOTES.

MESSRS. HUGH LOW AND CO.

Although, perhaps, this is not quite the best time to make a visit to these nurseries, where so many Orchids are always in stock, few of which cheer the month of January with their bloom, yet the immense quantities of Palms, and the unique collection of hard-wooded greenhouse plants, cannot fail to interest the visitor even at this period. At Clapton and at Enfield, the houses are very extensive, and cover some 325,000 superficial feet, and not a square foot of this area is allowed to stand idle—from which fact a stranger to this part of London will be able to form some idea of the quantity of plants in stock. The firm's principal dealings are with the trade, especially in regard to the Palm and to the stove and greenhouse department; but on the other hand, the trade in Orchids is, perhaps, greater in retail than in wholesale. A wonderful stock and collection of Cypripediums are in fine health, and are perfectly clean. One house is filled entirely with C. bellatulum, where there must be many thousands. The C. niveum and Godefroyæ section, although not of easy management, are also looking well, and just one bloom of niveum and one of bellatulum relieved the quantity of foliage in the house devoted to plants of this section. The Phalænopsis, which fill two large houses, are in good health, and most of them are bearing flower-spikes; but here the fog has done mischief, and a great number of the buds have dropped therefrom. Amongst these we noticed a fine little plant of Cephalotus follicularis, but the Anæctochilus that used to be here in some little quantity, appears to have gone. The Cattleyas, of which there are large quantities of established and semi-established plants, are good; but there are no blooms worthy of note at this time, although a great quantity of them are now in sheath. The same also applies to the Lælias. The group of Angræcum sesquipedale, however, were carrying a good number of their curious white and very wax-like blooms, and a few blooms of Sophronitis grandiflora looked especially bright from the absence of those of other species. A nice group of Saccolabium bellinum had their prettily-marked flowers well developed. Dendrobiums in quantity appear well ripened, and are showing bud, D. Wardianum and D. formosum giganteum being already in bloom. Vanda Amesiana is carrying a fair quantity of blooms, but these are lacking colour, which will no doubt be due to the fogs, and consequent dark days. The plants, however, looked well, and so did also the group of V. Kimballiana. A large house of Odontoglossums, well established, but not yet flowered, promises good results. The vast quantities of Palms ought to be seen to be appreciated, for we cannot attempt to speak of their number without incurring the charge of exaggeration. The whole stock is quite clean, and is composed of first-rate saleable plants. The bulk of them are of kinds best suitable for the trade, such as Kentia Belmoreana, K. Canterburyana, and K. Fosteriana, Areca Baueri, A. sapida, A. lutescens, &c.; Cocos flexuosa and C. Weddeliana, Phœnix reclinata (in very large quantity), P. rupicola and P. Sanderiana, Geonoma gracilis, G. Seemanni and G. Schottiana, Latania borbonica (Livistona chinensis), Thrinax parviflora, Chamærops elegans, C. excelsa, and Corypha australis, whilst a few of the less popular kinds are also kept in stock. Some of the Kentias have been planted out in beds instead of being grown on in small pots, and, although this is only at present an experiment, the result appears to be that the plants assume their characteristic form much earlier, and if they can be potted-up without very much check, they will certainly be better specimens than those in pots. A large trade is done in Aralia Sieboldii (Fatsia japonica), and preparations are being made for increasing the already large stock. A general collection of Ferns are kept up in varieties of the most saleable sorts.

SCOTLAND.

DRYDEN BANK.

I came to visit Dryden Bank on account of a verse of Scott, which appealed to my vagabondish nature, describing the effect of the mysterious light that issued from Rosslyn Castle:—

"It glared on Rosslyn's castled rock,
It ruddied all the copsewood glen,
'Twas seen from Dryden's groves of Oak
And seen from caverned Hawthornden."

Setting out to tramp to these places in one day, I came to Dryden last of the three. The old Oak wood well repaid the long walk; but a large walled-in kitchen-garden contained no houses of any sort, although it was cropped with vegetables. There being nothing to see except the Oak wood in its snowy draping, I reached Polton Station a long time before the start of the Edinburgh train. This gave me time to ascend a steep hill to Dryden Bank, one of the first established Grape-growing establishments in the neighbourhood of Edinburgh. A house 160 feet long is devoted to Alicantes. The bunches were so thick, that looking down the house, no other colour than purple could be seen, although a great many bunches had been cut. The Vines have been cropped as heavily for nineteen years, and show no signs of decay; this is chiefly owing to new rods being constantly run up. A house of Gros Colmar of the same dimensions is just as much a sight as the Alicante-house. To convince me that Gros Colmar was a good flavoured Grape, Mr. Spence the gardener cut for me a large-berried bunch. I must confess that I have never eaten a more luscious Grape. All the earthy, musky flavour usually associated with this Grape was entirely absent. I gave some berries to a well-known judge, and he endorsed my opinion. It may be a matter of soil that makes the difference, but I think that the real cause is, perhaps, the entire absence of thrips and red-spider, and that the manure is taken from a source surcharged with ammonia. Mr. Spence, the gardener, who was with Mr. Thomson of Clovenfords, evidently understands all the *technique* of viticulture,

The grounds round the villa are formally laid out: on the west side are two terraced lawns; in the middle of the higher one is a conservatory and a flower garden divided into four squares. To the right is a bank of Yews, with Spruces and Scotch Firs behind. The lower terrace contains beds of Roses; and on the other side of the path is an arch formed of Irish Yews, and a majestic Plane tree, 14 feet in girth. A small lawn with a bed of fine varieties of Rhododendron slopes down to the north side, and above is another lawn, laid out as if it were a flower garden, with formally-planted Golden Hollies and Irish Yews.

From the house there is a lovely prospect over the valley of the Esk to wooded Hawthornden, with the dark misty Muirfoot hills in the far distance. The neighbouring view is Dryden Glen, on the far side, stretching away to the Oak woods of Dryden Mains. *Vagabond.*

LOW TEMPERATURE IN THE PRESENT MONTH.

After the coldest December experienced in this district (in the valley of the Rivers Forth and Carron), for twelve years, the frosts have not abated in severity, and the Scotch "curlers" have had enjoyment on the ice to their hearts' content. It is unusual for the temperature to be lower here than elsewhere; often from the south of Scotland and England we have reports of severe weather when we have no frost hereabouts—there were on the 5th inst. 16° of frost at 1 P.M.; at 3.30 P.M., 25°; at 4.30 P.M., 28°; at 5.30 P.M., 29°. These readings were taken from a thermometer 1½ foot above the ground level. A change came on in the evening, and at 7.30 P.M. the thermometer stood at 27°; and at 10.30 P.M., 17° was noted. By daylight on Friday morning the thermometer had risen to 14°. I expected to have seen the thermometer at zero for once in Scotland, but not so yet. I have frequently seen 32° of frost during nearly a quarter of a century's residence in south-east and west of England, and vegetation suffers more than in Scotland. It is premature to state what damage is done. *M. Temple, Carron House, N.B.*

SOCIETIES.

ROYAL HORTICULTURAL.

January 17.—In spite of the adverse character of the weather, the show on Tuesday last at the Drill Hall, James Street, Westminster, was bright, and well up to the average. A good display of Orchids, containing some very interesting specimens, a group of fine Cyclamens, some Chrysanthemums, and a group of exceptionally well-grown plants of Begonia Gloire de Sceaux, together with a large collection of Apples and Pears, rewarded those who were able to defy the almost prohibitory elements.

Floral Committee.

Present: W. C. Leach, Esq., in the chair; and Messrs. R. B. Lowe, J. Jennings, G. Stevens, G. Phippen, H. B. May, W. W. Mann, C. F. Bause, E. Molyneux, T. C. Dreury, R. Owens, H. Herbst, J. Laing, G. Paul, H. Turner, C. Noble, C. E. Shea, P. Barr, F. Ross, C. J. Salter, W. Furze, and T. Godfrey.

A group of magnificent plants of Begonia Gloire de Sceaux came from Ascott, Leighton Buzzard, the garden of Mr. Leopold de Rothschild (gr., Mr. J. Jennings). This is a really fine plant at this season, and as seen on Tuesday in pots of 5 or 6-inches, and standing about 18 inches high, with its velvety leaves and extreme floriferousness, it would be indeed difficult to beat as a decorative plant. This Begonia was awarded a First-class Certificate, and the group a Silver Banksian Medal. Mr. Jennings also exhibited a group of Tree Carnation Sir Henry Calcroft. The plants were well flowered, and the blooms, which are rosy-crimson, are of good size and form.

Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, sent a plant of Pteris serrulata gigantea, which gained an Award of Merit; its habit seems very free in growth, and the fronds, as its name implies, are much larger than the type. A plant of P. reginæ and some plants of Carnation Winter Cheer came from the same nursery (Vote of Thanks).

Messrs. Hugh Low & Co., Clapton and Enfield, staged a fine group of Cyclamens in the different shades. The flowers were of good size and substance, and produced in quantity (Silver Flora Medal).

A pretty group composed of Dracæna Massangeana and D. Lindeni in 5 and 6-inch pots came from Messrs. Wm. Cutbush & Son, Highgate, London, N. (Bronze Banksian Medal).

Messrs. Shuttleworth & Co., Peckham Rye, and Fleet, Hants, sent a group of Narcissus, nicely in bloom, consisting of Henry Irving, Countess of Annesley, N. obvallaris, N. Ard Righ (Vote of Thanks). Also Grape Hyacinth (Muscari) azureum, and the extremely pretty Iris Bakeriana.

Messrs. Jas. Veitch & Sons, Chelsea, again sent a collection of blooms of Rhododendron javanico-jasminiflorum hybrids. Also Begonia Winter Gem, and a few plants of Primula floribunda, a very dwarf little plant, with yellow blossom, very delicate and pretty.

Mr. W. C. Leach, gr. to the Duke of Northumberland, at Albury Lodge, Reigate, sent a group of cut Chrysanthemums and Poinsettias, very effectively mixed with bronzy Mahonia leaves (Silver Banksian Medal).

Messrs. H. Cannell & Sons, Swanley, Kent, had a group of seedling Primulas, Cannell's Favourite and Crimson King, two good dark-coloured varieties, and Jane, a very large delicate flesh-coloured flower. The habit of all is good.

Some Chrysanthemums were staged by Mr. Robert Owen, Maidenhead, who obtained an Award of Merit for Mrs. E. D. Adams, a very large Japanese flower, petals wavy, and flesh coloured. This has been seen at many of the shows in the autumn. Also for New Year's Gift, an English seedling Japanese. The petals are very broad and the flower flat; colour white, but falling to pale lemon in centre. A most desirable variety. Mr. Owen also staged Mrs. Maria Bourne, an English seedling Japanese, pink coloured. Mrs. L. C. Maderia, American incurved; the flower was of good form, but petals narrow. Secretary Farson (American), a large Japanese incurved, but exhibiting poor centre. Princess Marie (English seedling): this is a Japanese Anemone, rather loose-looking, but good; colour pink. Bryden, Junior, was a rather thin-looking Japanese yellow; and A. J. Booker a dark rose-coloured Anemone, which, we think, will rank with the best of this section. Mr. Owen had also a few blossoms of Owen's Imperial strain of Primulas.

Orchid Committee.

Present: H. J. Veitch (chairman), W. M. Pollett, Hugh Low, W. Bond, H. Williams, E. Hill, J. Jaques, M. T. Masters, J. Douglas, A. M. Smee, A. Sander.

It was a surprise to many to see such a good display on so unfavourable an occasion. This consisted for the greater part of Hybrid Cypripediums, whose numbers appear to be legion.

First-class Certificates were awarded to the following varieties:—To Calanthe gigas (C. Sanderiana gigantea × vestita gigantea). This is a truly magnificent hybrid, being one of the finest shown for a long time. The plant bore one spike, erect in growth, and about 4 feet in length from its juncture with the bulb, quite another foot of the terminal part of the spike being undeveloped. The flowers are of large size, the sepals and petals broad, the ground colour white, suffused with a rosy shading; the lip deep rose, with crimson base. The bulbs take much after its last-named parent, whilst the foliage was beautiful and fresh. From Messrs. J. Veitch & Sons. To Cypripedium Penelaus (C. caudatum Lindeni × C. calurum), a remarkably fine and distinct hybrid, the colour of the flowers deeper than in C. calurum, but possessing much of its character, the petals being, however, much longer (about 6 inches), also twisted; the younger flower was a deep rosy-pink, the older one paler; the habit vigorous. Also from Messrs. J. Veitch & Sons. To Cycnoches pentadactylon (see fig. 16, and *Gardeners' Chronicle*, p. 188, August 17, 1889, where a full description of this singular and beautiful Orchid is given by R. A. Rolfe). The variety certificated on this occasion is the male form, but as shown, the flowers are lighter, not so heavily barred or blotched with chocolate; the ground colour a yellowish-white; the lip and column are comparatively insignificant, although interesting in their construction. The plant shown bore three young growths, one of which carried five spikes, each a foot or more in length, and nearly fully developed; the other growths had each two spikes not yet open. Unlike a Catasetum, this Cycnoches produces its spikes on the top of the bulb-like growth, whereas in the other case they usually issue forth from the base with the young growth. The plant was shown by W. W. Mann, Esq., Ravenswood, Bexley (gr., Mr. Simmon).

Botanical Certificates were awarded to Bulbophyllum (comosum), a species not particularly remarkable for its beauty, although interesting. From the Royal Botanic Gardens, Glasnevin. To Cynorchis grandiflora, in which the deep lilac lip is the chief feature, the sepals and petals insignificant, from Messrs. Lewis & Co., Southgate.

A few small but good groups were shown, the best being that from Messrs. B. S. Williams & Son, to which a Silver Banksian Medal was awarded, the chief features being the Cypripediums, of which the best were C. insigne punctatum violaceum, a fine form; C. Leeanum and the variety called superbum, both in good condition; C. politum, a dark variety; C. amandum, C. Sallieri, C. calurum, C. Pitcherianum, Williams' variety, a fine dark form; C. nitens, beautiful; and C. cardinale. Others consisted of an Odontoglossum Alexandræ, with a branching spike—a good variety; O. elegans, bearing a long spike of small brownish flowers; and Lælia anceps Stella, a pure white form, the lip being slightly marked—a handsome variety.

Messrs. H. Low & Co. staged a beautiful little group of Saccolabium bellinum, the small but healthy plants bearing very fine flowers on short spikes.

Messrs. Sander & Co. staged a few new and choice varieties, amongst which were Cypripedium nitens, St. Albans variety (insigne Chantinii × C. villosum), a very beautiful hybrid, possessing more of the characteristics of its first-named parent; Pleurothallis ornatus, Sarcopodium Godseffianum, with rich golden-yellow flowers spotted with a darker shade, and Masdevallia Hincksiana of a chrome yellow colour.

Messrs. J. Veitch & Sons had also several more hybrid Cypripediums, of which note should be specially made of C. Orion (C. concolor × C. insigne), a distinct cross, the foliage and form of the flower after C. concolor, with more of the colour of C. insigne, but paler; C. Æson (C. Druryianum × C. insigne), which shows most markedly the relations to the last-named; C. Lathamianum (C. villosum × C. Spicerianum), previously shown, a very superior and noble-looking hybrid, in finer condition than when Certificated; C. Creon (C. œnanthum superbum × C. Harrisianum superbum), the flowers of which are intensely dark, of a claret shade, and C. Godseffianum (C. villosum Boxallæ × C. hirsutissimum). Phalænopsis Vesta (rosea leucaspis × Aphrodite), with small but bright rosy flowers. Another remarkable hybrid was Phajo-Calanthe Sedeniana albiflora (Phaius grandiflorus × Calanthe vestita rubra occulata), the flowers white like a Calanthe, but the bulb had more traces of its other parentage.

FIG. 16.—MALE FLOWER OF CYCYOCHES PENTADACTYLON.

Awards of Merit were voted to the following hybrid Cypripediums: To C. Germinyanum (C. hirsutissimum × C. villosum), a very distinct cross; the dorsal sepal rather narrow and erect, of the same colour, but darker than in C. villosum; the petals a deep mauve, showing its other parentage—a handsome hybrid. To C. Phœdra (C. Lindleyanum × C. Sedeni candidulum), a fine hybrid, much after the last-named parent, but with broader petals, whilst the colouring is much brighter throughout the flower, the growth very free. From Messrs. J. Veitch & Sons.

Fruit Committee.

Present: Philip Crowley, Esq., in the chair; and Messrs. G. Bunyard, W. Wilks, Harrison Weir, A. Veitch, G. W. Cummins, J. Cheal, T. J. Saltmarsh, J. Wright, A. Dean, E. Burrell, A. H. Pearson, J. A. Laing, G. Reynolds, G. H. Sage, G. Wythes, J. Hudson, C. Ross, F. Q. Lane, H. Balderson, G. Norman.

The exhibits under this committee consisted almost exclusively of Apples and Pears. Apple Blue Pearmain was the only one gaining an Award of Merit, and was from the Gardens of the Royal Horticultural Society at Chiswick. It is a fruit with a beautiful coat of bloom in the summer.

Messrs. J. Cheal & Sons, Crawley, exhibited some dishes of Apples, described as being new or but little known. The names were:—Egg or Paradise, a pretty little fruit; Swedish Reinette, Chas. Cognée, Cornish Aromatic, Galloway, Nanny, Beauty of Barnock, Egremont Russet, Hormead's Pearmain, Northern Spy, Ottershaw Pippin, Warner's Seedling, Forfar Pippin, Sandringham, Niton House, Bismarck, Newton Wonder, Histon Favourite, Landsberger Reinette, Calville Rouge, and Gospatrick (Bronze Banksian Medal).

A good dish of Apples, Annie Elizabeth, was sent by Mr. Turton, gr. at Maiden Erlegh (Vote of Thanks).

Mr. Charles Herrin, Dropmore, Maidenhead, had fifteen dishes of Apples, the best of which were Cox's Pomona, Cox's Orange Pippin, Lord Derby, Bismarck, Beauty of Kent, Adams' Pearmain, and Tower of Glamis.

Some seedling Apples were sent from Mr. H. Becker, Jersey, but none of them found favour; indeed, they were scarcely in a presentable condition. Dishes of Apples, Stamford Pippin and Winter Peach, came from Mr. Robert Mayer, The Gardens, Tattenden Court.

Messrs. G. Bunyard & Co., Maidstone, sent a collection of excellent fruits of Apples, consisting of 150 varieties, and a few Pears. The most noticeable were Golden Noble, Gascoyne's Scarlet Seedling, Forge Pippin, Warner's King, Peasgood's Nonsuch, Lady Henniker, Emperor Alexander, The Queen, Brabant Bellefleur, Wealthy, Sandringham, Lane's Prince Albert, Gloria Mundi, Bramley's Seedling, Schoolmaster, Melon Apple, Hoary Morning, White Gravenstein, Mère de Ménage, Ribston Pippin, Lord Derby, Bismarck (unusually fine), Beauty of Kent, Waltham Abbey Seedling, Queen Caroline, Hereford Beefing, and Purple Germain. There were three Pears—Verulam, Catillac, and Uvedale's St. Germain (Silver-gilt Knightian Medal).

EXAMINATION IN HORTICULTURE.

The Council of the Royal Horticultural Society sympathising with the efforts of the various County Councils, technical institutes, schools, gardeners' mutual improvement societies, and others bodies, to promote instruction in practical horticulture by means of lectures, demonstrations, &c., and in the hope of rendering such teaching more definite and effective, have consented to hold an examination in horticulture in the first week of May, 1893.

The following is an outline syllabus, showing the nature of the subjects to which it is considered desirable that the attention of students should be drawn.

ELEMENTARY PRINCIPLES,

On which Horticultural Practice is based.

1. Soils, good and bad: their nature and composition; weeds and their indications.
2. Requirements of growth—water, heat, air.
3. Seeds: nature of, duration of vitality in, and modes of germination.
4. Roots, nature and functions of; fibrils and root-hairs; what they do, and how they do it—what helps and what hinders them.
5. Stems and branches: their nature, work, and uses; helps and hindrances to their work.
6. Leaves: what they are, what they do; helps and hindrances to their work.
7. Tubers and bulbs, leaf buds and flower buds.
8. Growth and development: increase in size and changes of composition and structure; formation and storage of food materials.
9. Flowers: their component parts; what they do; artificial fertilisation.
10. Fruit: changes and development during ripening; forms and varieties, as, e.g., Apple, Strawberry, Plum, &c.
11. Seed: formation of.
12. Variation and selection.
13. Names and orders of common garden plants, trees, &c.

HORTICULTURAL OPERATIONS AND PRACTICE.

1. Surveying and landscape gardening: elements of.
2. Choice of site for garden.
3. Description and use of implements under each head.
4. Operations connected with the cultivation of the land, with explanations and illustrations of good and bad methods: digging and trenching; draining; hoeing, stirring the soil, and weeding; watering; preparation of seed bed; rolling and raking; sowing, transplanting, and thinning, potting, planting; aspects, positions, and shelter; staking; earthing and blanching, &c.
5. Propagation. Elementary principles: cuttings. Budding and grafting, stocks used. Layering. Division. Branch pruning. Root pruning: old and young trees and bushes. Training.
6. Fruit culture: open air and under glass; small fruits; Apples and Pears; stone fruits; gathering and storing; packing and marketing. General knowledge of fruits, and selection of varieties.

7. Vegetable culture: tubers and roots; green vegetables; fruits and seeds; rotation of crops, and selection of varieties.

8. Flower culture: outside and under glass.

9. Manures, and their application.

10. Improvement of plants by cross-breeding, hybridisation, and selection.

11. Arboriculture: trees and shrubs, and their culture.

12. Insect and fungus pests: prevention and treatment.

Lecturers and teachers wishing their students to sit for the examination would do well to send to the Secretary, Royal Horticultural Society, 117, Victoria Street, Westminster, two copies of the syllabus on which their lectures have been based.

Students and young gardeners not having had the advantage of attending lectures, but wishing to present themselves at some one of the centres for examination, would do well to communicate with the Secretary of the society; and they might with advantage consult some of the following works:—*Primer of Botany* (MacMillan & Co.), by Sir J. D. Hooker, K.C.S.I.; *Botany for Beginners* and *Plant Life* (Bradbury, Agnew & Co.), by M. T. Masters, M.D., F.R.S.; *Popular Gardening*, 4 Vols. (Cassell & Co.), edited by D. T. Fish; *Epitome of Gardening* (Adam Black & Co.), by T. Moore and M. T. Masters; *Agriculture*, Parts I. and II. (John Murray), by W. Fream, LL.D.

Two sets of questions will be set; one of an elementary character called the Lower Grade, and one more advanced called the Higher Grade. The Royal Horticultural Society will award a Silver-gilt Medal to the candidate gaining the highest number of marks in the first class in the higher grade, and a Silver Medal to the highest in the first class in the lower grade, and will grant Certificates of the class in which candidates shall have passed. Persons wishing to sit for the examination must send in their name and address to the Secretary, R. H. S., 117, Victoria Street, Westminster, not later than the first week in April, when they will be informed of the nearest centre at which an examination will be held. A small capitation fee will be charged for every student in order to partially defray the expenses of the examination.

SCHOLARSHIPS.

Since the above was in print two scholarships have been offered, viz., one by the Worshipful Company of Gardeners, and the other by the President of the Royal Horticultural Society, Sir Trevor Lawrence, Bart., and it is hoped that before the date of the examination others may be added. [A third offered by Baron Sir Henry Schroder has been since announced. ED.]

These scholarships will each be of the value of £26 a year for two years, and will be awarded after the examination to the two students who shall pass the highest, if they are willing to accept the conditions which will be attached. These conditions have yet to be exactly formulated, but the main outline will be, that the holder must be between the ages of 18 and 22 years, and that he shall study gardening for one year, at least, at the Royal Horticultural Society's gardens at Chiswick, and for the second year, either there or at some other place to be approved.

NOTICES OF BOOKS.

DAS KLEINE HAUS MIT GARTEN. Ninety-two pages, small quarto. By Lothar Abel. (A. Hartleben, Bookseller, Vienna, Pesth, and Leipzig.)

This well-written little *brochure* contains, as the author himself says in his preliminary remarks, practical hints on building country houses, villas, and cottages; and he seems to have said all that is essential to be known of the subject by owner and builder alike, beginning with the choice of site, aspect, soil, and water.

The housing question, as he pertinently remarks, and in particular that which concerns the so-called working-classes, is in direct connection with educational progress and the conditions of civilisation in a country, and is of special importance in the development of large towns. Quoting Dr. Lette, he remarks that a suitable habitation is the foundation of the well-being of the family, and the primary condition for civilisation and humanity, an orderly family life, and the bodily and intellectual healthy rearing of the young.

In the Austrian-Hungarian Empire, the conditions under which the peasantry and working-classes live reveal much that requires amendment. The almost constant state of war which prevailed for hundreds of years brought about a condition of things that has, with a few exceptions, lasted till our day. The uncertainty of life and property compelled the folk to live in fortified towns, or in large villages, consisting of ground-floor dwellings. And to-day there are thousands of the latter scattered over the empire, which are largely peopled with the bauernfolk—the farmers—mostly freeholders. Of course, the homesteads, with their manure-heaps, offal, the immense numbers of geese and turkeys, goats and pigs, the milch-cows, oxen and horses, are crowded together in these, much to the disadvantage of all concerned. The goats, pigs, geese, the cows, oxen, horses, have their separate herds, who collect and drive them out every day during spring, summer and early autumn, and at the end of the day brings them home again from the common grazing-ground. To do away with these congeries of farm-houses which are in constant danger from fire, and to place the houses on, or near the land belonging to each, would be a clear gain to farmer and animal alike, and although M. Abel in this booklet has made a beginning with the artizan class, his system if it take with his countrymen cannot stop there, but must include the farmer. In his choice of soil on which to build, he favours a dryish clay in preference to gravel, which is the favourite substratum in these islands. He fears the exhalations from gravel, and it is true that a clayey soil will, in course of time, under a building become so dry that moisture from below cannot ascend, nor moisture from the sides penetrate it. He has taken for his models the cottages and smaller villas of this country, the selections including the simplest and the most ornate in style and surroundings. As becomes a garden architect he has given much attention to the garden, its formation, aspect, planting, and arrangement, not forgetting the beautiful in describing and cataloguing the useful—in truth, erring on the side of recommending too many pretty flowering plants and fine shrubs, but for that we may forgive him. In taking leave of the *brochure*, we can but deplore the want of so well-written and illustrated cheap work in our own language.

A GARDENER'S STORY.

A NEW book by an accomplished man, who possesses the additional merit of being an enthusiastic gardener, is always welcome. Gardening books are too often dull when they might easily be interesting, and prosaically heavy when, without being at all flippant, they ought to be at least entertaining. There should be nothing antagonistic between the art of gardening and the art of bookmaking, but unfortunately the two phases are rarely found happily associated. How comes it that really clever gardeners, men who are to a pronounced degree entertaining on almost every section of their art, are such sorry companions in their books? The question is a nice one, and the present writer is quite willing to leave it to others to answer. When one of the two famous women, whose lives the great Dean Swift may be said to have ruined by his callousness, was told of the pretty things which the author of *Gulliver's Travels* had written of her rival, she is reported to have exclaimed, with no little *pique*, "The Dean could write charmingly about a broomstick." More often than not the authors of gardening books appear to forget that they are dealing with the most fascinating of all subjects, and their works are too frequently as wildly uninteresting as Homer's list of ships. There are, of course, many exceptions—the late Shirley Hibberd was often exceptionally picturesque in treatment of matter-of-fact details; and the living Canon Hole is too much of a literary artist to lay himself open to the charge of dullness. But the books of these writers—with a few others that might be mentioned—only prove the truth of the general rule, that gardening books are read by the public as a duty rather than as a recreation—for the practical information which they contain rather than as a mental diversion. There is in very many instances no reason whatever for the isolation of these two attributes.

Among American authors who have attempted to convey practical instruction in an eminently readable and even fascinating manner, Mr. George H. Ellwanger—a partner in one of the best known American horticultural establishments—comes at the head. His delightful book, *The Garden Story*, led us to look forward with pleasurable anticipation to his next collection of essays, and *The Story of my House* has more than justified our expectations. In the United States this little handful of polished essays has gone into several editions, and the first English reprint of Messrs. Geo. Bell and Sons is all but in a second edition, as one would naturally expect from the exceptionally dainty way in which it has been placed before the public on this side of the water. *The Story of my House* is just what one would expect from Mr. Ellwanger, whose house and grounds, as every English visitor will be glad to testify, are in the most perfect good taste, and without the slightest trace of that ostentatious display which the stay-at-home Englishman is a trifle too ready to associate with the surroundings of rich Americans.

"These are but my fantasies," is the motto with which Mr. Ellwanger adopts from Montaigne; and the reader, after he has gone through the volume, will be strongly inclined to add an end-note also from a French source—this time from Molière—"Elle est petite si on le veut prendre par là; mais je l'appelle grande pour ce qu'elle contient," for it is essentially a little book brimful of good things. Mr. Ellwanger has evidently studied with excellent effect the essays of such classic writers as Charles Lamb, Leigh Hunt, William Hazlitt, and J. Russell Lowell at his best. Of the fourteen chapters of which the book is composed, those which have a more special interest to readers of this journal are "The Ideal Haven," "My Indoor Garden," "A Blue-Violet Salad," and "Footsteps of Spring." Each of these essays possesses the qualities which have rendered the "out-door" writings of Richard Jefferies and Thoreau so universally popular. The description of the indoor garden is perhaps the best of the four essays, for the failures and the triumphs which most people have, with Mr. Ellwanger, encountered in their counterfeit presentment of a "slice" from the tropics are hit off with consummate literary skill. Mr. Ellwanger's special weakness appears to be in the direction of his indoor bog garden, and his knowledge, both cultural and historical, of all aquatic plants, particularly of the Nymphæa, is very wide. His favourite is Nymphæa odorata, the white and sweet-scented cup of which "falls upon the sight like the tinkle of a woodland rill upon the ear, imparting its harmony to the mind, a thing to be carried away and perfume the memory." He has naturally something to say respecting the Lotus, and it will interest many readers to know that in Thibet at the present day the worship of the divinity of the Lotus is still the dominant religion, the daily and hourly prayer being, "*Om mani padme, haun*," which, being literally rendered, means, "O God! the jewel in the Lotus. Amen." Orchids also form an important section in Mr. Ellwanger's indoor garden, and it has always been a matter of surprise to us that such a beautiful class of plants is not more generally employed in this direction. The most suitable species are easily grown, and if the initial expense is greater than for many common plants, the results are not only infinitely greater, but, as a matter of fact, bear no comparison. Mr. Ellwanger confesses himself satisfied with fine specimens of a few of the easier grown and really beautiful species and varieties, and considers that "mere rarities or Orchidaceous curiosities are preferable in one's neighbour's garden." The fine plant of Cypripedium œnanthum, which his neighbour values at 1000 dols., is not worth his plant of Lælia anceps morada; and his Vandas are suggestive of a spice-box of the Orient.

But Mr. Ellwanger is not above growing certa in

common plants, without which, indeed, no indoor garden would be complete. Roses, as a matter of course, particularly Maréchal Niel and Gloire de Dijon, Cinerarias, Chinese Primulas, Cyclamens, and Violets (he confesses to a weakness for the Marie Louise variety, than which there is none better), not to mention Heliotrope, Daphnes, Stephanotis, Azaleas, Chrysanthemums, and the Tazetta varieties of Narcissus, all go to make up the furniture of his indoor garden; and if a man cannot get satisfaction out of this selection, the sooner he gives up indoor gardening the better alike for his temper and his pocket.

Apart from its distinct practical utility, *The Story of my House* is above all a reflective book, and one which may be dipped into at any time and under any conditions. The chapters dealing with *bric-à-brac*, and especially those in connection with books, fancifully entitled "Magicians of the Shelves," are of equal charm. Boileau has declared that a faultless sonnet is in itself worth a long poem; and of everyone of Mr. Ellwanger's essays it may be said, that it is worth very many big books.

COLONIAL NOTES.

ORCHID CULTIVATION IN HONG-KONG.

ALTHOUGH there are only about forty species of Orchids natives of Hong-Kong, there are many others which can be cultivated in the island with considerable success. Naturally, the conditions under which they are grown vary very much from the conditions under which Orchids are grown at home. No artificial heat or glass-house is required to protect them from the cold of winter, as the thermometer rarely falls below 45° F. Pot-plants, and those on rafts, are grown in skeleton-houses. The shading used is Bamboo, and is so made that whilst admitting sufficient light for the proper growth of the plants, it excludes the direct rays of the sun. Others, again, are grown on the trunks and branches of numerous umbrageous trees. No peat can be got, and the substitutes obtainable are very inferior. The best is Cocoa-nut husks, and these are chopped up for potting purposes into 1-inch cubes. These retain moisture well, and the roots of many Orchids penetrate them in all directions. Good fibrous loam would doubtless be better, but that, like the peat, is out of the question. Sphagnum can be obtained ftom Japan. Several of the Dendrobiums, amongst them D. superbum, D. macrophyllum, and D. Dalhousieanum, do remarkably well, and flower freely when potted in a mixture of Cocoa-nut husk, sphagnum, and charcoal. This compost also admirably suits all the Vanda tribe. Some plants of Vanda tricolor are now (November) in flower; they are about 3 feet high, and are furnished with fine healthy foliage to the base. Mexican and South American Orchids do not, as a rule, thrive here, but Oncidium flexuosum is an exception when treated in the same manner as the foregoing. Cypripediums, such as C. Stonei and C. Haynaldianum make good plants when grown in a mixture of Cocoa-nut husk, sphagnum, and Canton soil. This latter is nothing more nor less than Canton river mud, and it is used extensively in cultivating all kinds of plants in pots. When it is brought to Hong-Kong it is dry and hard, and before it can be used for plant-growing, it has to be cut up in much the same way as the Cocoanut husks. Its manurial value is unquestionably very great, for those plants which have a proportion of it in their compost are always vastly superior to those which have not. Calanthe veratrifolia makes quite a show when in flower, with scapes nearly 3 feet high; it is grown entirely in this mud. Others that do well in it are Calanthes vestita and Veitchii, and Cypripediums of the barbatum and niveum sections. Cypripedium purpuratum, a native of Hong-Kong, is in flower at the present season, and a charming little thing it is.

Amongst those that are grown on rafts with sphagnum may be mentioned Dendrobium Pierardi, D. aggregatum, which flowers in July, two or three months later than in England; D. densiflorum, Aërides odoratum, and A. quinquevulnerum. There are some dozens of plants of the latter, but the majority of them are grown in pots; they do equally well either way. When in flower, they are one of the principal attractions of the gardens.

Renanthera coccinea thrives and flowers in an astonishing way on the trunks and branches of Poinciana regia. Many of the shoots are of several years' growth, and are 10 and 15 feet in length, being covered with leaves nearly the whole distance. This is also cultivated in pots in the same compost as used for Cypripedium Stonei, but the plants are never allowed to get more than 4 feet high. They are kept within bounds by cutting off the lower ends of the shoots after the flowering period; it does not appear to hurt them much, as they lose very few leaves, and soon push out new roots in profusion, although they are grown in nearly full sun. The plants on the trees produce much larger panicles than those in pots, but on the other hand they are less numerous. It is a pity that this Renanthera is such a difficult thing to flower in England, as it is a truly grand Orchid. Dendrobium Loddigesii makes itself at home in Mango trees (Mangifera indica) as evidenced by the hundreds of flowers produced in the late spring or early summer; large patches of it 2 or 3 feet long by about as many broad, are simply one mass of bloom at that time. Amongst Phalænopsids, P. amabilis and P. Schilleriana stand out prominently as species that do well. They make large leathery leaves, and their long flat roots traverse the big aërial roots of Ficus retusa, on which they are grown in all directions. A little sphagnum is used in fixing them at first, but the roots soon get away from it, evidently preferring to be uncovered. Many other Orchids do far better on trees than anywhere else, particularly Cleisostoma Fordii, whose dagger-shaped inflorescence reminds one of Sarcanthus pugioniformis; Vanda concolor, with dull yellow flowers, and not by any means pleasing; Sarcanthus formosanus, with small yellow flowers, and Dendrobium aggregatum. These are all in the best of health on trees of Stillingia sebifera. During the summer months the heavy rainfalls do away, to a great extent, with the necessity for artificial watering. The average annual rainfall is about 90 inches. In June of this year, 24 inches fell in four days. Through the winter very little rain falls; in fact, it is quite the exception to get a shower—but this is rather a blessing than otherwise so far as Orchid growing is concerned, as most Orchids are the better for being kept dry at this time. Of course this refers to Orchid cultivation here. Very few insects attack this class of plants, and sponging on that account has rarely to be resorted to, and as to any dust deposited on their leaves it is washed off by the rains. *W. J. Tutcher.*

CHRYSANTHEMUMS IN THE COLONIES.

In a lately-received issue of your valuable journal, you, in tones of parental despondency, tell us—beginning, as a fond and fretful parent would, by saying that "it is no use telling us"—to devote our energies to the development of native flowers instead of "slavishly imitating European customs." Is not imitation the sincerest form of flattery, and is it wrong to flatter our dear old mother by doing as she does?

Really, instead of rebuking us, the boot is on the other leg. Example is better than precept; we should not rebuke for that would be very unbecoming, but we should ask why you encourage and reward yourselves for doing what you think is not good for your children. We have beautiful wild flowers here, and I would a thousand times rather wander over the veldt among the Afrikanders (Watsonias), search for Microlomas, trampling over Lobelias, Gazanias, &c., and see, as I saw a few weeks ago, a bed of crimson Satyriums, than go and see a house of "mums" where the plants are handsome (seldom), and the flowers gigantic, and tell the grower—we are often fussy fellows—that he's been feeding 'em up (I potted some in "good stuff," yesterday). In making so much of Chrysanthemums in England are you not "slavishly imitating" Japanese customs? But, seriously, it is with us, as with you, a question of supply and demand. In our autumn, as in yours, they are needed because other flowers are exhausted, and they brighten up a seedy season.

From what I have seen and heard of gardeners here, and nearly all who are interested in horticulture, native flowers receive due appreciation. *C. E. Butters, Port Elizabeth.* [We rejoice to hear it, and hope we shall have the means of appreciating them also. ED.]

INDIA.

OODEYPORE.

WE have received a copy of the annual report of the gardens of Her Highness the Maharana of Oodeypore, from which we extract the following passage:—

"Natives are extremely fond of flowers of all sorts more especially such as have a good strong smell like the Artabotrys odoratissimus, Lawsonia alba, all sorts of Jasminum, Gardenias, &c. Native ladies are very fond of decking their hair with the beautiful scarlet flowers of the Butea frondosa which is a gorgeous sight, when in flower all our jungles look like a blaze of fire. In some of our jungles, too, there are Bauhinias of sorts which come in flower at the same time as the Butea. The lilac flowers of the Bauhinias and scarlet flowers of the Buteas are very lovely. Lantana alba, Poinciana pulcherrima, growing side by side on our hills together with Gloriosa superba, make the natural blending of colour in this wild state truly grand. All our dripping ghauts are filled with such Ferns as Adiantum capillus-veneris, A. caudatum, Actiniopteris radiata, a handsome little silvery Fern Cheilanthes farinosa, also a very hardy Fern, Pteris longifolia, growing almost side by side. The Adiantum caudatum is such a pretty dwarf creeping Fern that no rockwork should be without it; it grows all the year round in a damp situation, so does the Actiniopteris radiata. This is such a pretty little Palm-like Fern and is to be found peeping out from the crevices of the rocks. Both of these die when grown in an exposed position during our hot season, and after the first shower send out their cheery little fronds again. I find it difficult to grow Ferns here during our hot weather. The long drought with such a dry atmosphere as we have got, is much against their successful cultivation. Crotons do not do well either; this class of plants like a saline atmosphere; which will account for their luxuriance along the coast."

LEE, LEWISHAM, AND BLACKHEATH HORTICULTURAL SOCIETY.—The above prosperous body held its twenty-sixth annual meeting on Monday the 16th inst., at the Institute, Lee, the Treasurer M. N. BUTTANSHAW, Esq., in the chair. At the next meeting, which will be held on the 27th inst., a paper will be read by Mr. G. GORDON, on "Insects Injurious to Garden Crops."

TYNEMOUTH FLORAL AND HORTICULTURAL SOCIETY.—The thirty-eighth annual meeting of this Society was held on Thursday in the Town Hall, Saville Street, North Shields, under the presidency of the Mayor. The annual report, read by Mr. ROBSON, the hon. secretary, congratulated the members upon the continued success of the Society, and stated that the last exhibition, held in the Tynemouth Aquarium, was the best that had ever taken place under its auspices. Thanks were tendered to the donors of special prizes, and also to several tradesmen and others for contributions to the prize funds. The financial statement submitted by Mr. J. R. MOFFETT, the hon. treasurer, showed a balance in favour of the Society of £41 10s. 3d. The reports were adopted, and the officers having been re-elected, the proceedings concluded.

Obituary.

MR. J. SHEPPARD, of The Gardens, Woolverstone Park, Ipswich, died, on the 16th inst., in his 60th year, from cancer of the stomach. It is less than a week since that we had a letter from him announcing his illness, and its probable termination, the speedy occurrence of which must, under the circumstances, be considered merciful. Mr. Sheppard had for many years been one of our most valued contributors, and the garden under his charge gave ample proof that he could put into practice the precepts he so well knew how to commit to paper. Mr. Sheppard had been for 36 years head-gardener at Woolverston.

THE WEATHER.

[BY the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees — a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending January 14.	Accumulated. Above 42°, for the Week.	Accumulated. Below 42°, for the Week.	Accumulated. Above 42°, difference from Mean since January 1, 1893.	Accumulated. Below 42°, difference from Mean since January 1, 1893.	Rainfall. More (+) or less (—) than Mean for the Week.	Rainfall. No. of Rainy Days since Jan. 1, 1893.	Rainfall. Total Fall since Jan. 1, 1893.	Bright Sun. Percentage of possible Duration for the Week.	Bright Sun. Percentage of possible Duration since Jan. 1, 1893.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	5 —	0	57	— 14	+ 81	9 —	8	0·6	29	21
1	2 —	0	51	— 15	+ 74	4 —	9	0·7	13	10
2	2 —	0	43	— 13	+ 60	2 —	10	0·7	6	13
3	3 —	0	54	— 16	+ 75	1 —	10	0·7	12	15
4	4 —	0	57	— 18	+ 82	3 —	7	0·6	15	17
5	5 —	0	49	— 21	+ 90	0 aver	8	0·9	9	15
6	4 —	0	47	— 18	+ 69	12 —	6	0·3	28	23
7	4 —	0	41	— 17	+ 66	5 —	6	0·4	3	12
8	5 —	0	38	— 28	+ 66	3 —	6	1·0	19	21
9	3 —	0	32	— 26	+ 51	5 —	8	0·9	16	17
10	4 —	0	35	— 39	+ 37	7 —	7	1·8	16	16
*	3 —	7	20	— 36	+ 41	1 —	9	1·7	6	12

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; (* Channel Islands.)

THE PAST WEEK.

THE following summary record of the weather for the week ending January 14, is furnished from the Meteorological Office:—

"The *weather* during this period was less cold than that of the preceding fortnight, and a gradual thaw was prevalent during the daytime in all parts of the kingdom. Rain, sleet or snow was experienced at times, and the sky as a whole was very cloudy and gloomy; in the extreme west and north, however, some fine bright intervals occurred.

"The *temperature* continued below the mean, but was much less low than during the previous week; the deficit ranged from 2° in 'Scotland, E. and England, N.E.,' to 5° in 'Scotland, N.,' 'England, S.,' and 'England, S.W.' The highest of the maxima were recorded on the 13th at most of the Scotch stations, and on the 14th over England and Ireland, and ranged from 53° in the 'Channel Islands,' to 47° or 48° in some of the western and northern districts, to 42° in 'England, N.E.' and the 'Midland Counties,' and to 41° in 'England, S.' The lowest of the minima were registered on rather irregular dates, and varied from 15° in 'Scotland, E.,' and 16° in 'Scotland, N.,' to between 22° and 28° in most other districts, and to 32° in the 'Channel Islands.'

"The *rainfall* just equalled the mean in 'England, S.,' but was less in all other districts; in 'Scotland, W.,' 'England, N.W.,' and the 'Midland Counties,' the fall was very slight.

"The *bright sunshine* exceeded the mean considerably in the north and west of Scotland, and slightly in the S.W. of England; elsewhere the amount recorded was very small. The percentage of the possible duration ranged from 29 in 'Scotland, N.,' and 28 in 'Scotland, W.,' to only 6 in 'England, N.E.' and the 'Channel Islands,' and to 3 in 'England, N.W.'"

MARKETS.

COVENT GARDEN, January 19.

[We cannot accept any editorial responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. ED.]

No alteration. Business very dull. *James Webber, Wholesale Apple Market.*

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Azalea, per doz.	24 0-42 0	Ferns, various, doz.	4 0- 9 0
Adiantum, per doz.	6 0-12 0	Ferns, small, per 100	5 0- 8 0
Aspidistra, per doz.	15 0-30 0	Ficus elastica, each	1 6- 7 6
— specimen, each	7 6-21 0	Hyacinths, doz. pots	8 0-12 0
Chrysanthemum, doz.	4 0-12 0	Marguerite, per doz.	6 0-12 0
Cineraria, per doz.	8 0-12 0	Mignonette, doz. pots	6 0-12 0
Cyclamen, doz.	9 0-18 0	Palms, various, each	2 0-10 0
Cyperus, per dozen	4 0-10 0	— specimens, each	10 6-84 0
Dracæna, each	1 0- 5 0	Solanums, per doz.	9 0-12 0
Erica, various, doz.	9 0-18 0	Tulips, per doz. pots	6 0- 9 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, p. half-sievel	0- 3 6	Lemons, per case	12 0- 20 0
— Nova Scotia, per barrel	10 0- 17 6	Pine-apples, St. Michael	4 0- 6 0
Cobs, per 100 lb.	120 0 125 0	Oranges, Florida, per case	10 0-16 0
Grapes, per lb.	0 6- 2 6		

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Arum, per doz. bl.	4 0- 8 0	Daffodil, double, doz. blooms	1 0- 1 6
Bouvardias, per bun.	0 9- 1 0	— single do.	1 3- 2 0
Carnations, 12 blms.	2 0- 4 0	Mignonette, 12 bun.	3 0- 6 0
Chrysanthemums, p. doz. blooms	1 6- 3 0	Narciss, various, French, doz. bun.	4 0- 6 0
— p. doz. bunches	6 0-12 0	Pelargonium, scarlet, per 12 bun.	6 0-12 0
Cyclamen, doz. blms.	0 6- 0 9	12 sprays	1 0- 1 6
Eucharis, per dozen	4 0- 6 0	Poinsettias, per doz. blooms	4 0- 9 0
Gardenia, per dozen	18 0-30 0	Primula, double	0 6- 1 0
Heliotrope, per doz. sprays	0 6- 0 9	Roses, Tea, per dozen	2 0- 4 0
Hyacinth, Roman, doz. sprays	0 6- 1 0	— coloured, dozen	3 0- 6 0
— dozen spikes	3 0- 6 0	— yellow (Maréchals), per doz.	4 0- 9 0
Lilac, white French, per bunch	4 0- 5 0	— red, per dozen	1 0- 2 0
Lilium Harrisii, doz.	8 0-10 0	— (French) p. doz.	1 6- 4 0
Lily of the Valley, doz. sprays	0 6- 1 0	Tuberose, 12 blms.	1 0- 1 6
Maiden Hair Fern, 12 bunches	4 0- 8 0	Tulips, red, doz. bm.	0 6- 0 9
Marguerite, per doz. bunches	4 0- 6 0	— white, doz. blm.	1 6- 3 0
Mimosa, French, bun.	1 0- 2 0	— yellow, doz. blm.	1 6- 2 0
Orchids:—		Violets, Parme French per bunch	6 0- 8 0
Cattleya, 12 blms.	6 0-12 0	— Czar, French, per bunch	3 0- 5 0
Odontoglossum crispum, 12 blms.	2 0- 6 0	— small French, p. doz. bunches	3 0- 6 0

ORCHID-BLOOM in variety not in quantity.

VEGETABLES. — AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Beans, French, lb.	1 0- 1 6	Mushrooms, punnet	2 0-
Beet, red, per dozen	2 0- 3 0	Mustard and Cress, punnet	0 4- ...
Carrots, per bunch	0 4- 0 6	Parsley per bunch	0 3- 0 6
Cauliflowers, each	0 3- 0 6	Seakale, per basket	2 6- ...
Cucumbers, each	0 9- 1 6	Shallots, per lb.	0 6- ...
Endive, per dozen	2 0- 3 0	Tomatos, per lb.	0 6- 1 0
Herbs, per bunch	0 9- 1 0	Turnips, per bunch	0 4- 0 6
Lettuces, per doz.	1 6- 2 0		

POTATOS.

The weather being more favourable, farmers are loading freely, and stock is increasing. Prices still continue firm. Best samples, 90*s.* to 100*s.*; ordinary kinds, 50*s.* to 55*s.* *J. B. Thomas.*

SEEDS.

LONDON: *Jan.* 18.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that, as might be expected, the general country trade for seed hangs fire. Extra fine home-grown English Cow-grass is inquired for. American Clover seed is now cheaper in London than on the other side of the Atlantic, to-day's cables being equivalent to 74*s.* per cwt., landed here. In Trefoil, a good business has been doing at full prices. White Clover seed is slow, but in Alsike a substantial advance has been established. Rye-grasses look like being very dear this season. Tares, owing to a falling off in the supplies, are firmer. More money is asked abroad for Haricot Beans. There is no change in Peas. Mustard and Rape seed keep steady. Hemp seed shows a considerable jump upwards. Canary seed is quiet, but no cheaper. For Windsor Beans there is a brisk inquiry.

FRUITS AND VEGETABLES.

SPITALFIELDS: *Jan.* 17. — Quotations:—English Onions, 7*s.* 6*d.* to 8*s.* 6*d.* per cwt.; Belgian and Dutch do., 5*s.* 6*d.* to 6*s.* per bag of 110 lb.; Spanish do., 6*s.* 6*d.* to 8*s.* 6*d.* per case. Prices otherwise without alteration from last week.

BOROUGH, *Jan.* 17.—Quotations:—Cabbages, 3*s.* to 3*s.* 6*d.*; Savoys, 4*s.* per tally; Cauliflowers, 1*s.* 6*d.* to 2*s.* 6*d.* per dozen; Spinach, 1*s.* 6*d.* to 2*s.* per bushel; Sprouts, 1*s.* 6*d.* to 1*s.* 9*d.* per half-sieve; Carrots, 2*s.* 6*d.* to 3*s.*; Turnips, 1*s.* 6*d.*; Parsley, 4*s.* per dozen bunches; English Onions, 6*s.* to 8*s.*; Dutch do., 5*s.* to 6*s.* per cwt.; Horseradish, 1*s.* 6*d.* to 1*s.* 9*d.* per bundle.

STRATFORD, *Jan.* 18.—There has been a good supply of all kinds of produce at this market during the past week, and a brisk trade was done as under:—Savoys, 2*s.* to 5*s.* per tally; Greens, 1*s.* to 1*s.* 9*d.* per bag; do., 2*s.* to 2*s.* 6*d.* per dozen bunches; Turnips, 2*s.* to 3*s.* do.; do., 40*s.* to 60*s.* per ton; Carrots, household, 40*s.* to 50*s.* do.; do., cattle-feeding, 34*s.* to 35*s.* do.; Parsnips, 1*s.* 3*d.* to 1*s.* 6*d.* per score; Mangolds, 17*s.* to 20*s.* per ton; Swedes, 20*s.* to 25*s.* do.; Onions, English, 160*s.* to 180*s.* do.; do., Dutch, 6*s.* 6*d.* to 7*s.* per bag; Apples, English, 5*s.* to 5*s.* 6*d.* per bushel; do., American, 10*s.* to 20*s.* per barrel; Brussels Sprouts, 1*s.* 6*d.* to 1*s.* 9*d.* per half-sieve; do., 2*s.* 6*d.* to 3*s.* per sieve; Celery, 9*d.* to 1*s.* 3*d.* per roll; Horse Radish, 1*s.* 9*d.* to 2*s.* per bundle; Scotch Kale, 1*s.* 3*d.* to 1*s.* 6*d.* per bushel.

FARRINGDON: *Jan.* 19.—Quotations:—Parsnips, 65*s.* to 70*s.*; Carrots, 50*s.* to 60*s.* per ton; Turnips, 50*s.* to 60*s.* per ton; Sprouts, 1*s.* to 1*s.* 3*d.* per half-sieve; Savoys, 4*s.* to 5*s.* per tally; Celery, 12*s.* to 18*s.* per dozen; English Onions, 8*s.* to 9*s.* per cwt.; Horseradish, 2*s.* per bundle; American, Spies, Apples, 15*s.* per barrel; Baldwins, do., 15*s.* do.

POTATOS.

BOROUGH: *Jan.* 17.—Quotations:—English Magnums, 50*s.* to 65*s.*; Hebrons, 60*s.* to 70*s.*; Snowdrops, 60*s.* to 75*s.* per ton.

STRATFORD: *Jan.* 18.—Quotations:—Magnums, 50*s.* to 65*s.*; Imperators, 55*s.* to 70*s.*; Bruce Magnums, 60*s.* to 75*s.*; Scotch do., 60*s.* to 70*s.*; Main Crop, 70*s.* to 90*s.*; Belgian Magnums, 65*s.* to 70*s.* per ton.

FARRINGDON, *Jan.* 19. —Quotations:—Magnums, 60*s.* to 70*s.*; Hebrons, 80*s.* to 90*s.*; Abundance, 90*s.* to 100*s.*; Main Crop, 95*s.* to 100*s.*; Imperators, 60*s.* to 65*s.* per ton.

LONDON AVERAGES: *Jan.* 18.—Magnums, 55*s.* to 70*s.*; Hebrons, 70*s.* to 80*s.*; Snowdrops, 60*s.* to 80*s.*; Imperators, 60*s.* to 70*s.* per ton.

CORN.

Averages.—Official statement of the average prices of British corn, imperial measure (quarter) for the week ending January 14, and for the corresponding period last year:—1893: Wheat, 26*s.* 4*d.*; Barley, 25*s.* 6*d.*; Oats, 16*s.* 11*d.* 1892: Wheat, 35*s.* 6*d.*; Barley, 29*s.* 3*d.*; Oats, 20*s.* 7*d.*

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 80*s.* to 115*s.*; do., inferior, 70*s.* to 75*s.*; hay, best, 75*s.* to 112*s.*; do., inferior, 65*s.* to 75*s.*; and straw, 28*s.* to 44*s.* per load.

NOTICES TO CORRESPONDENTS.

LARGELY INCREASED CIRCULATION of the "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

Increased to the extent of **75 per cent.**

Advertisers are reminded that the "Chronicle" circulates among ALL *classes of gardeners and garden-lovers at home and abroad, and is preserved for reference in all the principal Libraries.*

TO OUR READERS.—*The Editor begs leave to solicit from the readers and contributors to the Gardeners' Chronicle:—*

Short Practical Notes on Cultural Matters;

Early Intelligence of Local News likely to be of general interest;

Notes and Memoranda useful to the trade;

Specimens of New or Interesting Plants, Fruits, &c.;

Drawings or Photographs of Gardens, Trees, Flowers, &c., and which if suitable for reproduction will be utilised so far as possible.

ADDRESSES: *J. Atkinson, and Others.* The Gardeners Royal Benevolent Institution, Mr. Ingram, secretary, 50, Parliament Street, London, S.W.; United Horticultural Benefit and Provident Society, secretary Mr. W. Collins, 9, Martindale Road, Balham, S.W.

BOOKS: *G. K.* Thompson's *Gardeners' Assistant*, new edition. Price about £1 second-hand, or about £1 5*s.* of Blackie & Son, Edinburgh.—*Work on Table Decoration*: *Cretica.* We know of none better than that which you possess. Enquire of the Editor of *The Bazaar*, 170, Strand, W.C.

GRASSES: *Hexham.* You have not numbered your specimens. So far as we can see, they are Hordeum murinum, Aira cæspitosa, and Agrostis vulgaris.

HANGING BASKETS, PLANTS FOR: *G. K.* Ivy-leaved Pelargoniums, both double and single flowered; Petunias, single and double flowered; Tropæolum Lobbi, T. Ball of Fire, T. aduncum, Achimenes patens, A. p. alba, A. longiflora, A. Verschaffelti, A. Edmond Boissier, Harrison's Musk, Lachenalia pendula. Ferns, such as Goniphlebium subauriculatum, Davallia bullata, D. dissecta, Adiantum concinnum latum, A. trapeziforme, &c.

NAMES OF PLANTS: *J. W.* 1, Eriobotrya japonica (Loquat); 2, Olearia Haastii.—*Joseph Kent, Hanley.* The seed is that of Trapa bicornis—the Ling of the Chinese. This and several other species contain a deal of starch, and in some places form a great part of the food of the natives, where the seeds are known as the Singhara Nut and other names. They are water plants, and for anything we know the seeds should germinate under the treatment you extended, provided always that the seeds are good when you obtain them. The one sent was quite rotten and worthless.—*T. Wickson.* Streptosolen Jamesoni.

RATING OF GREENHOUSES: *H. W. S.* See our issue for September 10, 1892, p. 308.

SEEDLING FERN: *A. C.* From the appearance of fronds sent, they differ but little from A. gracillimum, and we think that if there is any improvement it must be in the habit of the plant.

TREE CARNATIONS: *Foreman and G. K.* Carnations, both "tree" and other varieties, live for several years, and there is no reason why, with proper treatment, the 1-year old Tree Carnations now flowering should not again flower at the time you name. It will be prudent not to let them flower so much as they naturally will do, but cut off the blooms, and keep the plants rather dryer for several weeks, accommodating them in a cold frame till the end of April; and before starting them after their rest, removing some of the old soil and repotting them. Tree Carnations, i.e., the varieties which give a long succession of bloom if wanted to flower in winter and spring, may be struck from cuttings taken from plants which have been growing all the winter. The cuttings should have a certain degree of firmness, and the bottom leaves need not be removed. Fill 48's with sandy loam, surface with clean sand, and put a dozen cuttings in each pot, plunging them in a bottom-heat of 80° in a close frame, preferably, a hotbed out-of-doors. Guard against damp by affording a little ventilation if the frame be somewhat steamy, and rather more if the sun raise the warmth above 80°. Later in the season, when, owing to greater sun-heat, more air must be afforded a hotbed frame, the pots will be the better for being covered with a bell-glass. The cuttings must be watered sufficiently to keep them from flagging—not more, using a light kind of shading.

COMMUNICATIONS RECEIVED.—Jno. Z. Emmett, short communications would be acceptable.—J. Hudson.—F. C. S.—Donald Currie & Co.—F. N., Batheaston.—A. Hope.—H. J. V.—J. R.—E. S.—W. H. & Co.—Dr. Klein, Buda-Pest.—S. H.—W. J. S.—E. J. J.—Mrs. B.—T. S. W.—W. K. W.—A. M. K.—W. W.—J. W.—J. F.—H. S. J., Hamilton, Victoria.—Jas. Carter & Co.—B. Chabaud, Toulon.—J. F. B.—C. D.—J. S., Vallota, next week.—H. J. J.—H. May.—J. G. B.—H. W. W.—An Old Gardener.—W. G. B.—C. W.—A. G.—M. T. R.—D. T. F.—J. R.—R. D.—Stuart & Mein.—W. H. D.—A. P.—J. B. W.—A. H.—J. D.—J. J. W.—A. A. K.—Ed. Tate, kindly send photo of Arbutus.—C. S.—A. B.—H. M.

SPECIMENS RECEIVED.—E. J, B.

PHOTOGRAPH RECEIVED.—One showing Lemons against the wall of a house, but with no letter accompanying to say whence and by whom sent.

FRUIT RECEIVED.—T. H. Usher.

BONES! BONES!! BONES!!! Any size from dust to 1 inch. Dissolved Bone Compound, for Top-dressing. All at 10*s.* per cwt.; less quantity, 1½*d.* per lb. Carriage paid on 1 cwt. Terms, Cash with Order. Special quotations for large Buyers.
E. S. WILES AND CO., Bone Crushers, St. Albans.

NATIVE GUANO.—BEST AND CHEAPEST MANURE for GARDEN USE. Price £3 10*s.* per ton, in bags. Lots under 10 cwt., 4*s.* per cwt.; 1 cwt., Sample Bag, sent Carriage Paid to any Station in England, on receipt of P. O. for 5*s.*
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H. BRINKWORTH, Potato Grower, Reading, used for Potatos, Onions, and Carrots, results:—"Very good; never had better crops."—J. BUTLER, Sittingbourne:—"Used for Potato, Celery, and other Market Garden Crops, with very good results; Potatos large, clean, and free from disease. Best and Cheapest Manure in the Market."
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J. PEED & SONS, Streatham, used for Fruit Trees and Roses, results:—"Very satisfactory; we use no other Guano now; consider yours preferable to Peruvian."—J. FINCH, Orrell Gardens:—"Used for Vegetables, Tomatos, Grapes, Cucumbers, and Flowers, with satisfactory results. Most excellent for Potatos, and many other things. The Cheapest Manure in the Market."
Orders to the **Native Guano Co., Ltd.**, 29, New Bridge Street, Blackfriars, London, where Pamphlet of Testimonials, &c., may be obtained. AGENTS WANTED.

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"MAIDSTONE, *August* 13, 1892.
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"(Signed) GEO. BUNYARD & CO."

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7 lb.	14 lb.	28 lb.	56 lb.	112 lb.
2s. 6d.	**4s. 6d.**	**7s. 6d.**	**12s. 6d.**	**20s.**

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For Destruction of all Insect Pests and Mildew.
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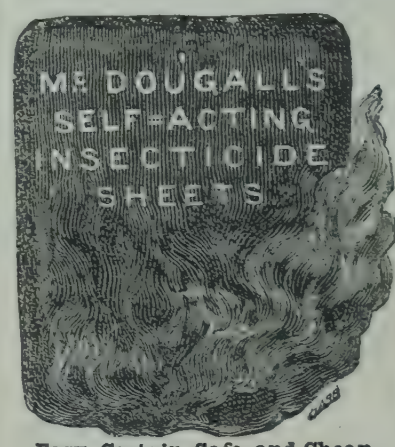

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GISHURST COMPOUND, used since 1859 for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water, 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in lather from cake, for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1*s*, 3*s.*, and 10*s.* 6*d.*

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6*d.* and 1*s.* from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

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COCOA-NUT FIBRE REFUSE,
4*d.* per bushel; 100 for 25*s.*; truck (loose, about 2 tons), 40*s.*; 4-bushel bags, 4*d.* each.
SPECIALLY SELECTED ORCHID PEAT.
LIGHT BROWN FIBROUS PEAT, 5*s.* 6*d.* per sack; 5 sacks, 25*s.*; sacks, 4*d.* each.
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YELLOW FIBROUS LOAM, PEAT-MOULD, and LEAF-MOULD, 1*s.* per bushel.
SPHAGNUM MOSS, 8*s.* 6*d.* per sack.
MANURES, GARDEN STICKS, VIRGIN CORK, TOBACCO CLOTH, RUSSIA MATS, &c. Write for Price LIST.—H. G. SMYTH, 21, Goldsmith Street, Drury Lane, W.C.

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ORCHID PEAT; Best Quality; BROWN FIBROUS PEAT for Stove and Greenhouse use. RHODODENDRON and AZALEA PEAT. Samples and Prices of WALKER AND CO., Farnborough, Hants.

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Hardwood do., Ferns and Rhododendrons, by sack, yard, ton, or truckload. **SPECIAL ORCHID PEAT,** in sack only. Rich fibrous LOAM, superior LEAF-MOULD, Coarse, Crystal, and Fine SILVER SAND, CHARCOAL, C. N. FIBRE REFUSE, fresh SPHAGNUM, Patent MANURES, FERTILISERS, INSECTICIDES, and all other Garden Requisites. **Peat Moss Litter.**

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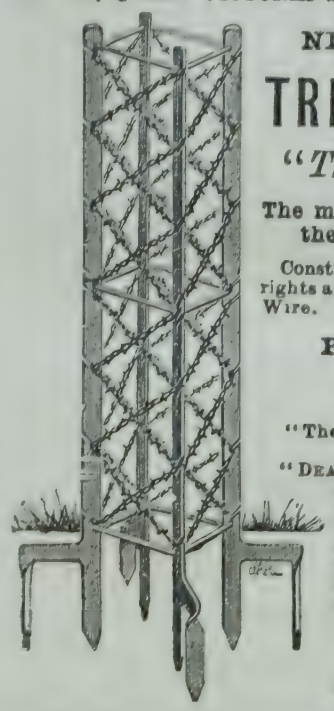

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Yours truly,
RICHD. GREEN.
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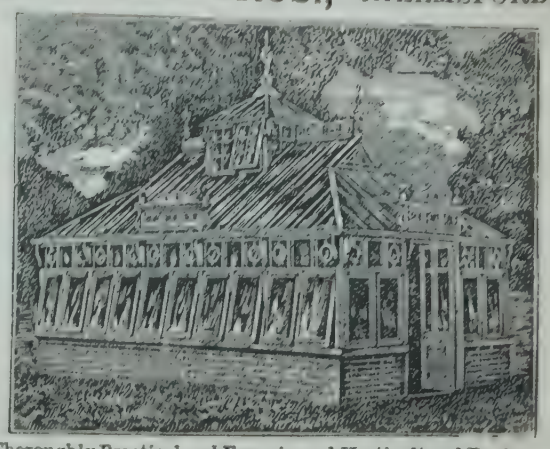

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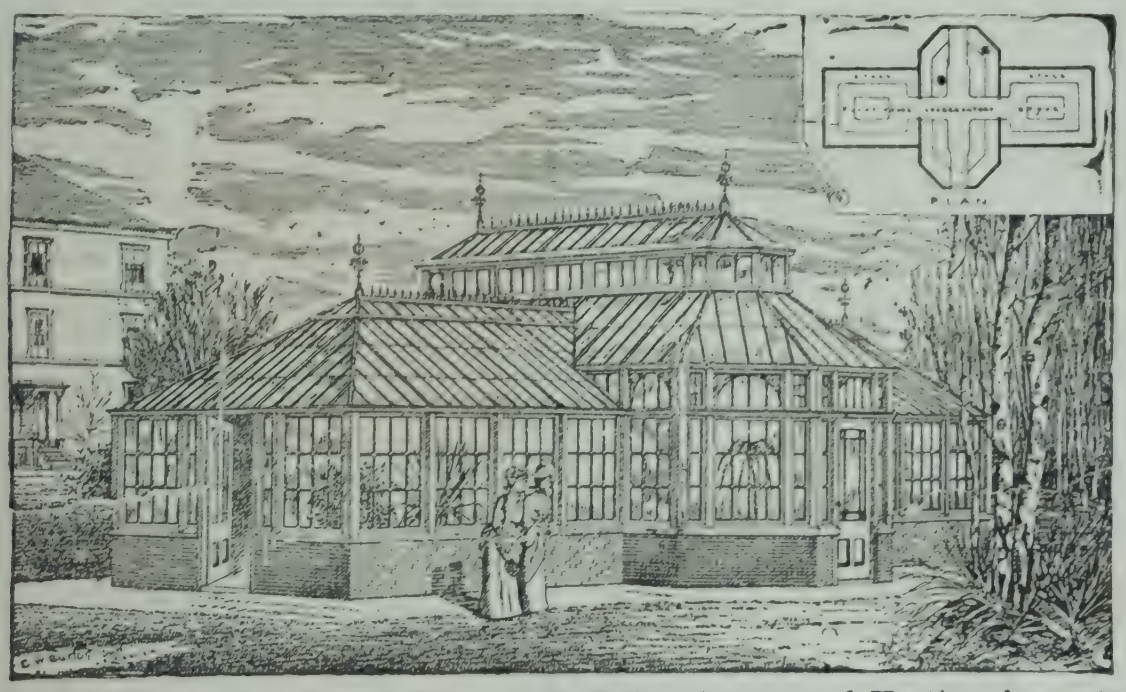

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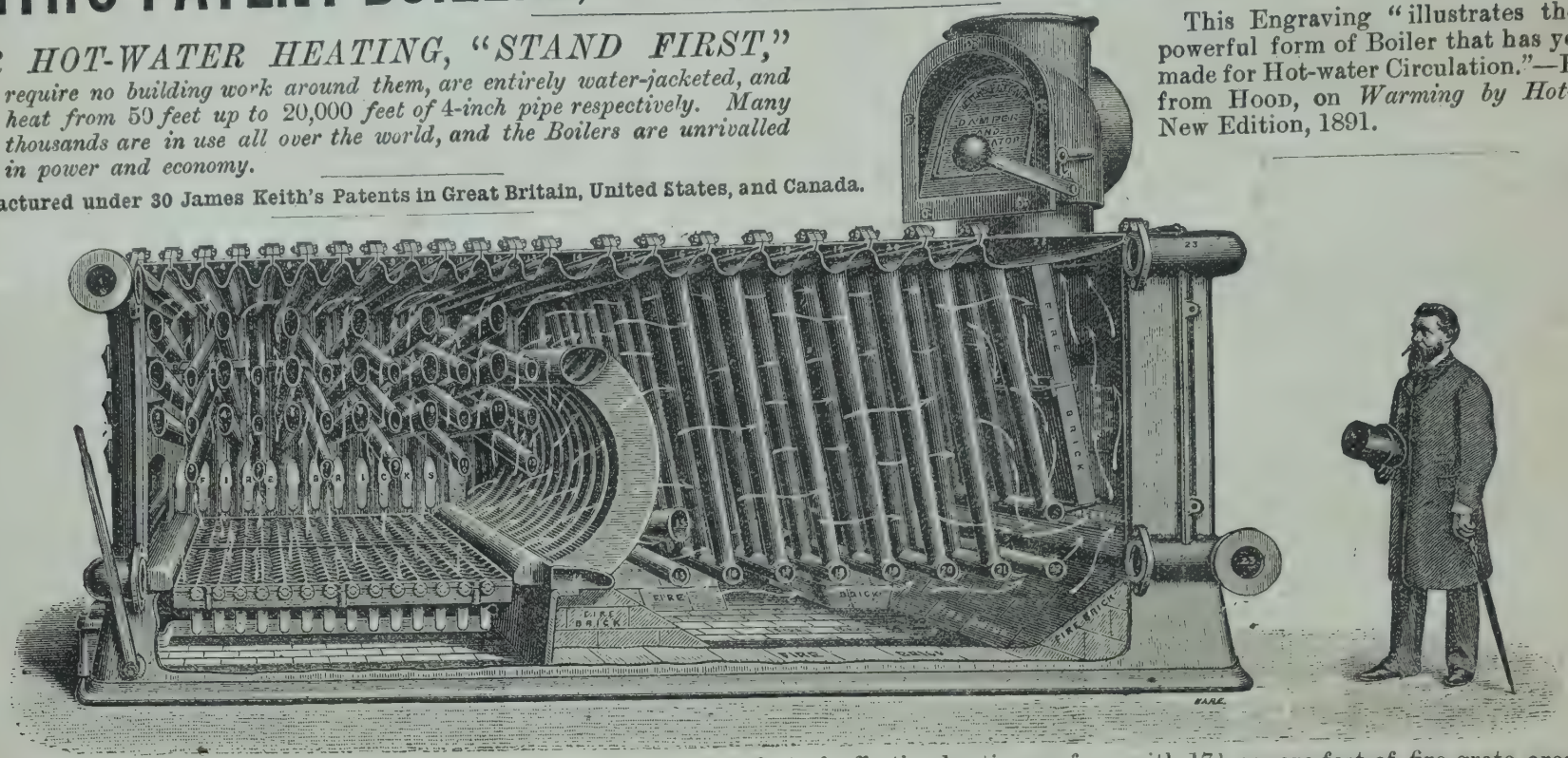

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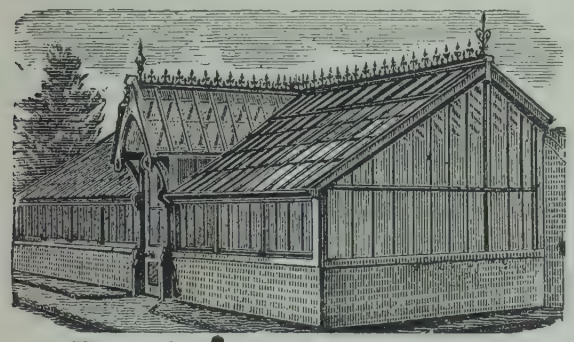

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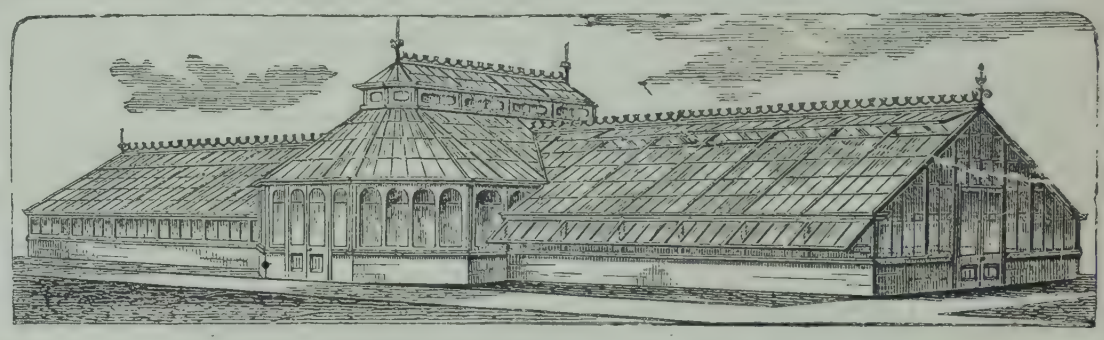

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CONTENTS.

Begonias, winter-flowering 108
Belgian notes 109
Books, notices of:—
Contributions from the Botanical Laboratory of the University of Pennsylvania ... 103
Grasses of the Pacific Slope 107
Rosarian's Year Book . 103
Botanic institutions, list of... 108
Botanist, the selfish ... 110
Camellias, hardiness of... 111
Chlorophytum elatum variegatum 101
Examination by the Royal Hort. Society ... 110
Frost and Broccoli ... 111
Fruit and local conditions 100
Fruit from the Cape ... 106
Gardeners' Orphan Fund 106
Germination under difficulties 104
Ghent Quinquennial 105, 108
Glasgow Botanic and Parks, appointment of curators to 107
Grape, Gros Colmar ... 111
Grape, Muscat Champion 111
Leaf-mould, properties of 110
Lettuce, New York ... 112
Lime in the garden ... 99
Literature and gardening 107
Madresfield Court ... 100
Manchester, round ... 99
Nursery Notes—
Bull's, W., Chelsea ... 109
Low, Hugh & Co. ... 109
Obituary—
Burnett, L. M. ... 112
Panax Victoriæ 102
Persimmons 111
Plants, new, or noteworthy:—
Arum Palæstinum ... 98
Lælia (hybrida) Normanni 98
Railway rates, the new . 104
Ramsgate, public park... 100
Rosery, the—
Roses and the frost ... 100
Roses and local conditions 100
Roses, Noisette 97
Seed trade, the 106
Sheppard, Mr. Jas., the late 107, 111
Societies—
Gardeners' Royal Benevolent ... 107, 112
Linnean... 105
Midland Carnation and Picotee 107
National Chrysanthemum 106
Shropshire Horticultural 107
Technical education ... 106
Verbenas from seed ... 99
Vine dressing 111
Vines, red-spider and mildew on... 111
Weather, the 112
Week's work, the—
Flower garden, the ... 102
Forestry... 102
Fruits under glass ... 102
Hardy fruit garden ... 103
Kitchen garden, the ... 103
Orchid-houses, the ... 103
Plants under glass ... 102
Wellingtonia gigantea... 111

ILLUSTRATIONS.

Arum Palæstinum 101
Finochio: tuberous Fennel 109
Rockery at Madresfield Court 105
Tubercularia sps., on dead wood 113

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,, Trianæ Hardyana
,, Mendelii bella
Cypripedium selligerum majus, fine specimens
,, Rothschildianum
,, Elliottianum
,, candidulum, fine specimen
,, Wallisii, do.
,, Spicerianum, grand plants
,, Dominianum, do.
,, calurum, fine variety, and specimen plant
Cymbidium Hookerianum
Calanthe textorum, fine specimen
,, veratrifolia, large plant
1 Lælia Arnoldiana, specimen plant, 2 leads with spikes
1 ,, elegans alba, with 15 bulbs
1 ,, Morreniana, good plant, with 12 bulbs
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Lycaste Skinneri alba
Cœlogyne cristata alba, fine pieces
,, cristata maxima, Trentham and Chatsworth varieties, grand pieces

6 Odontoglossum vexillarium superbum, strong pieces.

Catalogues are now being prepared, and when ready, may be obtained on the premises, of Mr. Holmes, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Thursday Next.—Important Sale.

GLADIOLUS RAMOSUS, named varieties; Lemoinei, and a superb lot of seedling GANDAVENSIS, named Calochortus or MARIPOSA LILIES; 70 CALLA NANA COMPACTA, the miniature Lily of the Nile; a splendid collection of CARNATIONS, including the new varieties Danger, Emily Thoday, Mrs. Rieffel, Horace Crimson, Pink Malmaison, &c.; a magnificent assortment of English-grown LILIES, embracing all the best in cultivation; enormous Bulbs of LILIUM PLATYPHYLLUM and L. SZOVITZIANUM; importation of ANEMONES from Greece, GLOXINIAS, BEGONIAS, 20,000 Berlin Crowns LILY OF THE VALLEY, SPIRÆA JAPONICA, S. PALMATA, DIELYTRA SPECTABILIS, PEARL TUBEROSES, RUBUS LACINIATUS (Parsley-leaved Blackberry), SEAKALE, Gloire de Dijon ROSES, HYDRANGEA PANICULATA, HARDY CLIMBERS, CLEMATIS, PASSIFLORAS, and others. TRITONIA UVARIA, 200 Dwarf ROSES, new Dwarf varieties of CANNAS, collections of VIOLAS from spring bedding; POLYANTHUS, Double PYRETHRUMS, Herbaceous PHLOX, DELPHINIUMS, HOLLYHOCKS, CACTUS, POMPON, and Single DAHLIAS, ASTERS HELEBORUS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, February 2, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Tuesday, February 7.—Special Sale.

GLADIOLI, extra choice BEGONIAS, Single and Double PEARL TUBEROSES, AMARYLLIS, and JAPANESE LILIES.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY, February 7, at half-past 12 o'Clock.

Fuller particulars will appear next week.

Tuesday, February 7.

Imported by Messrs. Walter Kemsley & Co., 147, Leadenhall Street, London.

About 200 Plants CYPRIPEDIUM CHAMBERLAINIANUM.

A splendid shipment of BURMESE ORCHIDS, comprising
DENDROBIUM WARDIANUM LOWII
,, THYRSIFLORUM
,, CHRYSOTOXUM GIGANTEUM
,, SUAVISSIMUM
,, VIRGINEUM FALCONERI, DEVONIANUM
,, BRYMERIANUM CHRYSANTHUM.
CYPRIPEDIUM BOXALLI, C. LOWEANUM, and a new ÆRIDES from the Shan States; VANDA CŒRULEA and ÆRIDES CRASSIFOLIUM.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY, February 7, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Heston, Middlesex.

On the main Bath road, near Cranford, Whitton, Hounslow, Isleworth, &c.

VALUABLE FREEHOLD PROPERTY, comprising about 12 acres of prolific Market Fruit Gardens, with all the requisite appliances for carrying on the business of Fruit and Vegetable growing on a large and profitable scale. Also a capital brick-built and slated Residence of eight rooms and foreman's lodge, the whole enclosed within fences, and with extensive frontage to the Bath road, about 1¾ mile from the station at Hounslow within half a mile of Hounslow Barracks Station, and about a dozen miles of Covent Garden Market.

MESSRS. SAMUEL B. CLARK AND SON will offer the above important FREEHOLD PROPERTY for SALE by AUCTION, in one Lot, at the MART, Tokenhouse Yard, E.C., on TUESDAY, January 31, 1893, at 1 o'Clock precisely.

Particulars, with conditions, of the Solicitors, Messrs. BIRCHAM AND CO., 46, Parliament Street, and at the Auctioneers' Offices, 8, New Cavendish Street, W., and 10, Hanover Square, W.

WANTED to RENT, or with view to PURCHASE, some modern-built HOUSES, suitable for Cucumber and Tomato Growing.—T. J., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand.

WANTED to RENT, a SMALL NURSERY, connected with Shop, in a thriving country town or suburb. Must bear strictest investigation.—Apply to H. E., *Gardeners' Chronicle* Office, 41, Wellington St., Strand, W.C.

WANTED to RENT or LEASE, a small NURSERY or GARDEN, containing a few Glasshouses, and an Acre or Two of Ground.—X. O., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FOR DISPOSAL, SUMMERHOW VINERIES, Kendal, consisting of about 20,000 feet of Glass, well stocked with Vines, Neil Roses, Maidenhair Ferns, &c. Suitable also for Tomato Culture. Heated with 3900 feet 4-inch Piping by two Boilers.

Particulars on application to owner, A. DUNCAN, Summerhow Vineries, Kendal.

SURREY.—Seven miles from Covent Garden. Genuine NURSERY BUSINESS, 3 acres and 13 Greenhouses, stocked, and well heated; Dwelling House and Outbuildings, all in good repair. Lease unexpired, 16 years. Rents, £115 and £40. West End Shop at £200 a-year. Turnover, about £5000. Price as a going concern, £1000. Strict investigation invited.

Full particulars of Messrs. PROTHEROE AND MORRIS, 67 and 68, Cheapside, E.C. (Folio 7808.)

FOR SALE, Compact (Leasehold), Provincial, Hardy Plant NURSERY, in full and successful working. The Stock of Choice Hardy Plants, ready for the coming season, is large and very complete, second to none in the country, systematically arranged and true to name. This Established Nursery is splendidly situated, with Glass and all requisite offices. It is an increasing business, and a sound investment for anyone desiring a pleasant and profitable occupation. Price about £750; half might remain at interest.

Particulars to *bonâ fide* applicants only, DELTA, 205, Upper Brook Street, Manchester.

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CANADA.—DESIRABLE FRUIT FARM.

"THE PINES," NIAGARA.

An opportunity occurs to acquire this very Desirable Property, in fine working order, and situated in

THE BEST FRUIT-GROWING REGION IN CANADA.

The Farm consists of 50 acres fine loamy soil, most favourable to fruit growing, is well watered, and stocked with the best varieties of Apple, Pear, Plum, Cherry, and Peach Trees, Grapes, &c. The Live Stock includes four Cows, two Horses, &c., and the Implements comprise all those required in Fruit Cultivation. The Residence is an excellent Ten-Roomed stone-built house, with Dairy, Barn, Stable, and other outbuildings, and there are Ornamental Trees, Shrubs, with Lawn, &c. It is pleasantly situated in the Niagara Peninsula, between Niagara River and Lake Ontario, and 1½ miles from the Steamboat Landing and Railway Station of the town of Niagara (a favourite Summer Resort), thus affording ready access to the best markets, as well as every social advantage. Inclusive Price for the Property, Stock, and Implements, $12,000, on easy terms, viz., $5000 Cash, and Balance on Mortgage at 6 per cent. per annum. The Property, if properly worked, will yield a clear income of $2000.

For particulars, address No. 163, KEITH AND CO., Advertising Agents, Edinburgh.

FRIDAY NEXT.

FROM FRED. HORSMAN & CO., COLCHESTER.

LÆLIA PURPURATA—
superb well-leaved masses, from a new district.

ODONTOGLOSSUM CRISPUM,
just to hand, perfect shape, and many spotted forms, and some gigantic masses.

CATTLEYA AMETHYSTINA,
superb well-leaved masses, quite equal to LÆLIA ELEGANS.

ORCHIDS IN BLOOM,
comprising many grand forms, and others VERY RARE, AND WELL-ESTABLISHED.

The above offers an opportunity seldom to be had, for every plant is selected with great care.

MESSRS. PROTHEROE & MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on FRIDAY NEXT, February 3, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

TO BE SOLD, an Old-established NURSERY, with some 50,000 feet of Glass, and 8 Acres of Land, well-stocked, and in going order; or a PARTNER would be entertained. Terms very reasonable. Apply to—
T. HAWKINS, Horticultural Builder, Ashford, Middlesex.

SMALL COMPACT NURSERY, South London Suburb. Main Road. Two miles of Covent Garden. Low Rent. Splendid Business position. Price for Goodwill, Stock, and Fixtures, £100. — C. H., care of Mr. Buckmaster, Stationer, Newington Butts, S.E.

TO BE LET or SOLD (Freehold), with Immediate Possession, an outdoor ROSE NURSERY, planted with Leading Market Sorts for Cut Bloom, consisting of 5 Acres, with 2 Dwelling Houses, Sheds, Stablings, &c, situate on High Road, within easy driving distance of London Markets. —Apply, J. CROUCH, Houndsfield, Lower Edmonton.

TO LET, a FRUITERER'S FLORIST'S, and SEEDSMAN'S BUSINESS.—Every convenience for carrying on the same. Well situated in the High Street. Lease twelve years. Price on application.
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TWO LEAN-TO GLASSHOUSES FOR SALE. One 52 feet by 8 feet, and the other 19 feet by 8 feet, both fitted with Shelves and Hot-water Heating Apparatus complete.—Apply to Mr. ASHMOLE, Auctioneer and Surveyor, Ilford.

Seed Potatos.

H. AND F. SHARPE have forwarded their SPECIAL PRICED LIST of SEED POTATOS to their Customers and others in the Trade, and will thank those who have not received it to inform them, and a further copy will be posted.
SEED GROWING ESTABLISHMENT, WISBECH.

CAMELLIAS and GREENHOUSE RHODODENDRONS.—A quantity of fine specimens in grand condition. Covered with buds fit for exhibition. Recently purchased from a private collection. Can be supplied at low prices. For particulars apply to B. S. WILLIAMS AND SON, Victoria and Paradise Nursery, Upper Holloway, N.

LARGE CAMELLIAS coming into bloom.—A quantity of very fine plants in pots and tubs, will be sold at half the usual prices on account of room being wanted. May be seen at any time, or particulars by post, from
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ORCHIDS.—Many rare and choice Cattleyas, Dendrobiums, Cypripediums, &c., always in stock. Inspection invited. Please write for LIST.
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APPLES.—Strong Maidens, in 12 leading kinds, including Suffield, Warner's King, Cox's Pomona, Bramleys, Lord Grosvenor, &c., 7*s.* 6*d.* per dozen, 50*s.* per 100.—Address,
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CASH PRIZES are offered in the Society's Schedule for 1893, amounting to nearly SEVEN HUNDRED AND TWENTY POUNDS. Schedules sent post-free on application to—
Messrs. ADNITT AND NAUNTON, Hon. Secs., Shrewsbury.

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London County Council,
TO BUILDERS AND CONTRACTORS.

TENDERS are invited for the ERECTION of a CHRYSANTHEMUM-HOUSE at FINSBURY PARK.

Persons desirous of submitting tenders may obtain a copy of the form of contract, specification, form of tender, instructions for tendering, and drawings, on personal application at the office of the Architect of the Council at the County Hall, Spring Gardens, S.W.

The contractor will be bound by the contract to pay to all workmen employed by him the rates of wages and to observe the hours of labour recognised at the date of the tender as fair by the several Trades Unions of the district in which the work is to be done, and such rates of wages and hours of labour will be inserted in and form part of the contract by way of schedule.

The tenders, which must be on the form supplied by the Council, are to be addressed to "The Clerk of the Council," and endorsed "Tender for Chrysanthemum house, Finsbury Park," and must be delivered at this Office before 10 o'clock, A.M., on February 28, 1893, and no tender will be received after that hour. Any tender which is not in accordance with the instructions for tendering will be rejected.

The Council does not bind itself to accept the lowest or any tender.

H. DE LA HOOKE, Clerk of the Council.
Spring Gardens, S.W., January 25, 1893.

City and County of Newcastle-upon-Tyne.
TO NURSERYMEN, &c.

TENDERS are required for Supplying, Planting, and Maintaining TREES and SHRUBS on the Town Moor, in Four Sections. Specifications, Form of Tender, and all other information can now be obtained at the City Engineer's Offices, Town Hall, Newcastle.

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The lowest or any Tender not necessarily accepted.

ROSES FROM DEVONSHIRE.
Finest Bush Hybrid Perpetuals, 6s. per doz. } Strong and
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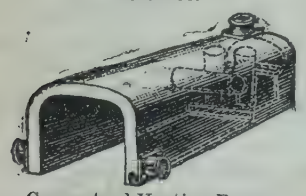

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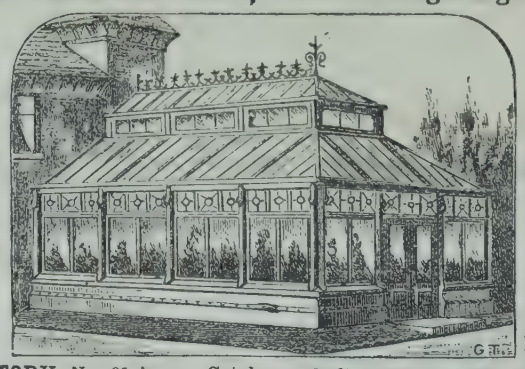

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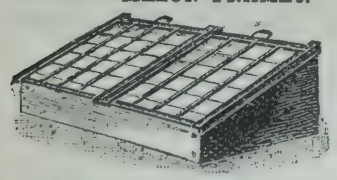

6 ft. by 4 ft., with 2 lights	All sizes carriage paid.	£2	0 0
8 ft. by 5 ft. ,, 2 ,,		2	15 0
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16 ft. by 6 ft. ,, 4 ,,		5	5 0

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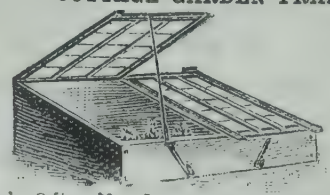

4 ft. by 3 ft.	With sliding lights.	£1	2	6	With hinged lights, as shown.	£1	5 0
6 ft. by 4 ft.		1	15	0		2	0 0
9 ft. by 4 ft.		2	7	6		2	15 0
4 ft. by 4 ft.		1	7	6		1	10 0
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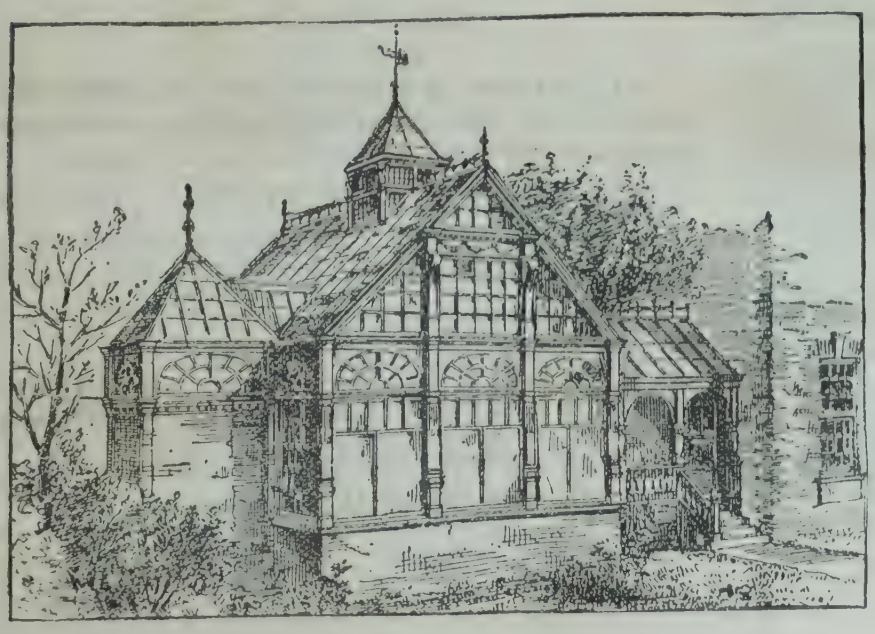

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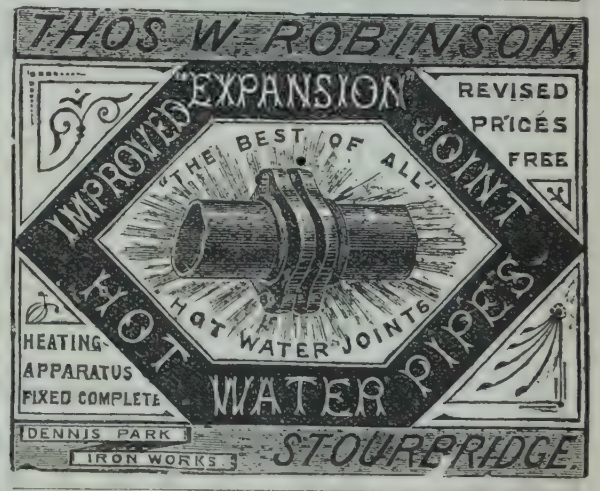

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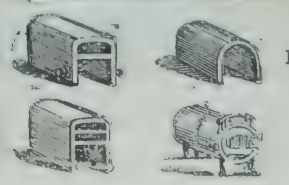

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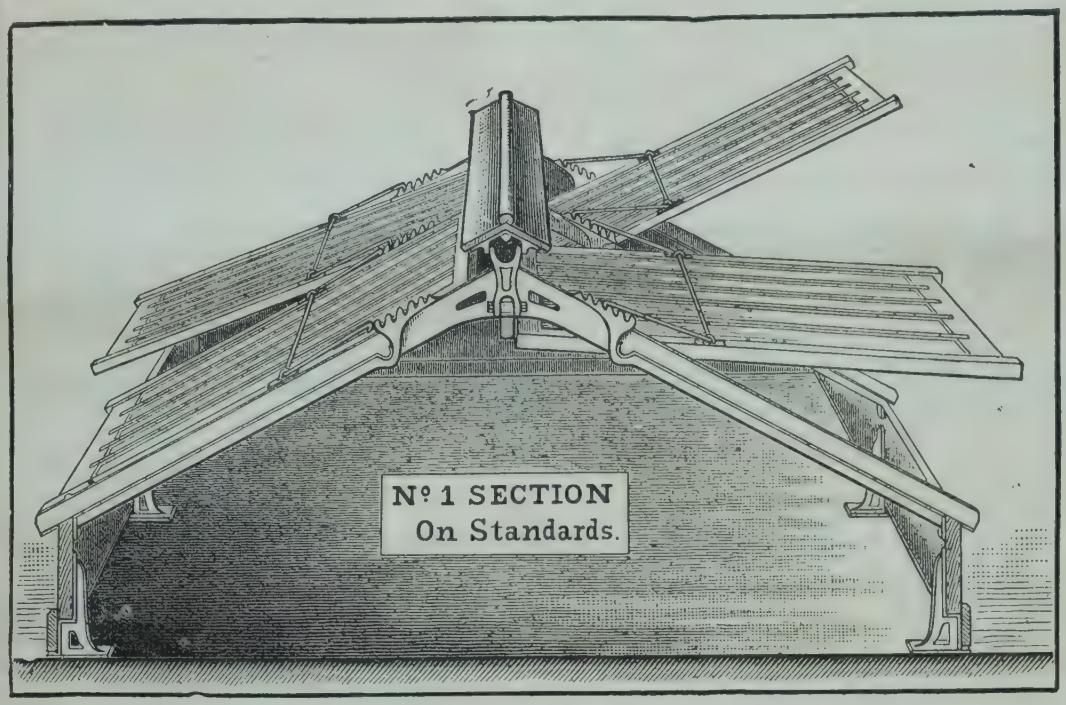

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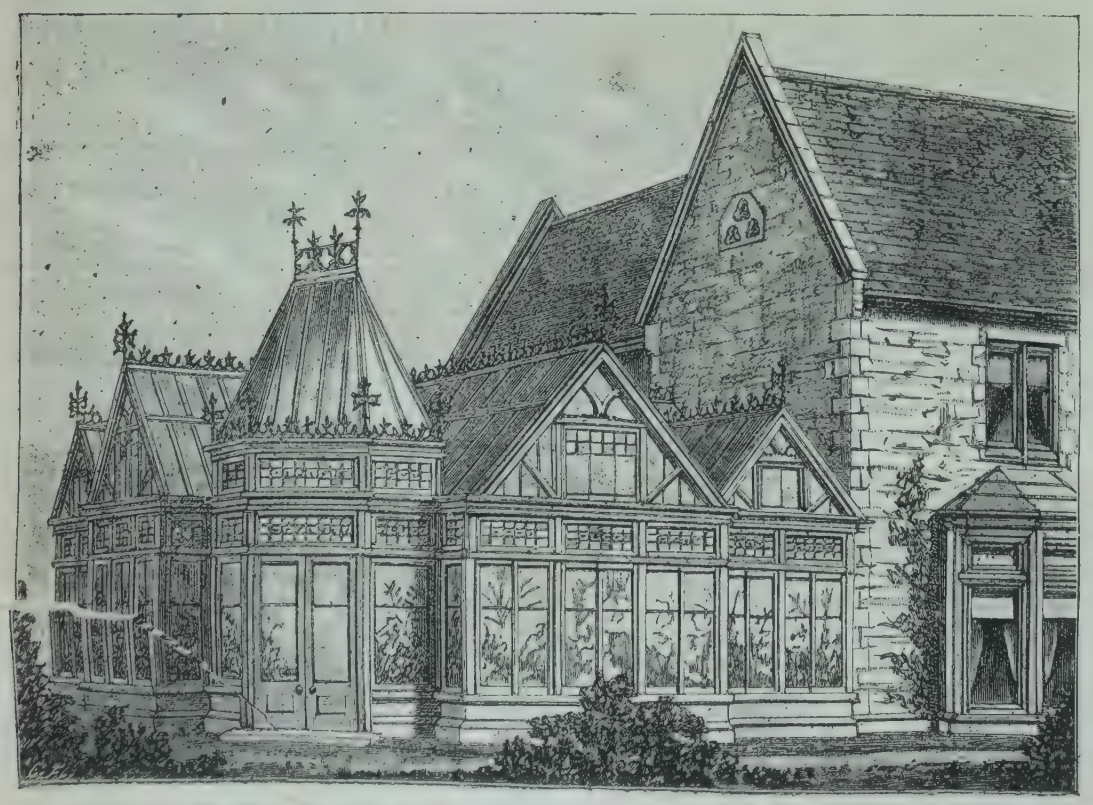

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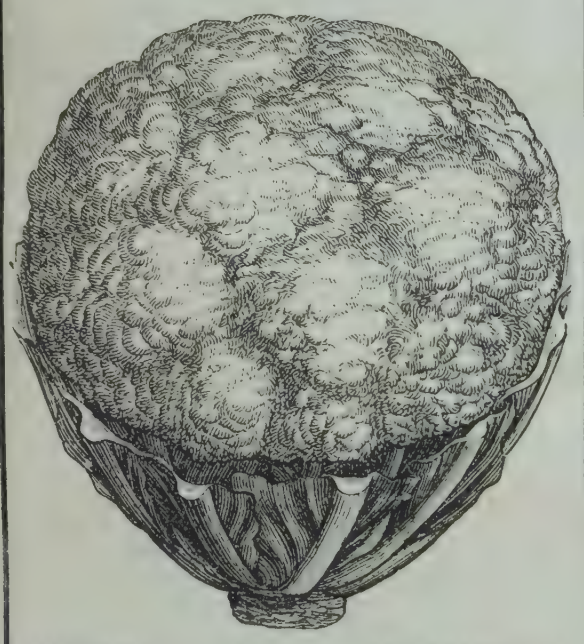

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THE

Gardeners' Chronicle.

SATURDAY, JANUARY 28, 1893.

NOISETTE ROSES.

SOMEWHERE in the early part of the century, about probably the year 1815, [1819?] when Europe began to breathe after the struggles of the Napoleonic wars, one Phillippe Noisette, a Frenchman, settled in America, sent home to his brother, Louis, a nurseryman at Paris, a seedling Rose, which created an immense *furore* at that time. It was a cross between the old Musk Rose and the common China, and remarkable for its peculiar fragrance and the unusual character of its growth, which caused it to attract a good deal of attention. Since that period a number of varieties have been added, differing very widely from one another, and apparently the result of the intermixture of Teas and other Roses, either by natural or artificial hybridisation. These have so confused the class, that it is now somewhat difficult to separate some of the Teas from the Noisettes; the departure from the original type is seen in various ways, but especially in their losing the character of blooming in large clusters, while retaining their long straggling habit of growth. The Gloire de Dijon is generally classed as a Tea, but I contend that it is a Noisette, which seems to me to be sufficiently indicated by its long, loose habit of growth. Some growers have indeed, and I think wisely, put it and its progeny into a distinct class, under the name of Dijon Teas; but I should feel rather inclined to call them Dijon Noisettes. There is again another departure where the floriferous character is maintained, but with a most evident touch of Tea blood in the flowers, such as in that universal favourite, William Allen Richardson, and in L'Idéale. But perhaps the most remarkable departure has been in the case of that magnificent Rose, Maréchal Niel; of the parentage of this grand flower nothing is known, in its foliage it bears evident marks of its Tea origin, which is also evidenced by the fragrance of the blooms, which are generally single and never in clusters, like the earlier Noisettes. The presumption that it is a seedling of Chromatella, or, as we know it, Cloth of Gold, in one of its points is even strong; for in the vigour of its shoots and their great length, it is unmistakably a Noisette.

The character of growth belonging to this division makes them suitable for the covering of walls, houses, &c. There is one defect which may, however, be remedied—they grow so very long that the bottom of the shoots seem bare, and present an ugly aspect. I have successfully used the Clematis to hide this, planting it at the

foot of the plant, and allowing it to fill in the bare space. I have also used Exogonium purga (the Jalap plant) for this purpose, and, indeed, any bushy deciduous plant will do equally well.

The culture of this section, more especially that which may be called the Tea-scented Noisette section, differs very little, except in the situation, from the Teas; that situation should be either against a wall or fence, or, in the South of England, a pillar, for they make very good pillar Roses. A hole should be dug about 18 inches deep, and in the bottom of this some decayed manure (not too much) should be placed; the hole should then be half filled with turfy-loam, and on this the Rose should be planted, so as to avoid the contact of the young roots when they begin to grow, with the manure, which is apt to rot them, and destroy their vitality. If the plant is against the side of a house or fence, the stem should be nailed to it; if for a pillar, the shoots should be gathered together, and tied; and if the weather is severe, a little bracken should be placed among them. In the spring the shoots should be loosened, and the bracken taken away; in the autumn it is well to put a little loose litter on the base of the plant, so as to protect it from frost · sometimes, in a cold situation, shelter is given to them, but they will, when well established, stand a good deal of cold.

In treating of the best varieties of Noisettes, I shall only mention those of a rampant habit. Some people talk of climbing Roses, but, in truth, there is no such thing, for no Rose has tendrils by which to lay hold of anything. Therefore, I shall say nothing of such kinds as Fellenberg.

Celine Forestier.—This is a charming Rose of a rich sulphur-yellow, and retaining the old habit of the Noisette, viz., that of blooming in clusters. This is one of those Roses which, by a happy chance, was rescued from oblivion. Little was known about it, and, as multitudes of Roses were coming over each year from France, it might well be overlooked; but the late Mr. John Standish paid a visit to Angers many years ago, in which I accompanied him, and there Travillard, André Leroy's foreman, brought him to see this Rose. He was much taken with it, and became its purchaser, and it has been since then very generally grown. It is not an exhibition Rose, but as a pillar or garden Rose, it is very useful.

Cloth of Gold.—Unhappily, as a rule, this grand flower does not succeed out-of-doors. There are exceptions. There was one when I came here, about twenty-five years ago, on a house situated in a warm sheltered spot facing the south-west on a sandy soil, and here it was covered with its grand flowers, some 200 blooms hung on it, although not so deep in its yellow as Maréchal Niel. It has a grand petal, and its footstalk is so stout that it stands upright, unlike the Maréchal, which hangs its head. There are some favoured spots where it will grow, but it is unsuited for general cultivation out-of-doors. In warm climates, in the Channel Islands, and the South of Europe, and the Azores, it climbs high trees, and its beautiful blossoms show up above the foliage; but, as I have said, here it is only rarely that it does well. I planted it on my house many years ago, but after two or three years it succumbed to a severe winter, and I have never tried it again.

L'Idéale.—A very delightful Rose of recent introduction. It is a gem for button-holes, and the colour is an exquisite combination of yellow and red.

Maréchal Niel, the grandest of all Noisettes, and with perhaps the exception of Niphetos, there are more blooms sold of it than of any other Rose in cultivation. I have often told the story of my seeing it in Paris before anything was known of it here, and of my predicting a great future for it, and surely it has had a grand success, and yet withal, as an out-of-doors Rose, its merits are not of the first character. The outside petals are apt to get damaged by the weather, and then, as the footstalk is weak, it lays down, and the bush looks as if half covered with withered Roses. The proper place to see it, is trained on the rafters of a house, where its golden goblets hang down, and are seen in perfection. I have seen trees on such an aspect with hundreds of blooms suspended from them.

Rêve d'Or is one of the very best of the Tea-scented Noisettes. I have had a magnificent plant of it on the east side of my house for a number of years, and have had thousands of blooms on it, a perfect picture, because unlike the true Noisettes, it has no bare shoots, but more like Maréchal Niel, is clothed down to the ground; the foliage is nearly evergreen, the colour a rich orange-yellow. My plant was killed to the ground many years ago, and I had almost made up my mind to dig it up; it, however, shot forth, and bids fair to recover its lost ground. I know of no better Rose for rapidly covering a large space.

William Allen Richardson, or as it is more familiarly called "William Allen," is too well known to require description or recommendation; every one who has a garden knows what a favourite it is, especially with ladies, its bright orange blooms being used for decorative purposes of all kinds, and is a universal favourite. It is very vigorous in growth, and a friend has a stout walking-stick made not from a main stem, but from one of the side shoots. It is somewhat like Madame Falcot in colour.

Solfaterre, a large rambling variety of deep yellow colour; the flowers are somewhat loose and thin, opening quickly in sunlight.

These are about, I think, the most desirable of the Noisettes, and it will be seen that they vary very much in character; in fact, it becomes difficult to mark the line between Tea and Tea-scented Noisette; and I think, like a good many other things, as, for instance, show and fancy Dahlias, it is a state of things which it will be impossible to alter.

It would hardly be well to write of Noisette Roses without alluding to the Gloire de Dijon seedlings, which by some growers are now catalogued as Dijon Teas, for, as I have already said, they have much more affinity to the Noisettes than the Teas; their long straggling habit, and the fact that although they give some second flowers, they are nothing like so floriferous as the Teas, justify this statement. It is impossible to say what their origin is. The type came up as a chance seedling in the garden of Jacotot at Dijon, and has established itself as one of the most popular, if not *the* most popular, of Roses. Unlike Maréchal Niel, it will flourish anywhere, in cold as well as warm situations, and in almost any kind of soil. Very many seedlings have been raised from it, and few excel it in beauty of colour, though some are superior in point of form, for Gloire is rather confused in the centre, and is seldom seen in an exhibition stand.

Belle Lyonnaise, a very vigorous and beautiful Rose, has a bad habit of quartering, but can hardly be dispensed with. It is a very constant bloomer.

Bouquet d'Or, perhaps the very best of all the progeny of Gloire de Dijon; very vigorous, not over rampant, forming a good bush, and on a wall most useful. The form also is good, and altogether a most desirable Rose. I do not as yet see much in the Hungarian Roses of this type, Kaiser and Kaiserin Friedrich, as I could rarely get them to open. Henriette de Beauvois and Emilie Dupuy are good, and so are Madame Bérard and Madame Trifle, but too near the type to be very much desired. All those that I have mentioned have made good pillar Roses, and as they occupy a good space on a wall or house, it is not everyone who can give that to them, and so they become useful for pillars or arches. The milder weather which has succeeded that sharp nip of frost we had, makes it quite possible to plant them with advantage; and it must be always borne in mind that Roses of these varieties require no pruning—in the strict sense of the word. Breast wood and weakly wood should be cut out, and the tips occasionally slightly shortened, but that is all; in fact, the less of the knife they have the better. *Wild Rose.*

NEW OR NOTEWORTHY PLANTS.

ARUM PALÆSTINUM.

We owe to the kindness of Mr. Ware, of Hale Nurseries, Tottenham, the opportunity of figuring this handsome Arum. It is fully described in Boissier's *Flora Orientalis*, v., p. 37 (1884), as well as in the *Botanical Magazine*, t. 5509; and this circumstance, together with the illustration given at p. 101, fig. 17, renders it unnecessary to repeat the technical details. The plant, it will be seen, is in general habit much like our common Arum, but the spathe is more lanceolate in outline, and in colour of the richest maroon-purple, looking like velvet, whilst the naked end of the slender spadix is sooty-black. The plant is thus very handsome in appearance, and destitute of the odour which is so extremely objectionable in some of its allies. The specimen figured is exceptional, in the presence of a double spathe. Every year we receive several similar forms in the case of the Richardia æthiopica, the Arum Lily of the markets, so called, probably because there is not very much more affinity between a Lily and an Arum than there is between a cuckoo and a cockchafer. It would obviously be desirable to "fix" the peculiarity above alluded to, and no doubt it might readily be done.

LÆLIA HYBRIDA NORMANNI, *Kränzlin.*

This new hybrid was obtained by crossing Lælia pumila var. marginata (seed plant), and Cattleya Dowiana (pollen plant). The differences between Lælio-Cattleya Ingrami and this new hybrid are, of course, only slight, but we may observe that the petals are more rhombic instead of ovate as in L.-C. Ingrami, and that the middle lobe of the lip is flatter and more plaited than in this variety. The colour of the sepals is a very tender rosy-purple, whilst the petals are somewhat darker. The lip is pale purple in the middle, with a very broad, purplish-mauve margin on the side lobes, an anterior or middle lobe of the same colour. The whole discus or middle part of the lip is beautifully veined. The column is white, and has the three little teeth peculiar to L. pumila. As there are eight pollen-masses (four greater and four smaller ones), the plant is (botanically speaking) a true Lælia; also the bulbs and leaves are more in the way of a Lælia than Cattleya-like.

The plant is a very valuable addition to our stock of ornamental hybrids, and was raised by Norman C. Cookson, Esq., Wylam-on-Tyne, whose fresh materials are to hand. Lælio-Cattleya Ingrami was raised between Lælia pumila Dayana and Cattleya aurea, and Mr. Cookson's hybrid has been raised between a fine variety of Lælia pumila marginata and Cattleya aurea. There is a conspicuous absence of the lines in the throat in the hybrid of Mr. Cookson. *Dr. Kränzlin.*

VERBENAS FROM SEED.

Verbenas are beautiful subjects for summer bedding, but unfortunately of late years, these, like many other old florists' flowers, have contracted a disease which has been so destructive as to practically expel them from many gardens. This disease is much more prevalent among plants raised from cuttings taken off of plants kept through the winter. The cuttings are also very liable to damp off, and seldom form such strong and healthy growing plants as seedlings. Fortunately these may be treated as half-hardy annuals, and are particularly easy to raise. As the plants will grow well in any fairly good soil, and possess a grand variety of colour, there is no reason why they should not be as popular as they were a few years ago. The only drawback in seedlings is, that you must necessarily wait until the plants have produced a flower before you can decide upon their colours. For my own part, I much prefer to see a mixed bed obtained from a good and carefully-selected strain. The seed is fairly cheap, and a small packet will produce a large number of plants.

Given a warm frame or ordinary greenhouse, and dozens of these may be raised as readily as Stocks and Asters. I have found the following plan excellent and sure:—Sow the seed in a box some 3 or 4 inches deep, filled to within an inch and a half of the top with leaf-soil, loam, and sand. Let this compost be sifted, and the rougher portions placed in the bottom of the box, finishing off the surface with a finer mixture, and making all fairly firm. Now thoroughly saturate it, and sow the seeds thinly, covering them over very slightly, and keeping them close and dark with a shaded square of glass. Stand the box in a warm corner of the greenhouse, or in a mild Cucumber or Melon frame. As soon as the seeds have germinated, light and air should be gradually admitted, and the plants be raised close to the glass in a frame, or placed on a shelf if in the greenhouse. When the seedlings are some 2 inches high, they may be either pricked off into other boxes, or potted up singly, using a pot of 2½ to 3 inches in diameter; or they may be allowed to get a little larger and then have their points pinched out, planting them out in the soil of a spent hot-bed as soon as fresh growths start. Under either treatment they should have their tips pinched out a couple of times before making much progress. This will ensure bushy and stocky plants for bedding out by the end of May or early in June; I prefer the latter date. If well-watered previous to lifting from the frame, they will be movable with a good ball of soil attached, and will not flag much from the shift to the flower borders.

Few subjects pay better for generous treatment than the Verbena, and they will rapidly cover a large space of ground, and remain in bloom until frost cuts them down. If you can dig in a fair amount of well-decayed manure, such as the remains of an old hot-bed, the plants are certain to thrive luxuriantly, and prove one of the most satisfactory of all bedding subjects, especially when the cost is taken into consideration.

Verbenas may also be raised in a cold frame, or on a warm outside border; but this does not conduce to such forward plants, and they do not come to perfection until late in the autumn. April is soon enough to sow them in the cold frame or open border; but if sown in heat during March, you can be certain of securing plants that will commence blooming early in the season, and remain gay all the summer and autumn. *A. P.*

ROUND MANCHESTER.

(*Continued from vol. xii., p. 793.*)

Stand Hall, Whitefield.—The property of T. Statter, Esq., occupies a fine situation on high ground, and commands a beautiful and varied prospect of the surrounding country. From the terrace of its pretty and well-kept gardens, some thirty churches can be counted, and it was the fine position doubtless which caused the old Stand Hall, which dated from the Middle Ages, to be placed there; and a fine edifice no doubt it was, for its ruins, and their foundation, had to be blasted to clear the site for building the present solid and comfortable structure. One curious feature of the olden time still remains, and is an object of great interest to archæologists, and that is the chapel with its beautifully-carved roof and other appurtenances of a sacred edifice, but which so far back as can be traced has been used as a cow-house, and a cow-house it still remains, for the present proprietor has it occupied by as many of his 500 head of horned cattle as it will accommodate.

The gardens are well kept; the Vines in the various vineries are in a fine bearing condition, the various greenhouse and stove-plants and Palms all that could be desired, but during the time of the late Thomas Statter, Esq., a taste for Orchids was added to his other hobbies of pictures, horses, and old china; and so well did the Orchids thrive under the care of Mr. Robert Johnson, the gardener then, as now, that when, at the death of their owner, they were sold off, their fame secured a large attendance and spirited competition for the good things offered.

But the fame of Stand Hall for a collection of Orchids was not to be allowed to depart in that manner, and as soon as convenient the present proprietor laid the foundation of another collection, by which the former one seems in a fair way of being eclipsed, if we may judge by the numerous fine things which have been shown at the meetings of the Royal Horticultural Society, and by what we saw on the recent occasion, when we were accompanied round the gardens by their owner and his clever and industrious gardener. Rare and showy hybrid Orchids are eagerly taken up at Stand Hall, and among the specimens we noted a very large plant of Lælio-Cattleya Amesiana ×, with several flowering growths; a fine plant of L. C. Arnoldiana ×; L. c. exoniensis×, several L. c. eximia×, L. c. Canhamiana×, L. c. Pallas×, L. c. Bella×, L. c. Nysa×, Cattleya Harrisi×, C. Minucia×, C. Parthenia×, and many other fine hybrids; while among those not yet flowered are some promising plants obtained from seeds, Lælia crispa×, L. pumila præstans, which should be good. Various forms of Cattleya aurea and C. Warscewiczi are well represented, two of the very finest being C. Statteriana which much resembles a white-petalled C. Hardyana and C. aurea Statteriana, which is one of the richest yellow-flowered Cattleyas, being entirely yellow-coloured except for some rich crimson rays on the lip. Forms of Lælia elegans Turneri are likewise favourites here, and some of the best of these have been added to the collection, of which the handsomest and most distinct is L. e. excellens, a flower with pure white side lobes, and labellum base. Rare varieties of Dendrobium nobile are much valued here; and, in addition to the beautiful D. n. Cooksoni, D. n. virginalis, D. n. Hardy's var., D. n. Sanderiana, and D. n. nobilius, there is said to be a yellow-flowered D. nobile in the collection, which will make a great stir in the Orchid world when it gets strong. The growths which these Dendrobes have made are remarkable for size; those, for example, on D. n. nobilius being over 3 feet in height, and so also proportionately with other rare varieties we noted, viz., D. Wardianum album, D. Bensoniæ album, D. crassinode album, D. Venus×, &c., all were grown to perfection.

Among the Cypripediums which were encountered in company with many other fine forms, were Cypripedium Saundersianum×, which used until recently to be valued at a fabulous price; C. Swinburnei×, C. insigne Sanderæ, and a new form of the C. i. Chantini section—a very fine thing; C. Leeanum superbum ×, C. L. giganteum ×, C. Aylingii ×, C. Niobe ×, C. Englehardti ×, C. Stonei Cannærti, besides some rare unflowered hybrids.

In other houses the Lælia anceps varieties, L. autumnalis, L. Gouldiana, were flowering grandly, one of the richly-coloured L. anceps Morada, of the Liverpool Horticultural Co., having eleven spikes; Cattleya Victoria Reginæ, or the beautiful form of C. Leopoldi, imported with it, was about to flower; C. Alexandræ and other species were in bud; Lycaste Skinneri alba had fourteen flowers, and L. S. xanthoglossa was fine; and Odontoglossums, &c., were all in fine condition.

(*To be continued.*)

LIME IN THE GARDEN.

The present time of the year, together with early spring, being suitable for the application of lime, it may not be out of place to consider briefly what are its manurial properties, what classes of soils are most likely to be benefited by its addition, and in what form it can be most advantageously used. This is the more desirable, as the usefulness of compounds of calcium seems somewhat liable to be overlooked or under-rated.

It is well to remember, in the first place, that the function of lime in the soil is two-fold—it is a direct plant-food, and it also possesses a remarkable power of rendering other inert matter suitable for the nourishment of plants. Besides this, it is capable of making considerable modifications in the physical condition of soils—a matter quite as important to the cultivator as its chemical composition.

Lime as a Plant Food.

It is scarcely necessary to point out here the fact that calcium is one of the elementary bodies that are absolutely necessary for the complete growth of plants; but it is not always borne in mind that some garden crops remove comparatively large quantities of this substance; and that, moreover, lime is a body which, to adopt the common phrase, "sinks" in the ground, thus rendering its application from time to time advisable. That leguminous crops, such as Peas and Beans, need large quantities is fully recognised, as is indicated by their popular description as "lime" plants. But there are many vegetables, which from their marked preference for manures containing other elements, are rather liable to be starved in the matter of lime, although the latter may be no less necessary for their full development. Turnips, for instance, need much phosphoric acid and potash, but analysis of their ash shows about 49 per cent. of lime (13·024 per cent. in the roots, and 35·65 per cent. in the leaves *). Potatos, again, show only 3 per cent. of lime in the ashes of their tubers, but their haulms contains about 17 per cent.; and it is upon the leaves, be it remembered, that the tubers have to depend for their supply of starch. Many other instances might be given of the importance of lime as a minor constituent.

It was stated above that lime sinks in the ground. The explanation of this is very simple. Rain-water holds in solution carbonic acid gas, which it has absorbed from the air, and thus charged, it has the power of dissolving the carbonate of calcium in the soil, and carrying it away off the surface and through the drains or porous subsoil. Moreover, the carbonic acid formed in the soil by the decomposition of organic matter dissolves the carbonate of calcium, which is carried away by drainage water. The nitrates and chlorides of calcium are likewise readily diffusible, and easily lost. It may be noted in passing that the alkaline base soda suffers from this washing-out process in common with lime, while most fertile soils are strongly retentive of ammonium and potash. Hence the reason why lime must be added in larger quantities, and more frequently, than a calculation of the actual amount removed by any given crops would seem to warrant.

What Soils are Most Likely to be Improved by Lime?

Briefly, all deficient in calcareous matter, stiff clays, and sour peaty soils are particularly responsive to its application. Stiff clays are lightened and rendered warmer and more friable,

* From Dr. A. B. Griffith's Analyses in the *Journal of the Chemical Society*, 1883—87.

and the soluble plant foods are increased by quicklime; whilst, on the other hand, the retentive power of light sandy soils is increased by the addition of slaked lime (calcium hydrate), chalk (carbonate of calcium), or marl. On soils containing a large amount of peat, quick or slaked lime, is of great value, counteracting the "sourness" due to excess of organic acids, and assisting the decomposition of woody fibre, &c. There is another case in which lime may be applied with very marked results, namely, to old garden ground which has year after year received heavy dressings of farmyard manure, and which have become sour and profitless. Mr. J. Wright, in a paper read before the Royal Horticultural Society in 1889, described a striking but by no means uncommon instance of this. When he took possession of the garden in question, he found it like a mass of humus, nothing would grow satisfactorily, the soil being "poisoned with humic acid." He gave it a good dose of lime (a bushel per rod), together with potash and bone-meal. "The effect," says Mr. Wright, "was magical, and the crops of Potatos and Peas, where they would not grow before, were remarkable." The late Mr. Shirley Hibberd, on the conclusion of the above paper, remarked on the too frequent neglect of lime as a corrective of acidity; and Mr. G. Wythes—than whom, perhaps, no one knows better how old garden soils should be treated—expressed himself in favour of lime, soot, and wood-ashes, where organic manures alone had been given for a long series of years.

The Various Forms of Lime.

As a general rule as indicated above, *quick-lime* (put on in its caustic condition, or slaked by adding water, or by leaving it exposed to the atmosphere for a time), is preferable for heavy soils, and may be applied at the rate of from 2 to 9 tons per acre. It should never be applied with manures containing ammonia, the latter being liable to be driven off thereby.

Chalk is suitable for light sandy soils, and can be given in about twice as heavy dressings as caustic lime.

Marls, being variable mixtures of carbonate of lime and clay, are suited to light land, the dressing being regulated by the proportion of lime contained.

Gypsum, or sulphate of calcium can be used with ordinary manure, as it is a "fixer" of ammonia.

Gas Lime is simply slaked lime which has been used in the purification of coal-gas. It contains, when fresh from the works, calcium sulphide and sulphite, and these substances are injurious to plants. After exposure to air, however, they are oxidised and form sulphate of lime (gypsum), and consequently become innocuous. Gas-lime is useful for mixing in the "rot-heap," hastening the decomposition of leaves, weeds, &c.

It should be remembered that bones, bone-meal, dissolved bones, and superphosphate all contain more or less calcium; therefore, liming is not so necessary where any of these are applied in quantity. *C. W. Herbert Greaves, Marlborough Lodge, Bournemouth West.*

THE ROSERY.

ROSES AND THE FROST.

To-day (January 19) I have been looking over my Roses, and forming an opinion of the harm done by the recent severe weather. I am gratified to find that they are coming through the ordeal so well. Early in the month we had some very low readings of the thermometer, and these were often accompanied by a keen north and north-east wind. Several mornings we have had over 20° of frost, and as this was accompanied by sudden changes and slight thaws, only to freeze again at night, I am rather surprised to find my plants show small effects of the frosts.

For some time there has been a considerable amount of ice around the base of many plants; and, in the case of budded dwarf stocks, where the soil was partly removed to get the bud closer to the crown of the stock, the bud itself has been encased in ice for fully a week. Notwithstanding this, I find the buds are looking well, and have every appearance of being uninjured.

At the time of writing, a steady thaw has set in, and upon cutting some of the wood with a knife, I find the pith is sound, and of good colour. The three varieties most affected are Catherine Mermet, Climbing Niphetos, and Souvenir d'Elise Vardon. Comtesse de Nadaillac, generally considered a tender Rose, has come out as well as the others. I find this Rose as hardy as any, and doubtless its character for tenderness is derived a great deal from its steady and comparatively weak growth. In an open field, facing due north, my standards are pinched rather; but on the south side of the same hill they are looking as well as the dwarfs.

At a future date, when the frost is quite gone, I will report upon how the buds that have been encased in ice turn out. From their present appearance, I have little fear of them. *P.*

EFFECTS OF ENVIRONMENT ON FRUIT TREES AND ROSES.

By the word environment, I mean more than what is generally included in the terms soil and climate. These, it is true, are among the more potent factors in determining the measure and quality of production. Only the veriest tyro in the secrets of cultivation can affect to underrate their superlative importance. The soil dominates root conditions and supplies; the air determines the measure, and moulds the quality of plant products. From neither does there seem any escape. And yet outside of both soil and climate, as generally understood, innumerable minutiæ go to constitute local environment. Among the latter, perhaps altitude, or the height and form of surface-ratio of water to land; of grass land or plantations compared to arable; the proximity or otherwise of troughs, of valleys, mountains, lakes, rivers, seas; varied character and depths of subsoils and surface tilths, measure of water supply and its normal condition, whether at rest or in perpetual motion.

Such, and probably other and even smaller local environments often determine the most vital issues of success or failure in horticultural production. In this great art, nothing is really of little moment, and the usual terms of small and great get mixed, and are apt to prove very misleading. And the worst of it is, the most lynx-eyed cultivators are apt to prove somewhat blind in littles. Take, for example, the choice of a site for a fruit garden or orchard. The soil is tested with the utmost care. No pains nor cost is spared in its cultivation and enrichment; no skill nor experience is spared in the selection, planting, culture, and training of the choicest varieties. Similar trees in the district also do well; the new planters have only to tread in the footsteps of the old, and all will be well, for is not old John Hortus retiring with a fortune, only about five hundred yards off, and a little higher up the hill? Yes, this is quite true; and as like will produce like, as a rule, even in horticulture, all that is needful to reap fame and fortune is to keep close to John Hortus' example. And that is the loyal intention of his successors and imitators; and they have, in all the big matters of the choice and planting of the new fruit garden or orchard, trodden in his footsteps. But they failed in that which seemed least—but really was the greatest—condition in commanding success. The new fruit garden was about one hundred feet lower down the rolling ground that seemed made for growing fruit, than the old one. Hence, it was under, not above the fog line. Only practical cultivators of wide experience know all the misfortune involved in trying to grow valuable fruit under the fog line of any district. It is like attempting to cross the Atlantic in a craft flooded to its bulwarks. It may be done once and again, as a happy accident; but, oh! the risk, the work, the worry of it! No naval nor horticultural skipper worthy of his salt would voluntarily pit such tremendous odds against himself. But what difference can such trifling descents in altitude make? Why, probably a fourth of the difference here indicated would suffice to convert brilliant success into dismal failure; for in such cases, it should never be forgotten that things are mostly worse than they seem. The fog line above-ground is often associated or linked closely together with the stagnant water-line below. Either of these often prove more than a match for the cultivator, but where the two combine their forces, the most skilful cultivators will reap only, or chiefly, failure, in the presence of such local environments as a dirty wet blanket around the top, and a perpetual bath of stagnant water at the roots of trees. Proof of the existence of both are often found in the most unlikely places, and there can be no hope of permanent profit or success in fruit culture until the local environments of fruit gardens and orchards are adapted to the wants, and, I should like to add, the wishes of the trees. *D. T. Fish.*

MADRESFIELD COURT GARDENS, MALVERN.

So much has been written of these gardens, that probably there is nothing new to be said; yet gardening is so progressive in some ways as well as conservative in others, that a few remarks upon things seen there lately may not be without interest to readers of the *Gardeners' Chronicle*. Mr. Crump is so well-known to be a thoroughly good all-round gardener, that everybody expects to find good order and good gardening at Madresfield; and anyone paying an unexpected visit, with high expectations, will find them fully realised, and possibly, more than realised, as the writer did.

Entering the kitchen-gardens from Mr. Crump's house, we turn for a moment to the right to examine a Plum-tree on a wall. It is heavily laden with gigantic fruit, deep purple in colour, and carrying a dense "bloom"—it is the "Nectarine" Plum. One is immediately struck with the beautiful condition of all the fruit trees—wall trees, cordons, pyramids. No gross growths, no overcrowding of shoots or branches. Each shoot and each leaf is properly nourished from quantities of fibrous roots kept in the upper and richer and warmer soil, which is kept uniformly moist by mulchings; and each leaf and shoot receives its full share of light and air, without which all conditions, however suitable, are of little use.

The oblique cordon is becoming very popular at Madresfield, so much so, that Mr. Crump has a nice row of Gooseberries about 6 feet high grown in that way, and he is making up all gaps and edgings of quarters with fruit trees grown on that system. Pears Doyenné du Comice, Triomphe de Vienne, Souvenir du Congrès, Jargonelle, and Beurré de l'Assomption are fruiting well in that way.

Amongst uncommon Apples bearing heavy crops are two highly-coloured and valuable varieties, called May Queen and Maltster, the latter a large handsome Apple, the former smaller but very beautiful, and of excellent keeping and eating qualities. Lord Suffield does uncommonly well, forming large, clean, healthy, and fruitful trees. Stirling Castle is also another first-class variety for fertility and quality of produce.

The Peach-houses are now almost without fruit, but the trees are in excellent health, the foliage green, clean, and of good substance; the growths strong and well-ripened. The Peach season at Madresfield commences before the end of April with Alexander, and continues until late in autumn, when immense quantities of the splendidly high-coloured outdoor Peaches are in full swing. Grapes are well grown, as the late crop of Hamburghs amply testified. They are grown for family use, and not for exhibition purposes. The bunches were large and compact, the berries of full size and good colour. I noticed in the late vinery a few bunches of the true Kempsey Alicante; it is distinct in form of berry, is of good colour and dense bloom, and is well

worth a place in vineries. The true Gros Guillaume also was a telling feature in size and finish. The earliest vinery had its roof off, thus exposing the foliage to a thorough cleansing on the upper surface, and also keeping the Vines unexcited, and contributing to a quiet and natural maturity and rest.

There are seven vineries, two of which are planted with Madresfield Court, Black Muscat, two with Madresfield Court and Black Hamburgh mixed, one with Lady Downe's, one Muscat-house, and one of Alicante, Barbarossa, Gros Colmar, &c. There staging on each side and overhead. This is a great boon, and one that would be much valued in many gardens where Strawberries in pots are grown largely.

The Rose-house is a long and spacious lean-to, filled with strong and healthy plants, growing in a raised inside border at the front of the house, the varieties being the well-known and deservedly popular favourites, Niphetos, Madame Lambard, Madame Cusin, President, W. A. Richardson, and Cheshunt Hybrid; and the back wall is covered with

Fig. 17.—Arum palæstinum, with a double spathe: colour, deep purplish-brown; spadix, black. (see p. 98.)

are also three Peach-houses, and it is obvious that to dwell in detail upon the contents of each house would take up a great amount of valuable space. The Fig-house was finishing off an abundant crop of fine fruits, Mr. Crump avoiding here—as in all other departments—the error of over-crowding. In the Melon-houses were to be seen fruit weighing nearly 6 lb.; and in the same structures were splendid batches of perfectly clean and floriferous Gardenias and Eucharis in pots. In the same range of houses were about one hundred pots of Calanthes. Two houses of Tomatos must be mentioned, because probably a finer lot could not anywhere be found, taking plant for plant. A span-roofed house is erected here specially for Strawberries in pots, with Camellias, and the lovely white, but too seldom grown, Clematis indivisa lobata.

Of course, there is at Madresfield the usual collection of large Kentias, Arecas, Seaforthias, Cocos, Ferns, &c., for house decoration, as well as a large quantity of well-grown and beautifully-coloured Dracænas, Crotons, Pandanus, &c., for the same purpose. In a small plant-stove was to be seen a few of the almost forgotten but charmingly delicate pink Pentas carnea.

The kitchen gardens are 4 acres in extent, and are well-managed. Adjoining the kitchen garden is a nursery, mainly of fruit trees, in which Mr. Crump raises thousands of strong and clean trees of the best varieties adapted to the locality, which are gratuitously supplied to the tenants on the estates of Earl Beauchamp. This is a boon that can scarcely be over-valued, and one that is sure to bring its own reward to such a considerate landlord. This nursery is 2 acres in extent, and close by is a trial ground of 1 acre, where upwards of 200 kinds of Apples are on trial. Mr. Crump is acquiring most valuable information concerning these, and some day will, perhaps, kindly impart some of it for the benefit of the readers of the *Gardeners' Chronicle*.

We now enter the pleasure-grounds, which cover 50 acres, where we find weedless walks, smooth velvety lawns with well-trimmed edges, banks of bright green low-kept Laurels, perfect Yew hedges, that do not present a gap or a dead branch; artificial rockeries, a perfect semicircular arcade of Lime trees, avenues of Elms, Cedrus atlantica, and Abies nobilis glauca, each about 400 yards in length, and forming an almost exact equilateral triangle; these and other things we see, and feel utterly unable to accurately describe their beauties.

There is a flower-garden near to the kitchen-garden, where there are a number of long beds edged with Box, and all radiating from near the centre towards the circumference of a semicircle, thus being narrower at one end than the other, but with an average width of about 30 inches inside measurement, or 3 feet outside. These beds are planted alternately with Tea Roses and Carnations; the perfume is delicious, and the effect most charming. Wandering to the rockery, it is difficult to believe that man has had any hand in its arrangement and construction, so gradual and natural is the transition from prim lawns, borders, and hedges to what appears to be Nature in her bold and rugged beauty of form and arrangement. This is considered to be one of Pulham's masterpieces. (See fig. 18, p. 105.)

Passing by the Lime tree arcade, we proceed along the grand avenues of Abies and Cedars, and arrive at the flower-garden proper at the south front of the mansion, which latter is of Elizabethan style of architecture, very roomy, beautiful and comfortable, and surrounded by a moat filled with water. The flower garden is spacious and commensurate in size to the mansion and its surroundings. The beds are large and sufficiently numerous to give the colouring requisite for the picture. In the centre is a very large circular bed covered with a dense mass of the dark purple Clematis Jackmanni. Other beds are filled with well-flowered, crimson, tuberous Begonias, White Viola Countess of Hopetoun, yellow Viola Bullion, the dark purple-crimson Iresine William Coleman, edged with the silvery Cineraria; and to tone down the whole, were several beds of sub-tropical plants.

Leaving the flower garden, we enter a private terrace walk, flanked with high evergreens, and containing a number of marble busts of Roman emperors. Passing by the Elm or deciduous avenue, after leaving the stables immediately on our left and the drawbridge on our right, we reach Mr. Crump's house, and thus end an enjoyable walk round one of the most beautiful gardens, and with one of Britain's most able gardeners. *Hugh.*

Cultural Memoranda.

CHLOROPHYTUM ELATUM VARIEGATUM.

This species, allied to Anthericum, is a very useful and effective decorative half-hardy herbaceous plant. Last summer I introduced it for the first time among the carpet-bedding plants with very good effect, turning the plants carefully out of small pots, and planting in little mounds in central pieces of Alternanthera amœna, and other bright-foliaged plants, with which the narrow pale green and silver-edged arching leaves of this Chlorophytum made a pleasing and striking contrast. The leaves having got nipped by frost at the same time as the Alternantheras, the plants were taken up, and potted into suitable-sized pots, and then placed in a house with bedding plants. In due time a fresh lot of young leaves made their

appearance, the variegation being more delicate and pronounced than it was before. The leaves are from 12 to 15 inches long, and from three-quarters to 1½ inch wide, and not unlike those of Pandanus Veitchii in habit and colour, only they are of less firm texture, and are not serrated. These plants I have now divided, and potted into 3-inch pots, seeing that I cannot well have too many of them for intermixing with other plants for house furnishing, and other decorative purposes. They are not particular as to soil, providing it is light; but if a compost consisting of light sandy soil, peat and leaf-mould is afforded them, the variegation is thereby improved.

PANAX VICTORIÆ.

This is a very useful and showy decorative plant; it is of bushy habit, having compound leaves, the leaflets being green, serrated, and edged with white. It is readily propagated by cuttings inserted in 3-inch pots filled to the rims with light sandy soil, and then plunged in heat near to the glass, and potted off into small 60's as soon as rooted, returned to heat, and watered to settle the soil. The plant does best in a stove temperature, and in peaty soil. *H. W. W.*

THE WEEK'S WORK.

PLANTS UNDER GLASS.

By BAILEY WADDS, *Gardener, Birdsall Gardens, York.*

SOUVENIR DE LA MALMAISON CARNATIONS.—Last year's layers should be potted as they require it in good loam, leaf-mould, and dry cow-dung, with plenty of sand mixed with it (sea-sand, if it be obtainable). If the young plants are watered before potting, do not water them again for some time, i.e., till they have got dry. Afford attention to old plants in 8-inch and larger pots, as it often happens that they are destroyed by excessive watering at this season. If 2 oz. of nitrate of soda be added to a 4-gallon can of soft water it will help them, as will also a top-dressing of fresh loam to which some chemical plant-food has been added. Air should be afforded the plants night and day whenever possible, and green-fly must be kept from them by fumigating the pit or house at short intervals, not waiting till the pest shows itself. The young leaves are disfigured very quickly by green-fly, and continue to show it in their old age. Temperature—night, 40° to 45°; day, 50° to 55°.

ALPINE AURICULAS.—These are amongst the most useful sweet flowering plants for baskets and house decoration in the spring; they should be grown in 4, 5, and 6-inch pots, and those that have been hitherto kept in frames may now be removed to the stage or table in a cool greenhouse, where their sweetness and beauty may be readily enjoyed. Avoid the use of much fire-heat for them, the temperature at night being 40°, and by day 50°, with plenty of air. A good watering should be administered to those which have thus far on in the season been kept dry at the root.

ROSES.—The borders of Tea-scented and other Roses should receive a top-dressing of good loam and rich manure, and be carefully forked over, affording them a good watering afterwards. If pruning or training is required, it should be done at this season, but the best time to prune Roses in a house is the beginning of the month of October, the Roses being then put in a tidy condition for the winter, and the plants growing beneath the Roses are benefited by the larger quantity of sunlight received. The best time for planting is in July, the plants being grown well, previously, in pots; and when planted as the roots are in full vigour they soon get away. At the present time thoroughly clean them of all insects, and if green-fly be present, fumigate them, or the buds and young growth will suffer; and to counteract mildew, syringe with the mixture recommended on p. 45. A temperature of from 40° to 45° at night, and 55° by day, suits them well, with plenty of air given during mild weather. Where Maréchal Niel is subject to canker, it is good practice to plant some few young vigorous plants each year. Where the following varieties can be planted out into well-drained beds of good strong loam, some blooms may be gathered every day in the year, but the plants should be allowed to grow as strong as they like during the summer, the shoots being well thinned out in the month of October. The first four varieties named are good for button-hole bouquets, viz., Isabella Sprunt, Ma Capucine, Madame Falcot, and W. A. Richardson. Other good varieties are Madame Lambard, The Bride, Lamarque, Marie Van Houtte, Rêve d'Or, Niphetos, Cheshunt Hybrid, Homère, Celine Forestier, Gloire de Dijon, Adam, Duchess of Edinburgh, Goubault, Ophirie, Madame Chedame Guinoisseau, David Pradel, Madame P. Liabaud, Duc de Magenta. The small fairy Roses are very useful grown in 6 or 8-inch pots for flowering at this season.

FORCING-HOUSE.—Hyacinths, Tulips, Lily of the Valley, and other bulbs, will not require much heat to bring them into bloom after this date; and they should be neatly tied to their green-painted stakes when taken to the conservatory. Introduce as required more Ghent, India and Mollis Azaleas, also Lilacs, of which if much house decoration be needed, large plants taken out of the nursery and placed in large pots or tubs are very useful. The Lilac does very well in an early vinery. The different varieties of Cœlogyne cristata, should be grown in quantities for house or conservatory decoration at this season.

FORESTRY.

By J. B. WEBSTER, *Fairview, Stangmore, Dungannon.*

THIS late spell of wintry weather brought planting to a standstill, and the planter will be driven to afford protection to young stuff against the ravages of hares and rabbits. Hollies are particular favourites with these rodents whilst snow lies, and a cheap and efficient method of protection against them is to fasten a handful or two of Heather or small branches around the stem with a withy or tarred string. I have practised this method for many years in woodlands, and have found that it affords good protection to the trees at a trifling cost. Young Oak trees and standard Laburnums, both of which get punished by hares and rabbits, may be protected in the same way. Ornamental trees, however, in open conspicuous places had better be protected with wire netting in the most effectual manner. Newly-formed plantations of young plants may be protected during a storm by carting a quantity of green Fir and other branches [Rough hay. ED.], and spreading them out here and there along the margins of the plantations, which attract the hares and rabbits, which at once commence to eat the spines and peel the branches, and as long as these last not a plant in the plantation will be nibbled. As soon as the snow has melted, the plants may be considered to be safe, and artificial feeding may be stayed, the peeled branches removed and used for any other purpose. Ornamental trees, if likely to suffer from wind-waving, should be staked and fastened till such time as the roots have taken to the soil, and it is sometimes advantageous on exposed land to erect a shelter screen of branches of evergreens around the plant or group of plants, as the case may be, and apply a mulching of tree leaves, Fern, or other suitable material. Nothing adds more to the appearance of an estate than well-kept roads, fences, drains, ditches, and suitably-arranged plantations for sheltering the land and for ornament; and these may be said to be the pioneers of all other improvements. This is a time when hands can be properly spared from other work to quarry stone and break it for macadamising roads, forming drains in woods and other purposes. Advantage should be taken of frosty weather to cart heavy materials of all kinds, and in this way save the roads from hard wear. Scour out ditches and water-courses, the excavated soil being utilised in repairing the banks of the same or others that may require it. Prepare land for spring planting by grubbing up any furze or scrub, and in cases where the stuff to be planted is large, holes had better be dug for its reception, the excavated soil being left in the rough at the sides of the holes, where it will be pulverised by frost and wind. In forming plantations for ornamenting, the ground had better be trenched forthwith, and although this will entail expense at the outset, the superior growth of the trees in after years will compensate the outlay; moreover, larger plants may be planted.

THE FLOWER GARDEN.

By T. H. CRASP, *Gardener, Canford Manor, Wimborne.*

TUBEROUS-ROOTED BEGONIAS.—Tubers of these should now be introduced into gentle heat if cuttings are desired. These strike very readily if placed in small pots, filled with sand and leaf-mould, and plunged in a bottom-heat of 70°, but I would not commend this mode of propagation unless the desire is to increase any particular variety, in which case seeds would be useless to a large extent. For bedding and general purposes, I would recommend seeds as a means of increase, and these should be sown in pots or pans of well-drained light sandy soil, which have been afforded previous to sowing a good soaking of boiling water, which will kill all the small worms, moss spores, &c. The seeds sown thinly should not be covered with any soil or sand, or they will fail to germinate, but the pans or pots may be covered instead with bits of glass, and stood in a warm house or frame where a temperature of 65° or 70° is maintained, shading them from the sun. When the plantlets are large enough to be manipulated, they should be pricked off into pans of light leaf-mould, and, as they become large enough, transferred to boxes if they are required for bedding, and to small pots if for indoor decoration. Seeds sown at once, and treated in the above manner, would furnish capital plants by the end of the month of May. The potting of Pelargoniums can now be proceeded with, which will give them time to make good plants before they are wanted in the flower beds. Cuttings of Lobelia, Iresine, Heliotrope, Coleus, Alternanthera, Ageratum, Petunias, &c., may now be put in, or as soon as the old stock plants start into growth, which they soon do when placed in a good heat for a week or thereabouts. Where Fuchsias are required for bedding, the stock plants should now be placed in heat to start them into growth, so as to be able to obtain a good supply of cuttings a few weeks hence. Trained specimens should also be pruned and started, to enable them to make good plants (if used or required) for the flower garden. If such specimens are plunged, pots and all, in various positions in the flower garden, they greatly add to the summer effects.

THE ROCK GARDEN.—In open weather the rock garden should be examined, and rubbish removed, and those plants that may have been displaced by the frost made firm by hand pressure. It is good practice to give the plants, or most of them, a mulching of rich sandy soil before winter sets in, and if this was not done last year, it would greatly improve the appearance of the rockery, as well as being beneficial to the plants, if it were done now: and the greater the degree of tidiness now holding in this department at this season, the more it will show to advantage at a later date. A few beautiful little plants and bulbs, that will soon be coming into bloom, if not already out in very sheltered positions, are Chionodoxa Luciliæ and C. sardensis, Iris reticulata and its var. persica, Snowflakes, Winter Aconites, Crocus, and Snowdrops, which will be soon pushing through the soil; also Dondia Epipactis, a very pretty little alpine perennial not very often seen in gardens, which flowers very early in the year, and looks extremely pretty when in bloom, being in appearance somewhat similar to the Winter Aconite (Eranthis hyemalis). It is a rather slow-growing plant, and should not be disturbed for propagation, excepting in the case of strong healthy clumps, which should be divided in the autumn before growth commences. This thrives best in good stiff loam.

FRUITS UNDER GLASS.

By JAS. WHITTON, *Gardener, Glamis Castle, Glamis, N.B.*

VINERIES.—The severe frosty weather and absence of sunshine experienced during the past few weeks has necessitated harder firing than is desirable, especially where beds of fermenting material have not been employed to assist in maintaining the requisite temperature; consequently, the growth of early Vines is much softer than desired, and therefore great care must be exercised in giving air under these conditions. The sudden outbursts of sunshine so common in the early months of the year put those in charge of fruit-houses to a pretty sharp test, for a few moments' neglect may seriously injure the prospects of the season. Should the weather continue dull and sunless, keep the atmosphere of the early houses moderately dry, and warm enough to keep the air buoyant and fresh. Night temperature, 60° to 65° in mild weather, and 5° less if frosty; during daytime, 10° to 20° higher. It is now time that all preparations for starting Muscats, Gros Colmar, Lady Downes, and such late-keeping varieties, should be completed. We prefer these to be started about the beginning of February, so that they may have a long steady season of growth, and time to have the fruit well matured by the middle of September, which fruit then will keep well through the winter. Keep the Hamburgh vineries from which autumn supplies are desired as cool and airy as possible for a month yet.

MELONS.—The early sowings will require repotting, if the roots are filling the pots. Pot them low down in 6-inch pots, filling the pots with soil when the plants have grown a few inches taller, and keeping them in these until about 12 inches high in preference to planting in beds; for unless under exceptional circumstances, beds of soil at this season are not easily maintained in the congenial condition so requisite for early Melons. Make successional sowings for midsummer supplies during the month of such sorts as are found most suitable and desirable. For supplies towards the end of May and early in June, varieties of Victory of Bath and Best of All types will be found most suitable, as they come quickly to maturity if smartly grown. Sow two or three seeds in 3-inch pots, or, if space be limited, nine seeds in a 6-inch pot, in any moist, warm, light friable soil, and cover with glass to keep off mice, which are very fond of the seeds of nearly all Cucurbitaceæ. It is immaterial whether the pots be plunged or not, provided that a steady moist atmosphere and temperature of 70° to 80° be maintained. The seeds will germinate under such conditions in about a week, and be ready to pot into 3 or 4-inch pots in a fortnight or so. Before potting, see that the soil is nicely warmed, and in a suitable condition as to moisture. The same remarks apply to successional sowings of Cucumbers.

THE ORCHID HOUSES.

By W. HOLMES, *Gardener, Picksring Lodge, Timperley.*

GENERAL HINTS, ETC.—The severe weather of the early part of January rendered necessary much hard firing, which was injurious to many species, especially Lælia anceps, whose flowers suffer greatly. The flower-spikes of Cymbidium Lowii are well advanced, and should not be allowed to suffer by affording the plants too little water at the root; an occasional watering with some weak manure-water will also help them. For Orchids, I prefer the manure-water from the cow-yard or byres, or that made from cowdung and water. The present is a good time to start a few more Dendrobiums in heat; viz., D. nobile in its many varieties, D. Wardianum aureum, D. crassinode, D. Findleyanum, and D. Ainsworthii and its varieties, Leechianum, and splendidissimum. The prudent grower will be very careful with the watering of these plants for some time yet, too much water at the start being ruinous. Dendrobiums started about the end of the present month bring the finer flowers, and these possess more substance than those on plants which are started earlier in the year; and the new growths go away with more freedom as the days lengthen and the sun is brighter.

THE COOL ODONTOGLOSSUMS.—The leaves and pseudobulbs of these species should be cleaned by sponging them with water and soft-soap; in doing this very needful operation, the small snails which are often to be found in the axils of the leaves, and which are great devourers of the young flower-spikes, should be diligently sought for. The next worst foes are thrips. If the houses of the cool Odontoglossums are kept at the proper temperature, and the moisture of the air is what it should be, thrips will not be very troublesome. Whilst the work of plant-cleaning is in hand, the pots and stages should be cleansed, and a careful watch kept in the evening for snails at feed. About one hour after dark is the best time to look for snails. Do not fumigate this house, as so doing often causes mischief; and any plants which require to be potted or top-dressed should get attention forthwith, Odontoglossums delighting in fresh sweet material, which the fresh roots readily seize upon. Peat and fresh sphagnum moss of good quality should be made use of; and it is a good practice to put the latter into a tub of water for twenty-four hours before using it, small snails and their eggs being then destroyed. Inordinate watering of the plants must be carefully avoided at this season, but on mild days a slight syringing overhead should be afforded, and the stages kept in a well-damped condition. As fast as the deciduous Calanthes Veitchii, rubra, oculata, and lutea, pass out of flower, place them on a shelf in the Mexican-house, where the temperature should not be lower at night than 55°, here letting them remain till growth commences. C. veratrifolia and C. Textorei, now pushing up their flower-spikes, will be benefited by being watered once a week with weak manure-water. Pleiones which were potted last November will now be able to take more water, but much should not be given as yet; and when the new roots begin to run in the new material, encourage them in every way possible. Aërides, Angræcums, and Saccolabiums requiring potting or top-dressing should be taken in hand, employing a mixture of three parts sphagnum moss and one part peat broken into small pieces, and some bits of charcoal or broken brick. In potting them, see that the plants stand in the middle of the pots, and do not injure the roots in the least in so doing; then fill the pot three parts full of clean crocks, with a layer of sphagnum moss above these, then finish off the potful with the above mixture, and encourage the sphagnum moss to grow by pretty constant syringings; this will also help the plants to retain their leaves. The stages that the plants are stood upon should be kept moist. Cymbidium eburneum and C. Lowianum now pushing up their flower spikes, must not be allowed to suffer for lack of water or an occasional dose of weak manure-water. Introduce more plants of Dendrobiums, such as D. nobilis and its varieties; D. Wardianum, D aureum, D. crassinodes, D. Findleyanum, and D. Ainsworthii, should be put into heat, the watering being carefully gauged, as too much water afforded at the start will sometimes ruin the plants. Having a good stock of plants of Dendrobiums, it is easy to have them in flower till the end of the month of May.

THE HARDY FRUIT GARDEN.

By T. TURTON, *Gardener, Maiden Erlegh, Reading.*

PEAR WALL-BORDERS.—Assuming that all Pear trees have been pruned, tied, and dressed with some kind of insecticide if this was found to be needful, the roots should be assisted with a dressing of rich soil or half-decayed dung, which is only applicable where the borders are reserved solely for the trees, and where such does not obtain, and the borders are cropped, the aids to growth afforded must be where the roots are, probably deep in the soil. In that case, and the subsoil being of gravel or light and unfertile, a wide trench, a good spit in depth, should be dug out where the roots are found to be, replacing this with some rich pasture loam, of a retentive nature; but should the subsoil be clayey or a stiff loam, a compost of light turfy loam, burnt garden refuse, old plaster, road-grit, &c., will be of benefit to the trees. Having a sufficient quantity of this compost, the trenching of the border may be proceeded with. When the roots reach the part of the border containing these substances, the cleaner growth and finer fruit will soon make the fact apparent. These remarks apply to trained trees on the Pear stock, from which our large supplies of fruit are mostly got. Cordons, which are mostly grown on Quince stocks, give excellent results if their roots are restricted by lifting and replanting them biennially or triennially. The borders at this place, having been well made at the first, top-dressings of rich soil only are needed, and we finish off with a thick dressing of burnt refuse, which has the effect of preventing the surface-soil becoming inert and sour by the trampling on to which it is subjected. [The trampling and consequent consolidation of the soil is very beneficial to any tree—fruit or other. ED.]

THE FRUIT ROOM.—In mild weather afford complete ventilation to sweeten the air in the room, and dispel damp; and on wet days have the fruits examined with care for decaying specimens. But little more will be necessary after this examination. At this season very few varieties of Pears are fit for table. I have had, however, a few fruits of Langelier's Victoria, recently given me by a friend, which in quality are equal to good Glou Morceau. It is a Pear that is in season most years throughout the present month.

ARREARS OF WORK.—All kinds of work in this department, which have been delayed by bad weather, must be completed as soon as possible, including pruning, planting, lifting young trees, border-making, &c.

SWEET CHERRIES.—With all arrears brought up to date, push forward the pruning and training of Sweet Cherry trees on walls and fences. Except in soils specially suited to Cherries, there may be much dead-wood to be cut out of the trees, which should be replaced with shoots left at the summer pruning. Sweet Cherries do not produce shoots from the old wood so freely as other fruit-trees, hence the need to reserve as many, or more, than will be needed. Do not remove fruit-spurs which, through bad management, may have become very long, but rather grub up any such trees from year to year, and replace them with young ones, which by proper summer pruning, may be kept well furnished with short spurs for many years. Where possible, give the choicer sorts of Cherries a west aspect, thus affording them shelter from the early morning sun after frosty nights, and the east wind, exposure to which encourages the early appearance of the very injurious black aphis. Postpone the dressing of the trees till the bloom buds are beginning to move, and then dress them, which dressing will carry them through the blooming season. A dressing may consist of soap suds thirty gallons, to which half-a-pint of petroleum is added. This is an effectual and, in most gardens, an easily-obtained insecticide.

THE KITCHEN GARDEN.

By H. C. PRINSEP, *Gardener, Buxted Park, Uckfield*

SHALLOTS.—For early use these bulbs should be planted as soon as the soil is dry enough to be worked, and it should be well manured and deeply dug as for the Onion. To secure large bulbs, select the plumpest and best-shaped sets, and plant in rows 15 inches apart, and the bulbs 6 inches apart in the row, and plant them sufficiently deep to prevent their being lifted out of the soil when the roots start to grow. If the bulbs are covered to the depth of an inch, this will keep them in place, and the soil may be taken from round them as soon as they have become firmly rooted. In ground devoid of lime, a sprinkling of it afforded before the bulbs are planted will help to check mildew, which in districts where lime is scarce, is a very prevalent malady.

GENERAL WORK.—As soon as the frost is out of the ground, seize the first opportunity of the ground being fit to tread upon, to level and dig that which has carried the crop of Celery; no better place being found than this in which to grow this season's Onions; and having already received a liberal dressing of manure, it will be in good heart. I prefer to dig such land two spits deep, after levelling it. The spades used should not be much worn, as the greater the depth which can be moved, the better for the crop. When digging, leave the surface rough, but that which is turned into the bottom of the trenches should be broken up quite fine. If there should be any unexhausted manure at the bottom of the Celery trenches, it should be well mixed with the soil while digging it. The advantages gained by leaving the surface in a very rough state are two-fold; in the first place, it allows the drying winds to penetrate to a considerable depth, and as a dressing of lime, soot, or other artificial manure will be given previous to forking the ground over at the time of sowing the seed, it will be readily mixed with the soil. Celery rows that were heeled over previous to the setting-in of the frost, should only be uncovered, as they are required for use, even if the weather be mild, as the air which then reaches the hearts tends to rot the plants.

FORCED VEGETABLES.—Carrots and Turnips on hot-beds that are quite in the rough leaf, should be thinned so as to prevent spindling, and with mild weather more air should be admitted on all favourable occasions. Do not cover the lights with mats or other coverings at night, unless actually compelled by frost so to do, and then not till after dark, as this covering up during the hours of sunshine tends to spindling or drawing of the plants. It also checks the ingress of air through the laps of the glass. When obliged to resort to covering up, remove the mats, &c., as early in the morning as possible.

PEAS in pots or in heated pits must receive great attention; for if allowed to become dry at the roots, they will be liable to attacks of mildew. Those far enough advanced should have some slight sticks put to them to support the haulm, and prevent it from being knocked down. If the plants are crowded, thin them, as nothing is gained by crowding forced vegetables. Those in rows 18 inches apart, should have at least a space of 3 inches between each plant in the row.

SMALL SEEDS.—Such seeds as those of Brussels Sprouts, Cauliflower, Lettuce, and Early Cabbage that were sown on hot-beds a month ago, will be large enough for pricking out on to other hot-beds. It is a good plan to get this done while they are in a small state, the danger of spindling or losses from damp being then much less.

FRENCH BEANS.—Make a successive sowing, and if heated brick-pits are available, a sowing may be made in these, as the crops will be taken before the pits are required for Cucumbers or Melons. Thin out those sown a month ago, so that the plants have sufficient space to grow robust. If in pots, more water will be required by the plants as the days get longer, and they should be frequently syringed to keep down red-spider.

EDITORIAL NOTICES.

LETTERS FOR PUBLICATION.—*All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

LOCAL NEWS.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

ILLUSTRATIONS.—*Photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c., are particularly solicited.*

NEWSPAPERS.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Advertisements should be sent to the PUBLISHER.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

THURSDAY, FEB. 2—Linnean Society.

FRIDAY, FEB. 3—Annual Meeting of the Gardeners' Orphan Fund, the Election of Orphans, &c., at Cannon Street Hotel, at 3 P.M. Dundee Horticultural Society.

SALES.

MONDAY, JAN. 30—Roses, Lily of the Valley, and Other Plants, at Protheroe & Morris' Rooms.

TUESDAY, JAN. 31—Established Orchids, at Protheroe & Morris' Rooms.

WEDNESDAY, FEB. 1—Japanese Lilies, Begonias, Pearl Tuberoses, Azaleas, Ferns, &c., at Protheroe & Morris' Rooms.

THURSDAY, FEB. 2—Special Sale of Hardy Border Plants and Bulbs, Roses, Pæonies, &c., at Protheroe & Morris' Rooms.

FRIDAY, FEB. 3—Orchids from Messrs. F. Horsman & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—39°.

Germination under difficulties.

ONE of the best methods of preserving the vitality of seeds during long journeys is to pack them in charcoal, earth, or sand. Some species require a moist material in which they can germinate on the voyage, and some cannot preserve their vitality unless introduced in a germinating condition. Seeds, or rather, seedlings, thus developed do not succeed well on their arrival if the stage of germination is far advanced, or if they are not furnished with reserve stores of nutriment, as in the perisperm or fleshy cotyledons. Seedlings in an advanced state of germination, and those which have small blanched leaves, are considered as hopeless. Such plants, says M. CORNU (the director of the Jardin des Plantes), which have germinated in darkness during the voyage invariably perish, no matter in what way they are treated. In order to overcome this difficulty, and to preserve seedlings that have germinated in closed cases, M. CORNU has hit upon the following method, which he describes in a recent communication to the Academy of Sciences. The seedlings, often thread-like in character, are carefully picked over, and separated from one another. Those which are bruised or otherwise injured are thrown aside, whilst the uninjured seedlings are placed on a layer of Orchid peat, formed from the breaking up of the roots of Polypody. This substance is porous, sweet, not liable to attack from fungus-moulds, and condenses the moisture of the air. The plants thus placed on the peat are covered with a bell-glass, and kept at a temperature of 25° to 30° C. = 77° to 85° F., and slightly shaded. So treated, the weak, blanched seedlings recover their vitality, the leaves become green, new roots are produced, and the plants become fit, after a time, to be grown in the ordinary way. Sphagnum it appears has not the same effect.

M. CORNU gives numerous illustrations to show how valuable this simple method is in the case of seeds which have commenced to germinate during the voyage, and which otherwise would perish irrevocably.

It would be interesting to see what would be the effect of packing the seeds themselves in peat as is now done in charcoal. We are not aware that this has been tried. As peat of this character might not be available on the spot, a supply might be sent out without difficulty, as the quantity required would be but small.

Hampton Court Home Park.

SHOULD the efforts now being put forth by various local authorities and members of parliament in the neighbourhood of Hampton Court be successful, and the noble Home Park be thrown open, the public will enter upon the possession of a very splendid domain, indeed, one of the finest and most delightfully-situated parks round London. Reputably the park is of 1000 acres in extent. That area must, however, be inclusive of Hampton Court gardens, paddocks, and the whole of the land that lies between the river Thames from Kingston Bridge to Hampton Court Bridge, and the high road from bridge to bridge. Between these channels of communication, which thus bind Middlesex to Surrey, the river takes a long and sweeping bend of some 3 miles in length, the Home Park boundary following the Middlesex side of the Thames. From the palace-end there radiate in the direction of Kingston, Surbiton, and Thames Ditton, three very broad noble avenues of Limes, each of four rows of trees, and at the extremities these are nearly united by another long broad avenue running transversely. Thus, at the outset, the park is found to include very noble features. Between the double tree rows of the centre avenue runs the Longwater, recently one sheet of ice, over which thousands of persons have skated in the most delightful fashion. This splendid sheet of water is about 100 yards wide, and nearly three-quarters of a mile long. If available to the public, it might prove a most attractive resort, or from a garden aspect be most delightfully ornamented by planting the banks with suitable vegetation. That would, of course, render the enclosing of the sides needful. At present, however, the park seems to maintain only a few brood mares and foals, and cannot in any way be profitable to the government. Whilst it would be undesirable to make carriage roads or other than a few gravel or coal ash paths, the formation of a bold drive on the river margin from the one bridge end to the other, passing out at the palace end on to the tow-path, would be a most popular act; indeed, the conversion of this grand park into a place of public resort would serve to make Hampton Court one of the most popular public gardens in the world. During hot summer weather tens of thousands of visitors to the palace have gazed longingly into the deep shady recesses of the Lime avenues, so cool and so enjoyable, with envious desire. There are in the parks some features that would, however, need some protection. There are the huge hollow trunk of the father of the park, an Oak that has probably existed 1000 years, and some probably equally old; and remarkably fine as well as picturesque trunks of Elms. The Oak trunk has internally a clear diameter of 9 feet, and externally measures in its narrowest part, 4 feet from the ground, 36 feet round, whilst at 6 feet it is probably some 40 feet. The thick shell of bark carries yet many very robust branches, and if well-cared for, the tree would no doubt endure for 100 years longer. Last year it was in some careless way set on fire, but although the inner surface was charred, the tree was saved from much harm. One of the Elms has a girth of about 25 feet, and is tall and in vigorous growth. Another stem of the same girth is a noble ruin, having been broken clean off at 9 feet from the ground. Several others have girths of 21 feet, and one or two quite dead are the most strange-looking and picturesque objects conceivable. These should be preserved with all honour so long as is possible.

RAILWAY RATES.—We gladly publish the following letter on this subject:—"At a meeting of the London Wholesale Seed Trade Association, held on Jan. 20, present, Messrs. WATKINS & SIMPSON, Exeter Street, Strand; RUTLEY & SILVERLOCK, Victoria Embankment, W.C.; HURST & SON, 152, Houndsditch, London; JACOB WRENCH & SONS, Limited, London Bridge, E.C.; COOPER, TABER & Co., Limited, 90, Southwark Street, Borough; NUTTING & SONS, Southwark Street, Borough, the new Railway Rates were considered, and it was resolved that I, as chairman, be requested to urge upon you:—(1.) That the new rates and regulations will, if continued, seriously impede the business transactions of the firms composing our association, by driving the outward trade from London, and their inward or farmer's produce trade to other countries or districts where communication by water is available. (2.) Supplying, as we do, indirectly the agriculturists of the United Kingdom with seeds for their farms, a class which is already most seriously overburdened, we submit that the rates, instead of being advanced, should most certainly be reduced to the lowest possible tariff. (3.) That one or more of the members of our association will be pleased to wait upon you by appointment to discuss the matter more fully.—A. WATKINS (Chairman)."

—— "So far as I see," writes Mr. W. BAYLOR HARTLAND, of Ard Cairn, Cork, "this new railway rate scale will cripple the agricultural work of our purely agricultural country. First.—Freights on seeds have to be paid for large lots in all parts of the world by rail or steamer. Afterwards, for redistribution at seed time, the same supplies get cut up into small quantities, and sometimes a double or a treble freight paid on them, there are so very few farmers in Ireland who require a two-ton lot of Clover seed. It has to be cut up into very small portions, often into 160 stones, or double this. Take, for instance, one ton of Flounder Potatos from Athlone to Cork first costs £5 or £6. This could be had last year at Cork station freight, 14*s*. Last week I paid for a sample ton 23*s*., nearly 75 per cent. advance in freight alone. Now, this ton of seed got redistributed in three days from warehouse, in small lots, weights, half-hundredweights and hundredweights, and sent by rail or tram from Cork, and I suppose no lot will be delivered at destination under 1*s*. 6*d*., 2*s*. 6*d*., or it may be 3*s*. additional railway charges, thus, according to the new system, running the cost up, on freight alone, to the consumer 150 or more per cent. This is but a case with a ton of Potatos. But, as I mentioned in the case of Clover, all seeds come to Cork, not as food to be consumed within the city, but for redistribution in the farming districts; and that when railway companies charge a double freight on agricultural seeds, above all other things, the classification should be low accordingly, more particularly with some lots. Why, the germs (like gold dust) of the Champion Potato, thirty years since, in the hands of an enthusiast in Forfarshire, Scotland, made thousands of pounds in freight for the railways and steamers of the United Kingdom, and, indeed, by its introduction to this poor country of ours saved millions for both governments, and kept Ireland from

starvation. Good grass is but sowing down Ireland to permanent pasture, so that any way by which we frustrate the design of introducing good seeds in small quantities into our common country, we are but injuring the cause of God and man alike, and I hope the public and the railway kings will see that small lots of agricultural seeds get fair play over the railways of Ireland."

—— Meetings all over the country are being held to protest against the exorbitant rates now levied. Market gardeners and fruit and flower farmers will be among the chief sufferers, and the growing fruit industry runs a good chance of being strangled in its birth. The Spalding Improvement Commissioners report that in the case of Cabbages, the extra rates from Lincolnshire to London amounted to as much as £8 10*s.* per acre, and that the rates from Lincolnshire to Sheffield for hay and straw were nearly doubled. We should be glad to hear what our nurserymen have to say upon the subject.

—— A conference of traders and agriculturists on the subject of the new Railway Rates will be held at the Mansion House on Monday, the 30th inst., at half-past 2 o'clock, under the presidency of the Lord Mayor. The meeting will be addressed by Sir James Whitehead, and other Members of Parliament. Application for tickets of admission should be made to the Secretary of the Mansion House Association on Railway and Canal Traffic, Eastcheap Buildings, who will also upon request, supply forms for comparing the old and the new rates. In the meantime, the President of the Board of Trade, and his colleague of the Board of Agriculture, bid us wait with patience.

Fig. 18.—The rockery at Madresfield Court. (see p. 100)

Ghent Quinquennial.—We have received a copy of the schedule of this exhibition, which promises to be of even greater importance than usual. In all 660 classes are mentioned, and in each class two, or in some cases, three prizes are offered. The jury will be international in character, and no inhabitant of Ghent is qualified to act as juryman. Two British prizes will be offered, viz., the Van Houtte Memorial Prize for forty miscellaneous plants in or out of flower, and the Veitch Memorial Prize mentioned in our last issue.

Linnean Society.—At the general meeting held on Thursday, January 19, Professor Charles Stewart, President, in the chair, the President referred in suitable terms to the losses sustained by biologic science in the deaths of Sir Richard Owen and Professor J. O. Westwood, who had been Fellows of the Society for fifty-six and sixty-four years respectively. Mr. W. Carruthers, F.R.S., V.P.L.S., then laid before the Society the results of a collection made by Mr. Alexander Whyte in the Malanji country, in the Shiré highlands, in October, 1891, and of which the plants were determined by the officers of the Botanical Department, British Museum; about sixty, or, roughly speaking, one-fifth, proving new to science. Whilst Sir J. D. Hooker defined the flora of Kilimanjaro as Abyssinian in character, the Malanji flora displays a much closer relationship to the Cape. The last paper was by Mr. G. F. Scott-Elliot, and was his report as botanist to the Anglo-French Sierra Leone Boundary Commission, in which he gave an account of the economic aspects of the districts traversed. An evening meeting will be held on Thursday, February 2, 1893, at 8 p.m., when the following papers will be read:—1. Report on the Entomostraca from the Gulf of Guinea, West Coast of Africa,

collected by J. RATTRAY; by THOS. SCOTT, F.L.S. 2. Two new species of Rhax; by H. M. BERNARD. 3. On the Division of Nuclei in the Mycetozoa; by ARTHUR LISTER, F.L.S. 4. On the structural differentiation of the Protozoon Body, as studied in microscopic sections; by J. E. S. MOORE.

THE SEED TRADE.—The past autumn proved one of the worst known for years for ripening some of the Legumes. Only a few days ago, we were shown some samples of green Windsor and white Beans, which, after being harvested and stacked as usual, had just been thrashed out, and what Beans were sound were much discoloured, many quite rotten, and all very soft, needing two or three weeks' drying at least to harden them before they can be sent out. This is common experience, and illustrates the great difficulty experienced by the wholesale seedsmen in executing their orders. A sample of Autocrat Peas would not pay for picking, and other late sorts are similarly affected. It is only those who are engaged in the business of seed-growing that can understand something of its anxieties and worries. The difficulty of getting off orders is acutely felt this winter.

TECHNICAL EDUCATION. — Mr. KNIGHT has finished a first course of thirty lectures on behalf of the East Sussex County Council. The attendances throughout have been very good. Cottagers chiefly were supposed to derive most benefit, but last year many gardeners attended, and it is to be regretted that this year but few of the former put in an appearance, though some audiences were composed almost exclusively of gardeners. This seems to point to the fact that they at least do not object to learn, and are not above being taught when the knowledge is conveyed in an interesting and entertaining manner. That great good is now being done we are quite confident.

FRUIT FROM THE CAPE.—A consignment of fruit from South Africa arrived at Southampton on the 22nd inst. by the Union Steamship Company's R.M.S. "Athenian," consisting of 334 packages of Apricots, 27 boxes of Peaches, and 2 boxes of Pears, from Cape Town; and 183 cases of Mangos and Pines from Durban. The Peaches and Apricots arrived in condition not quite satisfactory, and consequently realised less than was anticipated. The Pines were the smallest that have been seen at Covent Garden Market for some time, and fetched from 5*d*. to 9*d*. each only. Mangos also were unsatisfactory.

THE SHOW-HOUSE AT KEW.—The show-house, No. 4, is gay with bright flowering plants. Among them may be mentioned Hyacinths, Narcissus, Lily of the Valley, Cyclamen, Epacris, Chinese Primrose, Freesias (very well done), and Camellias, with the black-green leaves, indicative of health. All these are very nice, but may be seen anywhere. As less common and more interesting, and, therefore, more what one seeks at Kew, we may mention the vividly-coloured Peristrophe speciosa, Strobilanthes isophylla, an old friend, rarely seen now-a-days; various greenhouse Rhododendrons, with brilliant-coloured flowers, and whose long lithe branches have to be tied down as if the plants were climbers. Daphne Genkwa bears a most wonderful resemblance to a Lilac (Syringa). The resemblance is, of course, merely superficial, and transcendentalists could in this case hardly sustain a charge of mimicry against either plant; Reinwardtia or (Linum) trigynum is very effective. The Freesias above mentioned are interesting, as affording illustrations of regular peloria. The normal flowers are slightly irregular, the two lower perianth segments of the inner row more or less deeply blotched with yellow. The three stamens are arranged in a sort of hood in the upper half of the flower, arching over the blotch, so that an insect alighting on the flower, and guided by the yellow blotch, would wipe out the pollen from the anthers, and convey it to another flower, where the three-branched stigma was projecting to receive it; but in the white variety the flowers are nearly regular, with no blotch in the tube, and the three stamens are arranged around the style in a circle. All intermediate stages may be met with.

THE "ROSARIAN'S YEAR BOOK" opens with a portrait of the Editor, the Rev. H. H. D'OMBRAIN, of whose career the Dean of ROCHESTER writes a sympathetic account. Seven well-known rosarians gossip about Tea Roses; the Editor supplies some reminiscences of French rosarians. Mr. GRAHAME raises the question of deterioration in Roses, which we are interested to find he does not attribute to the Rose itself, but to the unfavourable conditions under which they are grown, or the faulty treatment they receive. Mr. ALEXANDER GRAY is as full of fun as usual; and Mr. MAWLEY's notes on the weather of the past year constitute a particularly valuable contribution, applicable not only to Roses, but to any and all plants grown in the open air.

UNIVERSITY OF PENNSYLVANIA.— The first number of a periodical entitled *Contributions from the Botanical Laboratory of the University of Pennsylvania* has reached us. It contains teratological articles by Dr. ROTHROCK and Mr. HARSHBERGER; a note on the staminal arrangements of Epigæa repens, a nascent variety of Prunella vulgaris, a dwarf form, which most of us have seen on our lawns, and which is a good illustration of the powers of adaptation to —lawn-mowers! and which is of interest to those who study the effect of environment on plants. Dr. ROTHROCK should obtain seeds from this variety, and note if the "nanism" is reproduced in the offspring—probably not, we should say. Dr. WILSON also contributes a paper on the leaves of Melilotus alba, which assume different positions according as they are exposed to ordinary daylight, to darkness, or the rays of a hot sun, the latter position being assumed to prevent a too rapid transpiration, and are not dependent on light alone, but on heat and water supply. Dr. MACFARLANE, late of Edinburgh, now the Director of the Laboratory, contributes an important paper on the Venus' Fly-trap, Dionæa Muscipula, dealing with the phenomena of leaf-closure, leaf structure, leaf secretion, leaf opening, and "irrito-contractility." The hairs of the Fly-trap are multicellular, and have a hinged joint near the base, consisting of numerous quadrangular cells, devoid of cuticle, and each minutely pitted, the pits, presumably, being pervious, though this is not yet decisively made out. We cannot give the structural details at greater length, suffice it to say that the passage of protoplasm from cell to cell is well marked, if the leaves are treated in a particular manner detailed by the author. The paper cannot be fairly dealt with in abstract, but must be studied as a whole.

THE GARDENERS' ORPHAN FUND.—The usual monthly meeting of the committee took place at the Horticultural Club, Hotel Windsor, Victoria Street, on the 20th inst., Mr. WILLIAM MARSHALL presiding. The special amounts announced by the Secretary were—H.R.H. the Princess of WALES, £10 10*s*.; the Scottish Horticultural Association, £5; Mr. H. Herbst, £1 1*s*.; the Ware Horticultural and Mutual Improvement Society, £1 11*s*. 6*d*., and Mr. W. Whittaker, Stocklands, Bridgewater, 10*s*. The following sums from boxes were also announced: —G. Fennell, Fairlawn, Tonbridge, 10*s*. 6*d*.; and Mr. H. J. Jones, Ryecroft Nursery, Lewisham, £2 10*s*. 6*d*. With the letter enclosing the cheque for 10 guineas from the Princess of WALES came one from Col. Stanley Clarke, the private secretary to H.R.H., stating that in reply to a request made through Mr. John Wills, H.R.H. permitted her name to be announced as the patroness of the Fund. The following resolution was unanimously passed: —"That the best thanks of the committee be given to Mr. John Wills, for the invaluable services rendered to the Gardeners' Orphan Fund in securing the influential support of H.R.H. the Princess of WALES as the Patroness of the Fund." Mr. John Wills, in acknowledging the same, suggested that a special circular, setting forth the fact of the Princess of WALES having become the Patroness of the Fund, be sent to a large number of the nobility and gentry of the country, with a view of securing their support also. This was agreed to, and a sub-committee was appointed to prepare the same. An application was made on behalf of a boy who, by reason of reaching the maximum age, had ceased to benefit from the Fund, as to whether the committee could make a grant to complete his education. The committee decided it would be exceeding their powers were they to do so. Enquiry was also made as to whether the child of a subscriber of seven or eight years' standing could be placed upon the Fund without the necessity of election. The Secretary was instructed to reply, that admission to the Fund could be made only by election in the usual way. A donation of £5 from Mr. G. Cooke was announced.

WINTER-FLOWERING BEGONIAS.—It is true that there are many very pleasing winter-blooming Begonias in cultivation; still, none have hitherto been seen that in any way caused so much interest or admiration as Gloire de Sceaux, shown in such grand form at the Drill Hall on the 17th inst. To very many of those present it appeared to be absolutely new, although some time in commerce, but without doubt it was largely the superb way in which it was presented by Mr. JENNINGS that led to such impression. Not only did that gardener deserve the highest award that could be made to him for his exhibit, but he merits in no less degree the thanks of lovers of winter Begonias, for having thus shown how finely they can be grown and flowered. Naturally the question arises, Why should we continue to devote so much attention to the summer-blooming Begonias, of which we have varieties to repletion, when it is evident that here, in the winter-blooming race, is a field open to raisers which is beyond all others worth cultivating? What a grand strain of winter varieties might be evolved from out of Gloire de Sceaux, especially if its fine bronzy foliage be retained! We need now flowers of double the size, and of pure white, pink, red, yellow, crimson, and other beautiful hues. Would it not be of greater service to floriculture to strive for the production of such a strain, than to farther waste effort in the development of the summer forms, which have flowers large enough and double enough to satisfy the most exacting? What good to any one will result from the getting of larger flowers? On the other hand, the wider development of these winter-bloomers would open up a field which should prove enormously productive. There are thousands of gardeners who would gladly possess superior winter-flowering varieties.

PUBLIC PARK FOR RAMSGATE.—The design of J. CHEAL & SONS, Crawley, for laying out the grounds of Ellington House as a public park has been accepted by the council, and the contract for carrying out the work has been entrusted to them. The grounds comprise about 13 acres. In a subsequent issue we shall give the plan of the new park.

NATIONAL CHRYSANTHEMUM SOCIETY.—We are requested to announce that the annual general meeting of members of the above will take place at Anderton's Hotel, Fleet Street, on Monday, February 20, at 7 P.M., of which notice will be given to the members in due course.

BOURNEMOUTH AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—At the fortnightly meeting of the above on Wednesday, January 18, Mr. C. W. HERBERT GREAVES gave a lecture on "The Potato and Tomato Disease." Having sketched in a somewhat detailed manner the life-history of the Phytophthora infestans, the lecturer proceeded to show how a full knowledge of the habits and various methods of reproduction of the fungus was of practical value in suggesting means of prevention. The methods of prevention were arranged under two heads, viz.; (*a*) those applicable to the

Potato only; and (*b*) those common to the Potato and the Tomato. The experiments that have been tried in various countries with Bordeaux Mixture were dealt with as fully as time permitted. The lecture was illustrated by diagrams, and was listened to attentively. Mr. WATTS, Junior, of the Palace Nurseries, was in the chair. An interesting series of lectures will also be given during the year, the particulars of which can be obtained from Mr. J. B. STEVENSON, Secretary. According to the published balance-sheet, the Association possesses a balance at its bankers of £11 15*s.* 3*d.*

THE LATE MR. JAMES SHEPPARD OF WOOLVERSTONE.—A man of great ability, and a skilful and practical horticulturist, whose heart and soul were in his profession, passed away on the 16th inst., as was noticed in our previous issue, in the person of Mr. JAMES SHEPPARD. He had been for the last thirty-six years in charge of the gardens at Woolverstone Park, Ipswich, having previously acted as foreman at Longleat. Woolverstone has recently passed into the hands of C. H. BERNERS, Esq., who succeeded his father, the late Captain HUGH BERNERS, R.N., and is one of the largest and most beautiful estates in Suffolk, as it extends for many miles along the banks of the River Orwell. During the period that Mr. SHEPPARD was gardener he carried out many important alterations and improvements, and the whole place is characteristic of the state to which the art of modern gardening can be brought by a skilled operator. Mr. SHEPPARD had an abhorrence of anything artificial in the planning of pleasure-grounds or gardens, and that he was master of the art of landscape gardening, is indicated in many directions. The heating arrangements of the houses are the work of his hands, as also the water supply to the garden and village forced up by rams a mile or so distant. Mr. SHEPPARD was for more than a quarter of a century a contributor to the columns of the *Gardeners' Chronicle*, served on the Fruit Committee of the Royal Horticultural Society, and yearly performed the office of judge at the leading metropolitan and local shows. He was also well-known as an exhibitor, especially in classes for fruit, and was an adept in the art of Grape growing. He was last winter selected by the Technical Instruction Committee of the East Suffolk County Council to lecture on Horticulture, but was stricken with his fatal illness, cancer of the stomach, before being able to quite complete this season's course of instruction. Personally, firm in discipline towards those under his control, he was always ready and anxious to do all in his power for their advancement or good. Kind-hearted and genial to a degree, and considerate and thoughtful for others, he endeared himself to every one with whom he came in contact. He was held in the highest esteem by his employers, from whom he received many marks of approbation. The funeral took place on Friday last, amidst every sign of widespread sympathy and regret.

WOOLTON GARDENERS' MUTUAL IMPROVEMENT SOCIETY.—The annual meeting of this Society was held on the 19th inst., Mr. B. CROMWELL of Cleveley Gardens, Allerton, presiding. The statement of the year's work was very satisfactory. Special thanks are tendered to Mr. E. G. BAILLIE, Chester, for his lecture on Vegetarianism; and to the Rev. G. H. SPOONER, Mr. J. DAVIES, and the proprietors of the *Journal of Horticulture* for special prizes, the successful competitors being Messrs. A. ROWLANDS, W. DISLEY, H. CORLETT, and J. J. CRAVEN. A "floral concert" realised the sum of £12, which has been equally divided between the Gardeners' Royal Benevolent Institution and the Gardeners' Orphan Fund. Gifts have been made to the by library Mr. HOLBROOK GASKELL, J.P., the President; Mr. R. J. HARVEY GIBSON, M.A., F.L.S., and Messrs. JAMES VEITCH & SONS. Special lectures, under the auspices of the Lancashire and Cheshire Association for the extension of University Teaching have been given under the management of this Society, that in the spring by Mr. R. J. HARVEY GIBSON, M.A., F.L.S., lecturer on botany, Liverpool University College, on the Geographical distribution of Plants, illustrated; and in the autumn Dr. T. L. BAILEY delivered a course on the Chemistry of Soils, with experiments and illustrations. The finances are in a healthy state, the balance in favour of the Society being £3 9*s.* 3*d.* The Secretary, Mr. W. DISLEY, and the Treasurer, Mr. R. G. WATERMAN, were re-elected. A special course of lectures was announced on the "History of Botany and Agriculture," for the spring session, by Mr. R. J. HARVEY GIBSON, M.A., F.L.S.

GRASSES OF THE PACIFIC SLOPE.—Dr. VASEY, of the United States Department of Agriculture, Botanical Department, has published the first part of a valuable series of descriptions and figures of the grasses of the Pacific States of North America. There are about 200 species, all, it is said, distinct from those which grow east of the Mississippi. The work will assuredly be of great value not only to botanical students, but to all persons interested in agriculture and the rearing of domestic animals. Dr. VASEY acknowledges the great assistance rendered him by his assistant, Prof. L. H. DEWEY. The illustrations are very clear.

JAMES CARTER & CO.—ROBSON'S *London Directory* for 1837, then in its seventeenth edition, contains an advertisement of JAMES CARTER, who announces his removal from Drury Lane, to 238, High Holborn, opposite DAY & MARTIN'S. There is no opposition now, for JAMES CARTER & Co. at present occupy the premises once consecrated to blacking. At that time forty-two seedsmen were enumerated. Most of the names in the earlier edition are not represented now-a-days, but we still find the names of CARTER, NUTTING, GIBBS, and WRENCH.

THE LATE SIR JAMES WM. MACKEY'S BUSINESS.—We understand that the family of the late Sir JAMES W. MACKEY of Dublin, in accordance with his wishes, will continue the seed business—founded in 1777—under the management of Mr. A. O. WATKINS, who ably conducted it for Sir JAMES during his long illness.

SHROPSHIRE HORTICULTURAL SOCIETY.—This successful society have recently purchased for £3150 some fields adjacent to the show ground, and hope to continue the promenade to the same, and plant trees and generally decorate the land acquired.

THE MIDLAND CARNATION AND PICOTEE SOCIETY.—We have before us the second annual report of the above, from which we are enabled to gather the following facts concerning its condition since the issue of the first report. The appeals for support have been generously responded to, and the number of members has risen from 152 in 1891 to 204 in 1892, and 20 others have joined since the present year began. The second annual exhibition at the Botanical Gardens, Edgbaston, Birmingham, on Saturday, August 16, was held on favouring circumstances of weather, was very successful, and was very well attended by the inhabitants of Birmingham and the vicinity. The success which has attended the Society's shows has warranted the committee in making a donation of £5 each to the Gardeners' Royal Benevolent Institution and the Gardeners' Orphan Fund. The balance which the Society has at its bankers amounts to £32 6*s.* 4*d.*

ORIGIN OF PERFUME IN FLOWERS.—In the *Comptes Rendus* for November 21, M. E. MESNARD details the result of his experiments relative to the mode of production of perfumes in flowers, and the following are the conclusions at which he arrives:—"1. The essential oil is generally found in the epidermal cells of the upper surface of the petals or sepals. It may occur on both surfaces, especially if the floral segments are completely covered in the bud. The lower surface usually contains tannin or pigments, which are derived from it. 2. Chlorophyll seems invariably to generate essential oil. This is comprehensible if it be remembered that usually the floral segments are only modified leaves which are fulfilling a new function. The chlorophyll is then found diverted from its usual purposes, and modified sometimes into persistent tannin-like substances, sometimes into essential oils. 3. Exhalation of perfume from the flower is only discernible when the essential oil is sufficiently differentiated from the intermediate products from which it is generated, and it is found in inverse proportion to the amount of tannin and pigment in the flower. This will explain why flowers with green petals are scentless, and why white and rose-coloured flowers are most often odoriferous; why Composites that are rich in tannin, have often so unpleasant an odour; and finally, why forced white Lilac and Roses develop a most delicate perfume." But all green flowers are not scentless, witness the Vine, or the "Ilang-Ilang."

LITERATURE AND GARDENING.—Referring to a paragraph which appeared in an evening contemporary the other day, regarding a lecture by Mr. JOSEPH HATTON on "Novels and Novelists," that gentleman writes:—"It was not intended to suggest that Mr. BLACKMORE is simply a market gardener. I mentioned this occupation as work which the novelist likes, and not as a labour of necessity. In doing so, I compared Mr. BLACKMORE with another distinguished and delightful author, 'Ik Marvel,' whose *Reveries of a Bachelor* is one of the most sweetly human books of the century. Mr. BLACKMORE, it is said, would rather talk of horticulture than books. 'Ik Marvel' (DONALD E. MITCHELL), being interviewed by a New York reporter, said, 'Talk to me about planting Parsnips, but don't ask me about my books.' The anecdote which you printed," adds Mr. HATTON, "was related to me by a friend. Quoted without the context it conveys a different meaning from the point which it illustrated. Greatly admiring the author of *Lorna Doone*, I should deeply regret if any reader should have gathered from your paragraph any other impression than one of respect for Mr. BLACKMORE and his work. It is related of a certain critic of horticulture that he slightingly noticed Mr. BLACKMORE'S views upon some question of gardening to mention the fact that 'he also writes books.' I mentioned Mr. BLACKMORE'S gardening as a wayside incident of his brilliant career as a novelist."

GARDENERS' ROYAL BENEVOLENT.—In our notice of this institution last week, the list of selected candidates was taken by us from the *Journal of Horticulture* without comment, under the impression that it was the official list communicated by the Secretary. We now learn that this was not the case, and can only express our regret that we should, even inadvertently, have omitted to state the source whence our information was derived.

GLASGOW BOTANIC GARDEN AND PARKS.—APPOINTMENT OF CURATOR TO BOTANIC GARDENS.—From a Glasgow correspondent we learn that at a meeting of the Parks Committee, it was agreed to recommend the Town Council, at a meeting on Thursday next, to appoint Mr. DANIEL DEWAR, foreman of the herbaceous department of the Kew Gardens, London, as the Curator of the Botanic Gardens. It was thought inadvisable, as at first proposed, to join the duties with that of Superintendent of the Parks, hence the Parks Committee also agreed to recommend the appointment of Mr. JAMES WHITTON, at present gardener to the Earl of STRATHMORE, Glamis Castle, as Superintendent of the Parks. The salary attached to the office is £300 per annum.

PLANT PORTRAITS.

APPLE, ELIZA RATHKE, *Bull. d'Arboriculture, &c.*, p. 353.

COCHLIODA NOTZLIANA, *Orchidophile.* September, 1892.

EPIMEDIUM MACRANTHUM, *Bull. R. Soc. Toscana di Orticult.* December.

OPUNTIA PROLIFERA, *Meehan's Monthly*. January, 1893.

PAPAVER ORIENTALE, *Garden*. December 31, 1892.

PAVONIA WRIGHTII, *Meehan's Monthly*. December, 1892.

BOTANIC INSTITUTIONS.

THE UNITED KINGDOM.

ROYAL GARDENS, KEW.—Director, W. T. Thiselton-Dyer, C.M.G., F.R.S., F.L.S.; Assistant-Director, D. Morris, M.A., F.L.S.; J. Burtt Davy; Keeper of Herbarium and Library, J. G. Baker, F.R.S.; Principal Assistant, W. B. Hemsley, F.R.S.; Assistant for India, Dr. Stapf. Assistants, N. E. Brown, A.L.S.; R. A. Rolfe, A.L.S.; C. H. Wright. Curator of Museums, John R. Jackson, A.L.S.; Curator of the Gardens, George Nicholson, A.L.S.; Assistant-Curator, William Watson; Honorary Keeper of the Jodrell Laboratory, Dukinfield H. Scott, M.A., Ph.D., F.L.S. Foremen.—Arboretum, W. J. Bean; Greenhouse and Ornamental Department, Frank Garrett; Temperate-house (Subtropical Department), Thos. Jones.

INDIAN ENGINEERING COLLEGE, STAINES.—Professor of Botany, H. Marshall Ward, F.R.S.; Professor of Forestry, Dr. Schlich; Lecturer on Entomology, W. Blandford.

BIRMINGHAM.—Curator, W. B. Latham.

BRITISH MUSEUM (Natural History Department), London.—Keeper of Botany, W. Carruthers, F.R.S.; Assistants, J. Britten, G. Murray, E. G. Baker, A. Gepp, and W. B. Rendle.

CAMBRIDGE.—University Botanic Gardens, Professor Charles C. Babington, F.R.S.; Secretary to Botanic Garden Syndicate, Dr. Francis Darwin, F.R.S.; Curator, Richard Irwin Lynch, A.L.S.

CHELSEA.—Botanic Garden, Society of Apothecaries.

CIRENCESTER.—Royal Agricultural College: Principal, Rev. John McClellan.

CORK.—Director, Prof. Hartog.

DUBLIN.—Royal Botanic Gardens, Glasnevin: Curator, Frederick W. Moore, Cor. Mem. R.H.S.—Trinity College Botanic Gardens: Professor Dr. E. Perceval Wright, F.L.S., Sec. R.I.A.; Curator, F. W. Burbidge, M.A., F.L.S.

DOWNTON, near Salisbury.—Agricultural College: Professor Wrightson.

EDINBURGH.—Royal Botanic Gardens: Regius Keeper, Dr. Isaac Bayley Balfour, F.R.S., F.L.S. Curator, Robert Lindsay, F.R.H.S.

GLASGOW.—University Professor, Dr. F. O. Bower, F.R.S.—Botanic Garden: Curator elect, D. Dewar.

LIVERPOOL.—Curator, J. Richardson.

MANCHESTER.—Botanic Garden: Curator, Bruce Findlay.

OXFORD.—University Botanic Garden: Professor, Dr. Sydney H. Vines, F.R.S., F.L.S.; Curator, William Baker; Sibthorpian Professor, Dr. J. H. Gilbert, F.R.S.

REGENT'S PARK.—Royal Botanic Society: Secretary, W. Sowerby; Curator, W. Coomber.

ROYAL COLLEGE OF SCIENCE, LONDON.—Professor of Botany, J. B. F. Barber; Professor of Agriculture, J. Wrightson.

ROYAL HORTICULTURAL SOCIETY, 117, Victoria Street, Westminster.—Secretary, Rev. W. Wilks; Assistant-Secretary, J. Weathers. Garden Superintendent, Chiswick, A. F. Barron.

LINDLEY LIBRARY, Royal Horticultural Society, 117, Victoria Street, London, S.W. (Trustees).—Available to the public on application to the Secretary.

SHEFFIELD.—Curator, W. Harrow.

ST. ANDREWS, N.B.—Dr. Wilson.

SWANLEY, KENT.—Horticultural College: Director, F. Bond.

INDIA AND CEYLON.

CALCUTTA.—Department of Royal Botanic Gardens, Seebpore: Superintendent, Dr. George King, C.I.E., LL.D., F.R.S., F.L.S., Director of Botanical Survey of India; Curator of Herbarium, Dr. David Prain, F.L.S., F.R.S.E.; Curator of Garden, Robert L. Proudlock; Assistant, G. T. Lane.

AGRA.—Taj Garden: Superintendent, A. B. Westland.

ALLAHABAD.—Superintendent, J. Phillips.

ALIWAL.—Garden: Curator, P. Brown.

BANGALORE.—Government Botanic Gardens, Lal Bagh: Superintendent, John Cameron, F.L.S.; Head Gardener, J. H. Stephen.

BARODA.—Superintendent, J. M. Henry.

CAWNPORE.—Assistant-Director in charge of Experimental Station, G. H. T. Mayer.

CEYLON.—Department of Royal Botanical Gardens: Director, Dr. Henry Trimen, F.R.S., F.L.S.—Peradeniya: Head Gardener, Peter D. G. Clarke; Clerk and Foreman, J. A. Ferdinandus; Draughtsman, W. de Alwis.—Hakgala: Superintendent, William Nock.—Henaratgoda: Conductor, A. de Zoysa, Muhandiram.—Anurâdhapura: Conductor, S. de Silva, Arachchi.—Badulla: Conductor, D. Guneratne.

DARJEELING.—Lloyd Botanic Garden: Curator, William A. Kennedy.—Agri-Horticultural Society of India: Secretary, J. Blechynden.

GHORPURI.—Botanical Station: Superintendent, A. R. Lester.

GWALIOR.—Superintendent, C. Maries.

LAHORE.—Superintendent, J. Phillips.

LUCKNOW.—Superintendent, M. Ridley.

MADRAS.—Botanical Department.—Ootacamund: Government Botanist and Director of the Government Cinchona Plantations, M. A. Lawson, M.A., F.L.S.; Curator, A. Jamieson.—Madras Agri-Horticultural Society: Secretary, Colonel H. W. H. Cox; Superintendent,

MALACCA.—Assistant Superintendent, Robert Derry.

MORVI.—Superintendent, Joseph Beck.

MUNGPOO.—Superintendent, Government Cinchona Plantations, Dr. George King, C.I.E., LL.D., F.R.S., F.L.S.; Resident Manager, J. A. Gammie.

OODEYPORE.—Superintendent, T. H. Storey.

POONA.—Principal College of Science, in charge of Botanical Survey, Dr. T. Cooke; Lecturer on Botany, College of Science, G. Marshall Woodrow.—Bombay, Municipal Garden: Superintendent,

RANGOON.—Agri-Horticultural Society.

SAHARUNPUR.—Botanical Department Northern India: Director, J. F. Duthie, F.L.S.; Superintendent of Garden, William Gollan.

SIMLA.—Superintendent, A. Parsons.

STRAITS SETTLEMENTS.—Garden and Forest Department. Singapore: Director, H. N. Ridley, M.A., F.L.S.; Head Gardener, Walter Fox.

PENANG.—Assistant Superintendent, Charles Curtis.

PERAK MUSEUM.—Mr. Wray.

TRAVANCORE.—Superintendent, Fred. Jas. Ingleby.

WEST INDIES.

ANTIGUA.—Botanical Station: Curator, Arthur J. Tillson.

BARBADOS.—Dod's Reformatory, Botanical Station: Superintendent, John R. Bovell.

DOMINICA.—Botanical Station: Curator, Joseph Jones.

GRENADA.—Botanical Garden: Curator, George W. Smith.

JAMAICA.—Department of Public Gardens and Plantations: Director, William Fawcett, B.Sc., F.L.S.—Hope Gardens: Superintendent, Wm. Cradwick.—Castleton Garden: Superintendent, Eugène Campbell.—Cinchona (Hill) Garden: Superintendent, William Harris.—Kingston Parade Garden: Superintendent, Jos. Harris.—King's House Garden Superintendent, Wm. J. Thompson.—Bath: Overseer, W. Groves.

LEEWARD ISLANDS.—Agricultural Department: Chas. A. Barber.

ST. KITTS-NEVIS.—Botanical Station: Curator, Charles Plumb.

ST. LUCIA.—Botanical Station: Curator, John Gray.

ST. VINCENT.—Botanical Station: Curator, Henry Powell.

TOBAGO.—Botanical Station: Curator, Manuel Ribiers.

TRINIDAD.—Royal Botanical Gardens: Superintendent, John H. Hart, F.L.S.; Assistant, Walter E. Broadway.

COLONIES.

BRITISH GUIANA.—Botanic Gardens: Georgetown: Superintendent and Government Botanist, George S. Jenman, F.L.S.; Head Gardener, John F. Waby; Berbice: Keeper, Richard Hunt.

BRITISH HONDURAS.—Botanical Station: Curator, Jas. McNair.

CANADA.—Ottawa: Dominion Botanist, Prof. John Macoun, F.R.S.C., F.L.S.; Director of Government Experimental Farms, Prof. William Saunders, F.R.S.C., F.L.S.; Botanist and Entomologist, James Fletcher.—Montreal: Director, Botanic Garden, Prof. Penhallow, B.Sc.

CAPE COLONY.—Colonial Botanist, Prof. MacOwan, F.L.S.—Cape Town: Gardens and Public Parks, Head Gardener, H. J. Chalwin.

GRAHAMSTOWN.—Curator, Edwin Tidmarsh.

PIETERMARITZBURG (Natal).—Curator, G. Mitchell.

PORT ELIZABETH (St. George's Park).—Superintendent, John T. Butters.—King Williamstown: Curator, T. R. Sim.—Graaf Reinet: Curator, J. C. Smith.—Uitenhage: Curator, H. Fairey.—Queenstown: Curator, Mr. Beck.—Kimberley Public Garden: Curator, Mr. Browne.—Fort Beaufort Public Gardens; East London, Queen's Park.

FIJI.—Botanical Station: Curator, Daniel Yeoward.

GOLD COAST.—Botanical Station: Curator, Wm. Crowther.

HONG KONG.—Botanical and Afforestation Department: Superintendent, Charles Ford, F.L.S.

LAGOS.—Botanical Station: Curator, Henry Millen.

MALTA.—Botanical Garden: Director, Dr. F. Debono.

MAURITIUS.—Department of Forests and Botanical Gardens.—Pamplemousses: Director, ; Assistant, William Scott.—Curepipe: Overseer, W. A. Kennedy.

NATAL.—Botanic Gardens, Durban: Curator, John Medley Wood, A.L.S.

NEW SOUTH WALES.—Botanic Gardens, Sydney: Director, Charles Moore, F.L.S.

NEW ZEALAND.—Wellington—Colonial Botanic Garden: Director, Sir James Hector, K.C.M.G., F.R.S.; Head Gardener, G. Gibbs.—Dunedin: Superintendent, J. McBean.—Napier: Superintendent, W. Barton.—Invercargill: Head Gardener, Thomas Wangle.—Auckland: Ranger, William Goldie.—Christchurch: Head Gardener, Ambrose Taylor.

NOVA SCOTIA.—Government Botanist and Secretary for Agriculture, Dr. George Lawson.

QUEENSLAND.—Colonial Botanist, F. M. Bailey, F.L.S.; Botanic Gardens, Brisbane: Head Gardener, Philip MacMahon.—Acclimatisation Society's Gardens: Secretary and Manager, Wm. Soutter.—Rockhampton: Superintendent, J. S. Edgar.

SOUTH AUSTRALIA.—Botanic Gardens, Adelaide: Director, Maurice Holtze.—Port Darwin: Curator, Nicholas Holtze.

TASMANIA.—Botanical Gardens, Hobart Town: Superintendent, F. Abbott.

VICTORIA.—Melbourne: Government Botanist, Baron Sir F. von Mueller, F.R.S., K.C.M.G.—Botanical Gardens: Director, W. R. Guilfoyle, F.L.S.—Hamilton: H. S. James.—Geelong: Botanic Garden. [Extracted partly from the *Kew Bulletin*.]

BELGIAN NOTES.

THE GHENT QUINQUENNIAL.—The construction of the fine annexe, which is to occupy an area of more than 2500 mètres superficial, is proceeding rapidly. Complete success for this International Exhibition is now assured, especially as regards the Orchid departments. The grand jury has just been chosen; more than a hundred invitations having already been issued.

Universal Exhibition at Antwerp in 1894.—During the year 1894 a universal exhibition will be organised at Antwerp under Government auspices. We are now able to announce that floral exhibits have been arranged for, as well as fruit and vegetables for competition. Therefore, as on the occasion of the 1885 exhibition, it is proposed to convoke the botanical and horticultural world to an international Congress.

National Chrysanthemum Society of Brussels.—This Society, the founding of which we previously announced, held on January 15 its first general meeting, when an address, having reference to the history and decorative-value of Chrysanthemums, was delivered. Each month a Conference will be held to consider the methods of cultivation, diseases, &c., of these plants, now so popular in Belgium.

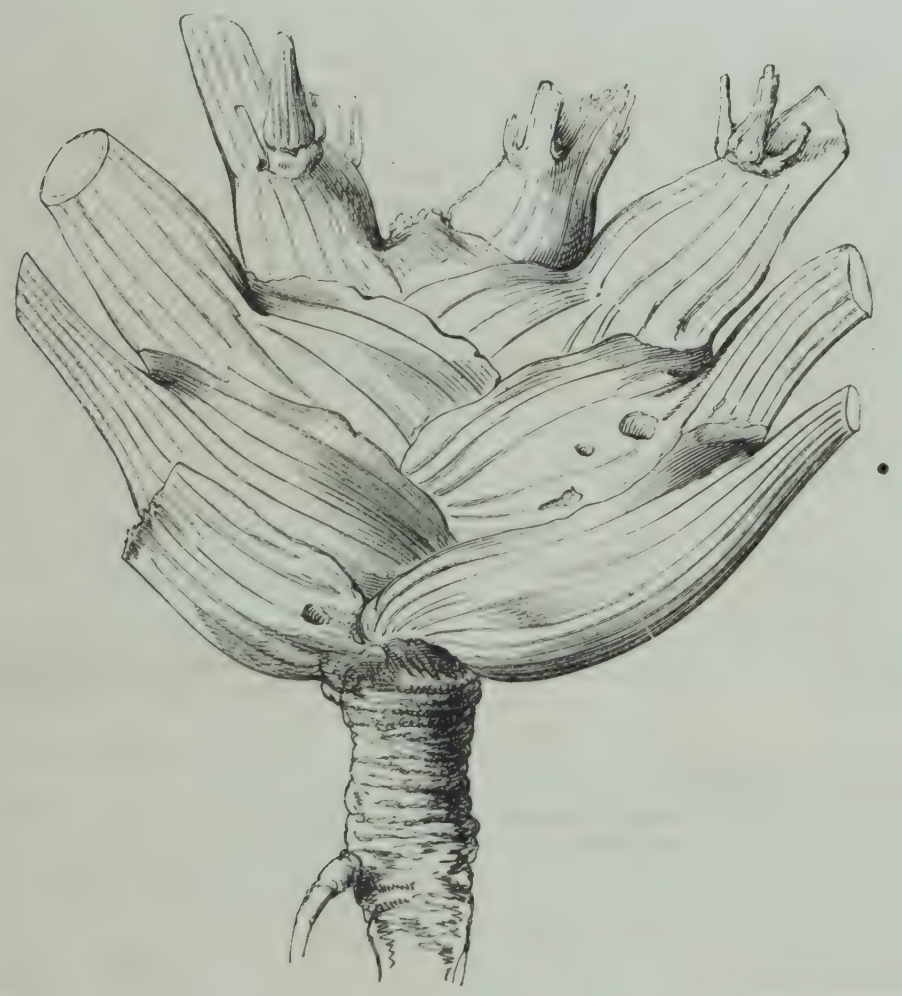

Fig. 19.—Finochio: tuberous fennel. (see p. 114.)

NURSERY NOTES.

MESSRS. HUGH, LOW & CO.

In our last issue we published some notes on plants in flower at the Clapton establishment of this firm, and now give some additional notes concerning

The Enfield Branch.—This being situated further from the smoke of the metropolis, it is here that Messrs. Low are most successful with their hard-wooded greenhouse plants. Although Azaleas, Ericas, Epacris, Pimeleas, and allied species, are propagated at Clapton, and can be grown on at the same place, it is found to be impossible to bloom them there. This does not refer so much to the Azaleas as to the others, consequently, the plants we found at Enfield are larger than those at Clapton, and nearer their blooming period. Whole houses are devoted to old acquaintances which outside a nursery one seldom meets in these days, and never in the fine specimen form that used to characterise the floral exhibitions. Ericas and Epacris in all the known varieties abound, and are in 5 and 6-inch pots, almost ready for blooming. Acacias, such as Drummondi, cordata, lineata, lophantha, longifolia, magnifica, dealbata, and affinis occupy a large space, especially A. Drummondi, which is quite a favourite. A fine lot of Chorozema Lowii, a very pretty flower indeed, are just commencing to bloom; as is Leucopogon Cunninghamii, with its graceful feathery appearance. The sweet Boronia megastigma has the attention its merits well deserve, and B. elatior is present in good quantity likewise.

Grevilleas, Tremandras, Darwinias, Pimeleas, Eriostemons, Coreas, Genista (in immense numbers), Diosmas, Daphnes, Coronillas, Tecomas, Rhododendrons, Aphelexis, and many other of our hard-wooded friends of other years attract the visitors' attention. Palms which were almost becoming monotonous are continued here at Enfield, and very fine specimens they are. Messrs. Low & Co. are also making a speciality of Cyclamens, and some very fine flowered corms have rewarded them this season. There are in all about 15,000 plants. Of the outdoor department no note is required at this season, but there are something like 60 acres at Enfield, and these are well stocked with fruit trees, Roses, and general outdoor stock.

Mr. W. Bull's, Chelsea.

Looking in at this establishment, some few days since, Mr. Bull observed that it was a pleasure to show the Orchids during this month to one who understands something about them; but to exhibit them before any who may not care to look at an Orchid except when it is covered with blossoms, was an unenviable *rôle*, rarely ending in pleasure to either party. We can easily understand this; and yet how interesting it is to watch a plant—especially an Orchid—during all its various stages of growth and development. Any cultivator knows as well as the botanist that the flowers, which contribute to our pleasure, are as surely the effect of the plant having obtained what was necessary to its well-being during growth, as the presence of these plants themselves in such quantity in a London nursery is the direct effect of the capacity they possess to brighten and beautify the things around us. Although, perhaps, every admirer of a Cattleya, Dendrobium, or Odontoglossum does not fully realise the importance of free, clean, and healthy growth followed by well-ripened bulbs and thoroughly-matured leaves; yet it would be difficult to exaggerate the importance of these things, and it is due to this very fact, that a walk amongst such plants, even in the absence of any bloom whatever, is always of interest—yea, and of instruction also—to the more thoughtful of plant-lovers; whilst to a gardener, it can only fail to be the means of instruction in proportion to the visitor's lack of observation and reflection. We were not disappointed, therefore, that at this time but little blossom was to be seen, for it afforded opportunity to see and to study the plants from another standpoint, and to note in what measure the various characteristics of the different species were developed, and to what extent they had been able to resist the subtle attacks of our London fogs. The first house we entered, contained a large number of Cypripediums, including groups of C. Lawrencianum, C. Harrisianum, C. candidulum, C. Leeanum, C. Warneri, &c. The promise of future blooms could easily be seen in the remarkably free growth the majority of the plants had made. They were likewise scrupulously clean, and abundant in foliage.

Others belonging to this very varying genus we saw in other houses, and in bloom were C. candidulum, C. Leeanum, C. vexillarium superbum, and C. Fitchianum. A few seedlings we noticed in one of the houses, which will no doubt some day swell the already bewildering number of hybrids. Cymbidium Lowianum would have disclosed her beauties some little time since had the fog been less intolerant, for the first buds had fallen an easy prey to the pest; but there are plenty of spikes that have so far escaped, and it is seldom we have seen such healthy examples of C. Lowianum and C. eburneum as are in the house which Mr. Bull devotes to their culture. This latter species is throwing capital spikes, and in some cases as many as three spikes from one growth. Cœlogyne cristata, C. c. alba, C. Lemoniana, &c., are already in sheath, one timid little bloom alone in evidence promising more to follow. Cattleyas do very well here; the best lot we saw were in a span-roofed house, and included fine batches of C. Mendelii and C. Mossiæ, which would hold their own amongst many.

The Lælias, too, are in wonderfully fine condition, especially L. purpurata, which most people will remember as having been done well by Mr. Bull for some years. The plants are large, and full of foliage, each leaf being dark green in colour, and of thick texture. A few flowers of L. anceps and L. a. stella (one of the white varieties) relieved the foliage in this house. As to the other species, many of them have thrown very strong sheaths.

In mentioning the Odontoglossums, it would be impossible to give other than the first place to O. vexillarium, that beautiful and delicate species which in so many place defy the efforts made to induce it to flourish, yet here it gives no trouble whatever, and a large stock is in the most robust health. Mr. Bull, junr., said, in reply to a query, "Oh, it gives us but little trouble, cleanliness is the secret." But there are other secrets than this one connected with the plant when its cultivation is attempted in some places. A point undoubtedly as important as any, is the temperature and general atmospheric conditions they are the subjects of. A good number of the other species of Odontoglossums were in bloom including some examples of crispum, cirrosum, maculatum, pulchellum majus, Rossii majus, Insleayii, and several others. Lycaste Skinneri and L. S. alba were likewise blooming, and the bright Ada aurantiaca, as well as the still brighter Sophronitis grandiflora, was helping to atone for the absence of others. We must not enumerate many other of the plants we saw at Mr. Bull's, but reserve any further notes until the plants are once more gay with the blossoms that we see already in embryo. The Dendrobes were looking fairly well, and the Oncidiums, together with Phaius Wallichii and P. grandifolius,

are satisfactory. Masdevallias are present in fair quantity and variety. We could not help noticing the curious and somewhat pretty bloom of Galeandra Descagnolleana; the petals and sepals are of a curious shade of brown, the lip white, with suffusion of yellow, whilst the inner part of the lip is marked with dark purple. Not often seen, probably because it is not so much a garden plant as some others of this showy order.

LEAF MOULD.

A VERY useful little pamphlet has recently issued from the pen of M. Georges Traffaut,* on the chemical and physical properties of leaf-mould in the cultivation of Vriesia splendens, Anthurium Scherzerianum, and Latania borbonica. The author, while calling attention to the increasing importance of artificial manures in horticultural practice, deplores the neglect too frequently shown by the gardener to avail himself fully of the investigations brought to light by the agricultural chemist during recent years. The experiments of the last twenty years in this department show conclusively how necessary it is that the manure employed should be suitable both to the soil used, and to the requirements of the plants we cultivate. Of all the various soils employed for horticultural and greenhouse purposes, the author considers the soil derived from decomposing leaves, humus, or leaf-mould the most effective.

There are two kinds of leaf-mould in use among the French gardeners, called *La terre de bruyère* and *Le terreau de feuilles*. It is known that these two kinds of mould are formed from decomposing plant-leaves and roots mixed with ordinary soil or sand and ferric oxide (irony matter), and that these moulds have a peculiar acid property from the humic acid which they contain.

The first description of leaf-mould, *La terre de bruyère* (peat), is formed on sandy heaths by the decay of the leaves and roots of Erica tetralix, E. scoparia, E. vagans, and frequently also from E. cinerea, which flourish there, the soil being held together in such a manner by the roots of the growing plants as to allow of its being cut into square blocks, and so dispatched for market. To prepare the material for use, it must be broken up and sifted, removing the larger undecomposed roots which hold the mass together.

The second description of soil, *Le terreau de feuilles* (leaf-soil), is different from the former, being obtained from the forests, and is the result of the decomposition of the fallen leaves mixed with the earth upon which they rest; that obtained from under the Oak trees is considered the best. These soils are light in character, and peculiarly suited for the growth of most greenhouse plants. The peculiar properties of the leaf-mould is, that it facilitates drainage and aëration, causing a quick and active plant-growth, with a free development of root. The partial decomposing leaves and roots forming the mould require a free passage of air, to allow of the nitrification of the organic matter, and given this, the roots of the growing plants develop rapidly. As both the drainage and evaporation are great, frequent waterings become necessary. The mould has also a large absorbtive power: one hundred parts, by weight, of the mould will take up one hundred and ninety parts, by weight, of water.

As it is known that the fertility of all soil is nearly connected with its powers of retaining plant-food, several experiments have been tried of the retentive properties of leaf-mould for different manurial substances, which have shown that it has a great absorbent power for potash and phosphoric acid, but that nitrate of soda is retained in a much less powerful manner. These facts agree with what has been found in ordinary agriculture.

The following table shows the amount of selected chemical constituents in 100 parts of the finely sifted leaf-mould obtained from the neighbourhood of Rambouillet (Seine-et-Oise).

Selected Constituents in Parts per hundred.

Nitrogen	0·587
Phosphoric acid	0·116
Lime	0·260
Silica (sand)	83·600
Humus (organic matter)	9·530

It is known that soils containing humus will absorb ammonia from the atmosphere, and thus increase their store of nitrogen. The organic remains of former crops or plants are also oxydised, the nitrogen being converted into nitric-acid. The fragments of silica or limestone will at the same time be more or less disintegrated by the combined action of water and air, assisted by the carbonic acid and humic acids arising from the oxidation of vegetable matter, and a portion of the insoluble plant-food be thus brought into a state suited for assimilation by the roots of growing plants.

From several carefully-conducted experiments, it has been found that the leaf-mould on being passed through a sieve, yielded 80 parts per 100 of fine soil, and that the weight of fine dry earth in one hectolitre, which is equal to about 3½ cubic feet, or 2¾ bushels, was 143 lb. The sifted-out portion was composed mainly of leaves in an early stage of decomposition, which would act on the soil to which it was added by virtue of its physical properties.

The following table shows the weight of each fertilising element in one hectolitre of leaf-mould, and its degree of assimilability.

Elements in one Hectolitre of Sifted Leaf-mould.

Total nitrogen	0·59 lb.
Lime	0·34 ,,
Phosphoric acid	0·15 ,,
Potash	0·46 ,,
Silica sand	108·68 ,,
Humus	12·39 ,,

Assimilable Elements:—

Nitric nitrogen provided in 6 months by nitrification	34·45 grammes
Phosphoric acid (soluble)	2 60 ,,
Potash (soluble)	47·45 ,,

Knowing, therefore, what are the substances directly assimilable by plants in one hectolitre of leaf-mould; it is important to enquire the best means of applying to the soil the elements that are wanting, or are not present in sufficient quantity.

Nitrogen.—Although the nitrification in the leaf-mould may be sufficiently active for us to be able to dispense with nitrogenous manures in most cases, yet there are certain species of plants which rapidly develop a large mass of foliage, and these cause a rapid and extensive draught on the nitrogen. For such, it will always be advisable to use nitrate of soda in solution when watering, and to supply it frequently and in small quantities. The presence of crystalline nitrate of soda in direct contact with plant-roots is sometimes hurtful, and the plants do not get the full benefit of the supply.

Nitrate of soda should be given in doses of 1 gramme per litre of water, that is about a quarter ounce for two gallons.

To calculate the quantity to be applied, we rely on the fact that nitrate of soda of commerce contains 15 per cent. of nitrogen. For cultivation removing 30 grammes of nitrogen, there must be applied 200 grammes of nitrate soda. The mould containing so much humus, absorbs and strongly retains ammonia.

It might, therefore, be thought advisable to use ammonium sulphate as a nitrogenous manure. But for this to be fixed the soil must contain a certain proportion of lime. This will take the acid from the sulphate and be changed into ammonia carbonate. For this salt to get assimilated by plants, it must be changed into nitric nitrogen by nitrification.

Phosphatic Manures.—Assimilable phosphoric acid is in very small quantity in leaf-mould; it is therefore necessary to add it in manure. The best form is that of pulverised bone-phosphate. Phosphate of potash is also excellent. Superphosphates yield a certain proportion of phosphoric acid soluble in water, but in leaf-mould culture they are not to be recommended, being almost always acid, and this introduction of sulphuric acid into soils poor in lime would be certainly hurtful.

We recommend precipitated bone phosphates which may contain as much as 45° per cent. of soluble phosphoric acid. Basic slag is also strongly recommended. This product, having no acidity is very good for soils poor in lime; it must be used finely ground, and mixed with the earth. The quantity of the phosphates to be applied will vary according to their percentage of phosphoric acid.

If we have need of more rapid assimilation, phosphates of soda and potash are to be recommended. The former contains one-half its weight of directly assimilable phosphoric acid. It may be dissolved in water, and use for watering the soil we wish to enrich.

Phosphate of ammonia is sometimes recommended. This gives excellent results; it furnishes both phosphoric acid and nitrogen, but it is too costly for general purposes.

To sum up, we shall apply bone phosphates or precipitated phosphates according to the duration of the cultivation.

For plants of rapid growth, phosphate of potash, soda, or ammonia.

Potash Manures.—Leaf-mould contains a considerable proportion of potash, which is only slowly available for vegetation. For certain cultivations, especially that of Ferns, potash manures have a very beneficial effect. The most rational method is to use carbonate of potash, and to apply it dissolved in water on to the soil to be manured; this salt is retained by the soil, and the plants are able to absorb it as they need. The proportions to be used vary according to the requirements of the plants cultivated. Commercial carbonate of potash contains from 52 to 63 per cent. of potash.

Nitrate of potash will serve both as a nitrogenous and a potash manure. It is directly assimilable by plants; it is very soluble in water, and must be used for watering in the same proportions as nitrate of soda. It is an excellent manure, containing 45 per cent. of potash and 13 per cent. of nitrogen. It is thus valuable when we wish to associate nitrogen and potash together.

A salt likely to become of great importance to horticulture is sulpho-carbonate of potash, which acts as a manure and as an insecticide. *J. J. Willis, Harpenden.*

(To be continued.)

* *Extrait des Documents présentés au Congrès Horticole de* 1892.

HOME CORRESPONDENCE.

THE SELFISH BOTANIST.—My attention has been called to a paragraph in your last issue copied from the *Daily Chronicle*, in reference to the deplorable plant destruction which has occasionally been perpetrated of late years, but the Irish instance selected is scarcely supported by the facts. In the first place, the three Field Club members who collected plants on the occasion referred to, were botanists, who were quite as much alive to the importance of the preservation of rare species as the writer of the paragraph in question. Secondly, only a very limited portion of the huge basaltic cliff-wall of Binevenagh mountain is accessible to even the most superb climber, and there is no danger of the extermination of its alpine varieties by the most rapacious of collecting-fiends. Thirdly, the plants actually collected on the occasion, all grow in abundance on Binevenagh with the exception of two, and of each of them one specimen only was brought away—a better record than most botanists could show who have penetrated the haunts of rare and local species. I may add that the extermination of Saxifraga oppositifolia referred to is a myth; the plant grows there still, just as it is did when first discovered. *R. Lloyd Præger, Sec., Belfast Nat. Field Club and Editor Irish Naturalist.*

ROYAL HORTICULTURAL SOCIETY'S EXAMINATIONS.—I am glad to see that the Royal Horti-

cultural Society intends holding an examination in May next, which, if it be well taken up by gardeners and horticulturists generally, cannot fail to be productive of good. Many of us have wished that something of the kind should be done either by the Royal Horticultural Society, or some other responsible body, and now the opportunity is afforded, it should not be lost, as a stimulus of this kind was very much wanted, many deserving young men having been kept in the background through want of influence, or opportunity to acquire knowledge. I wonder what the result will be? Will sufficient energy be shown to satisfy the promoters of the scheme, and induce them to continue and extend it? It will be an everlasting disgrace if, after talking so much, gardeners should let it end in talk. Of course, the thing is yet new, and the Royal Horticultural Society will have difficulties to encounter, for the examination embraces a very wide field—County Councils, technical institutes, schools, gardeners' mutual improvement societies, and other bodies. It appears to me almost impossible to frame a syllabus which should generally meet the instructions or lectures of all these different institutions. The County Councils, for instance, are working in a variety of ways. In some counties a series of lectures is given in one town only. In this county there is one lecturer, and as he has to lecture in twenty-four different parts of the county, it is impossible for students to attend them all. The subject chosen generally is fruit culture. When I first saw the announcement in the *Gardeners' Chronicle*, I wrote at once to the Secretary of the Royal Horticultural Society for particulars, and received the syllabus, &c., by return of post. I took it at once to the Inspector of Technical Education of the County Council of my county, and was courteously received by him, but the interview was not very encouraging. He said to this effect, that the syllabus was much too wide and hardly in accordance with the objects of the Council, and the books advised too expensive and too elaborate for the students, but he would think about it. The syllabus seems to me a very suitable one for gardeners, and I hope it will be adhered to. The scholarships offered will probably disappoint not a few of the aspirants, being limited to age. [Quite necessary. Ed.] I can instance three young men instructed by me, and working in these gardens, none of whom is eligible, and yet this notwithstanding they intend to sit for examination. Up to the present they have not done amiss, as they hold nine certificates, seven from South Kensington, and two from Oxford in connection with last winter's lectures; and the one who holds the most is just seventeen years of age; altogether eleven Science Certificates have been gained by young men in these gardens during the last three years. *Alfred Gaut, Berwick House Gardens, Shrewsbury.*

MUSCAT CHAMPION.—I can corroborate all that Mr. Temple says about the Muscat Champion. When planting the new vineries at Sandringham in 1864, I had most of the Vines from my friend the late Mr. James Veitch, one of them under a number—the future Muscat Champion, not then sent out. As it was a small plant, I inarched it upon a Muscadine. It made a fine rod, 12 feet in length, and fruited the third year. I exhibited bunches of it in London, and Mr. Veitch gave me great credit for growing it so well. He told me that Mr. Melville, of Dalmeny, knew how to hybridise a Grape, a very difficult thing to do, but could not grow a Grape, and also said that it had never been exhibited before—properly grown. When in Edinburgh, as a judge at the First Great International Show, I went down to Dalmeny to see the seedling Vine. I know of no Grape, except the Muscat Champion, which is a true cross between the Hambro and the Canon Hall Muscat. I have always found that it keeps better and longer than the Hambro, and with me the berries did not decay when matured. The grower who is responsible for that statement probably grew it on its own roots. When living at Bignor Park, Sussex, I sowed two seeds of it which I had in my pocket for two years, to see which of the parents it would revert to. Only one plant came up, and the following spring it was inarched on the Black Hamburgh; it made a fine thick rod, and produced fruit the following year, and to my surprise it came true to the parent, but it was a shade darker in colour. I exhibited it at South Kensington, but the committee did not consider it different from the parent. Probably very few of the committee had a distinct recollection of the colour of the Muscat Champion. Mr. Blackmore once said to me, in reference to Souvenir du Congrès Pear, that it was a Pear for the public. Well, Muscat Champion is just the opposite; it is a Grape for the epicure and the gentleman's dinner table. *William Carmichael, 14, Pitt Street, Edinburgh.*

VINE DRESSING.—Seeing, in your last issue, articles on "Petroleum Oil as an Insecticide," by persons whose Vines had suffered from its use, I was struck with the importance which attaches to the use of insecticides, and with the uncertain knowledge which prevails as to their proper use. It seems a pity that so many failures should be experienced when a cheap and trustworthy insecticide exists in "Bentleys," which I have used for the past three years with great success in destroying insect-pests and cleansing the Vines. For a winter dressing, I use half a pint of Bentley's Insecticide to 1 gallon of water. I am surprised that the old remedy of petroleum, clay, soft-soap, &c., should still be in use, notwithstanding the serious results that have followed its use; and, indeed, when great care is not exercised, mishaps are unavoidable. It is well known that when the forcing of the Vines is begun, the clay mixture gets washed off by the daily syringings, and this generally gives the newly-cleaned vineries a dirty appearance. With Bentley's Insecticide, however, this is not the case. It is productive of better results, and does away with the labour attending the making and use of the other mixture, as it mixes readily with water. *G. Winter, Walk House Gardens, Barrow-on-Humber, Hull.*

VINE-DRESSING AND THE USE OF PETROLEUM.—I quite agree with what Mr. Gooden says in the *Gardeners' Chronicle*, p. 78, and believe that the use of petroleum as a dressing for Vines is very dangerous, and cannot be too strongly condemned. When living in the vicinity of Tunbridge Wells, I remember paying a visit to a neighbouring garden, and seeing some early Vines which had been dressed with petroleum, and they were grievous to behold. I do not think they could ever recover. The gardener who was there at that time might enlighten your readers as to their fate. I have always found the following to be a satisfactory dressing for the Grape Vine:—Take ½ pint of gas-tar, 1 pint of soft-soap, 5 pints of clay; mix well together in a pan. Then put the whole into a sauce-pan, and let it simmer over a fire for about forty minutes. *Thos. Harris, Ashby St. Leger, Rugby.*

WELLINGTONIA.—The height of a specimen of Sequoia gigantea at Shanbally Castle, Ireland, is given as 70 feet in the *Conifer Report*, p. 561, whilst at p. 571 it is cited as 80 feet. Which is the correct measurement? I estimate a specimen in my garden at 78 feet. *Bitton.* [It is unfortunate that the dimensions of the English specimens were not more fully recorded in the *Conifer Report*. What, for instance, is the present height of the specimen at Lamorby Park, Bexley, which in 1873 measured 37 feet? or that of the one in the Ottershaw Nursery, recorded as having attained the height of 38 feet in the same year? Ed.]

HARDINESS OF CAMELLIAS.—Last summer I turned three Camellia plants out of a house, as they had got too large for it. They were stood in the south-west corner of an Arbor-vitæ hedge, and have remained there during the past severe weather, without seeming to be the least affected by the frost. Two of the plants were C. alba plena, and one C. rubra. It has not surprised me much that these plants should have withstood the frost so well, because, in another we had a grand specimen of the semi-double scarlet variety that had been growing in the open for over twenty years. It is now about 12 feet high, and 8 feet through; and each year it flowers grandly, and usually during the month of April, and this season it is looking as well as ever. By its side I planted four of the greenhouse varieties, and although they did not make quite such strong growth as the hardier kind, they made considerable progress, and were far from a failure. I consider that the best house to grow Camellias in is one where they can receive quite cool treatment, with the exception of one pipe in the house, so as to be able to keep out frost during the early spring months, and when they are flowering in such structures. *A. P.* [We may remark that our correspondent resides in a maritime county in the south. Ed.]

CAUSE OF GOOD FLAVOUR IN GROS COLMAR.—On p. 79 of the *Gardeners' Chronicle*, I stated that absence of insect pests and plenty of ammonia were the causes of the good flavour of the Dryden Bank Gros Colmar Grapes, but I fear this is only a fraction of the truth about the matter. Mr. Thomson, of Clovenfords, who also grows this Grape to perfection as regards flavour, thinks, so I am informed, that a Muscat temperature is the chief factor; while Mr. Castle, who managed a Grape-growing establishment near King's Lynn, and is now occupied in the same kind of work at Fordingbridge, used to inarch his Gros Colmar Vines on the Muscat of Alexandria, to improve the flavour. I only make these few suggestions to induce practical men to give their opinions in your columns. *Vagabond.*

PERSIMMONS.—Referring to the article on the Kaki in the *Gardeners' Chronicle*, p. 50, I may say that I saw a fine basketful of ripe fruit of this tree at Mr. Pullen's, fruiterer, Exchange Street, Manchester, at the beginning of this month. They were of the most brilliant Tomato-like scarlet. The week following I asked what sale there had been for them, and was told that last year they sold well, but this season there was no sale for them, and they had all gone bad. I brought two away with me, perfectly soft, and of a more yellow shade than previously. I found the mucilaginous pulp by no means bad; neither of the fruits contained seeds. *R. Milne-Redhead.*

THE LATE J. SHEPPARD.—For ever have disappeared from the pages of the *Gardeners' Chronicle*, the familiar initials of J. S. To thousands of readers it is just possible that such was the extent of their knowledge of him. On the other hand, there were hundreds, especially of his own vocation who knew him in the flesh, and were as familiar with his speech and embodiment as with his writings. The great feature of the deceased as a gardening contributor, was his steady practical nature. He never indulged in flights of fancy, but always kept strictly to the subject, and from a gardener's point of view he might be said to belong to the old school of gardeners; although in the gardening school there is no break or intermission, or perhaps change, only development. The principles expounded by Mr. Sheppard will always remain; the methods by which they are utilised may, and indeed do, vary. The great difference between a veteran gardener, who, perhaps started in life comparatively uneducated, and an academical young gardener of to-day is, that whilst the former had to find his knowledge through many years of hard practical experience under great difficulties, the youth to-day starts, that is, if he has properly utilised his youth, with full theoretical knowledge. Still he will only make a good gardener when he applies all this theory to sound practice. This is the chief distinction between the earlier school of gardeners, as found in the late Mr. Sheppard, and in that of a few of his aged contemporaries, still living, and the gardener of the future, who has yet to win distinction by hard practice. *A. D.*

THE FROST AND BROCCOLI.—Already the severity of the frost is seen by the destruction of many Broccoli (as well as other winter crops). I never was much in favour of heeling over Broccoli in October or November, but now I notice a row of Methven's Latest, which were lifted and placed beside another row of this excellent late variety, has stood through the severe test almost uninjured. The same cannot be said of its fellows (same variety), which have suffered somewhat, though less than most other varieties. When lifting, the balls of soil (on the roots) were carefully preserved, and the stems were well covered up with soil. The plants were placed slightly on their sides, which seems to have (to some extent) warded off the severe frost from the hearts of the plants, which are perfectly sound. *M. T., Stirlingshire, N.B.*

REMEDY AGAINST RED-SPIDER AND MILDEW ON VINES, ETC.—I read with interest the article of your correspondent, Mr. Williamson, in the *Gardeners' Chronicle*, p. 50, of the issue of January 14, and thinking it may be of value to your readers who are troubled with red-spider and mildew on the Vine leaves and fruit, I wish to say that the following is a sure and safe remedy to use. Into three pints of soft water put one pound of flowers-of-sulphur, and place on a gentle fire; when boiling, add a lump of fresh lime (the fresher the better) about the size of a hen's egg. In about three minutes after the lime has been added, the sulphur will turn a dirty-brown colour, and sink to the bottom; then add a small piece of alum to refine it. Keep boiling for fifteen minutes, then let get cold,

carefully remove the scum which will be found formed on the surface, strain off, and bottle for use; when wanted for use, add a small 60-pot full, to 4 gallons of rain-water at a temperature of 75°. The best time to syringe the Vines with this mixture is at closing time, taking care to well damp the surface, as well as walls of the house and the underside of the leaves; if carefully applied it may be used up to the time the Grapes are well advanced. Care must be taken in the making not to put too much lime, or it will spot the foliage and berries; the above I have never known to fail to eradicate red-spider and mildew. It will also be found a good remedy for mildew on Roses and Chrysanthemums, and will not leave the foliage white as when lime and sulphur are used in equal proportions. *W. G. B.* [The above is an old well-known remedy, but it will spot the berries, preventing their further development unless the bunches are syringed abundantly with clean soft water within ten minutes after applying it. With this exception, our correspondent is right in calling it a good remedy. ED.]

A GOOD SUMMER LETTUCE, NEW YORK.—Two years ago, two small packets of seeds of American Lettuce were given me, with the request that I would make a trial of them. Both belonged to the Cabbage section of Lettuce, were of large growth, and said to be great favourites with the New Yorkers. The name of one was Big Boston, and the other, New York. Both were sown with other sorts towards the end of the month of April, rather thinly, in rows about 15 inches apart, and when large enough, they were thinned to 1 foot apart, to stand for hearting. They did not come into use so soon as All the Year Round and a variety called Continuity, but the American sorts were both very much larger. The variety Big Boston I did not like so well as All the Year Round, and should not grow it again, as it was not so firm-hearted; but the kind called New York was good hearting and crisp eating, therefore a desirable Lettuce. But apart from these points, its chief recommendation was its lasting in use so long, that, is, not bolting or running to seed, as do so many at the end of July and in August. I sowed a small quantity of seed of it in July, to test it as a November Lettuce, but found it would not withstand 10° of frost. It is, however, as good a summer Lettuce as can well be grown. *A. H.*

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—Having been elected a member of the committee of the above Institution at the recent general meeting, I hope I may be excused for approaching my fellow-gardeners (in the interest of the Institution), in the hope that I may be the means of influencing their minds in favour of a more general and generous support of its funds. It cannot be said that I am asking others to do what I have not attempted to do myself, as I have contributed, in one way or another, between £70 and £80 to its funds. It is difficult to understand why every gardener does not rally round this splendid property of £29,000, especially when it is said that every shilling of it is their own. One would think that even from motives of selfishness, if from no higher consideration, every gardener would rally round it, and strive to do all in his power to promote its usefulness and prosperity. There cannot be less than 30,000 gardeners, nurserymen and others engaged in horticultural pursuits, who are interested in its welfare, and if as many of these as can afford it subscribed their guinea a year, and if the remainder who are unable to do this, were to collect small sums amongst themselves annually for the benefit of its funds, the question of old age pensions, as far as it relates to gardeners, would be solved. Objections have been advanced by many against the Institution because it is not founded on the lines and principles of a benefit society, where a member can claim help at any time in case of need. On the surface this may appear to be a reasonable objection, and I am afraid has been the cause of many not subscribing to its funds. But I think on a little consideration that this objection may be proved to be an erroneous one, and especially as in the stopped in times of ase wages are scarcely now not feel the pinch of ess, and who therefore, do mechanics and others who erty at this time like whose pay is stopped when we paid by the hour, and on this point, I may say, I hark ceases. As bearing benefit society for upwards ve been a member of a about 22*s.* a year; and if of twenty years, paying member, I shall have to go I am to remain a benefit on paying that sum as long as I live, and the benefits are—in case of sickness and permanent disability from work, I am entitled to 10*s.* a week for the first year, about 7*s.* the second year, and after that, I believe, the pay is reduced to 3*s.* per week for life. Let me ask my fellow gardeners, who are still sceptical on this point, to compare this with the advantages offered by the Gardeners' Royal Benevolent Institution, even from a benefit point of view, where after subscribing a guinea for fifteen years, or £10 10*s.* down, a member is almost certain to be placed on the Pension List if he is of good character and incapacitated from work, and in want; receiving, without any further cost or trouble to himself, £20 a year for life, whether his life be short or long. Another objection has occasionally been levelled at the Institution, viz., that some gardeners who had subscribed but little, and others who had not subscribed at all, were occasionally elected pensioners. On this point I may say that we must not lose sight of the fact that by far the largest proportion of the property of the Institution has been subscribed by people out of pure benevolence, for the relief of aged and destitute gardeners, and I, for my part, would be very sorry to see this principle of benevolence infringed upon or curtailed in any way, and I hope and believe it will not be allowed to impose a barrier to prevent subscriptions flowing in. The committee, as is well-known, have introduced a clause into their rules giving almost absolute certainty of election to those who may have subscribed for fifteen years, and the new rule passed at the general meeting a few days ago will give subscribers substantial advantages over non-subscribers, in so far that a subscriber for four years will have fifty votes credited to him, and fifty more added for every year subscribed afterwards up to fourteen years. My appeal in favour of the Institution, even from a benefit and investment point of view, will, I hope, commend itself to the judgment of your readers. But I beg very respectfully to appeal to my brother gardeners from a higher level than a benefit one. That man's life is a poor and a barren life, who lives entirely to himself, and nothing noble or good has ever been accomplished without a sacrifice of some sort. The gardeners of the past half century (and others interested in gardening and gardeners) have built up a noble standard of garden charity which is now shedding gleams of joy and brightness round the declining life of many of our fellow workers who have fallen helpless by the way. Let me, then, appeal to all gardeners, and others associated with them in the calling, to rally round this noble institution, and to strengthen it with their active support that all the deserving in our craft may claim a shelter under its wing in the time of adversity and want. *Owen Thomas, The Royal Gardens, Windsor, January* 23, 1893.

Obituary.

STUART MOUBRAY BURNETT. — Readers will regret to learn of the death of Mr. STUART M. BURNETT, late of Balbithan, Keithhall, Aberdeenshire, which took place rather unexpectedly at his residence in Old Aberdeen, on Monday morning. Mr. Burnett, who was in his 68th year, was the fourth son of the late Mr. John Burnett, of Kemnay, Aberdeenshire, and younger brother of the present proprietor. Shortly after the demise of his father, Mr. Stuart Burnett removed to Balbithan, where he lived for nearly thirty years with a sister, and, during the whole of that long period, he exclusively devoted himself to botanical and natural history studies. As a result of his enterprise and industry in this direction, deceased was able to get together a very large and fine collection of plants, beasts, birds, &c., all of which he had carefully preserved, and which formed a very interesting natural history museum. He was looked upon as an authority in such matters; and in response to many invitations from his brother enthusiasts—the members of the Aberdeen Natural History Society — he had on numerous occasions contributed valuable papers to the meetings of that body. These he had been asked to publish in book form, but never consented to do so. In addition to these papers, he had written very extensively on natural history, and it is very probable that the whole of his MSS. will be reproduced in a more permanent form than hitherto, and the public may have the benefit of his store of knowledge on these subjects. Mr. Burnett, in the pursuit of his favourite study, received, it may be explained, a severe injury to the spine by falling from a tree in the woods of Keithhall some years ago, and which for the remainder of his life prevented him from taking much outdoor exercise. Mr. Burnett's remains were interred on Friday in Old Machar Churchyard, Old Aberdeen, amid a large gathering of his relations and friends.

ENQUIRY.

"He that questioneth much shall learn much."—BACON.

"*M.*" would be glad if some of our correspondents would name the best of the Chrysanthemums for exhibition which came out in 1892 and 1893.

THE WEATHER.

[BY the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees — a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending January 21.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1893.	Below 42°, difference from Mean since January 1, 1893.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1893.	Total Fall since Jan. 1, 1893.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1893.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	0 aver	5	32	— 20	+ 84	1 +	15	1·8	3	15
1	2 +	6	35	— 21	+ 71	0 aver	15	1·4	14	11
2	1 —	1	35	— 20	+ 60	0 aver	14	1·1	17	14
3	5 —	0	62	— 21	+ 94	1 +	15	1·2	11	13
4	2 —	0	41	— 28	+ 82	3 —	12	0·8	15	16
5	4 —	0	46	— 30	+ 100	1 —	12	1·4	7	12
6	1 +	10	25	— 22	+ 68	8 —	11	0·8	19	22
7	0 aver	5	22	— 21	+ 60	4 —	11	0·8	13	13
8	2 —	8	30	— 36	+ 71	6 —	10	1·3	28	24
9	2 +	20	10	— 24	+ 34	1 —	14	1·6	11	15
10	0 aver	27	13	— 35	+ 28	6 —	11	2·2	15	15
*	0 aver	24	7	— 32	+ 36	4 —	13	2·1	14	15

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E. 4, Midland Counties; 5, England, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; (* Channel Islands.)

THE PAST WEEK.

THE following summary record of the weather for the week ending January 21, is furnished from the Meteorological Office:—

"The *weather* was cloudy or dull in almost all parts of the kingdom, with frequent but not heavy falls of rain, sleet, or snow. In the south-western and western parts of England, however, the conditions were often fine and bright.

"The *temperature* exceeded the mean in 'Scotland, E. and W.,' and in 'Ireland, N.,' and just equalled it in 'England, N.,' 'Ireland, S.,' and the 'Channel Islands;' elsewhere it continued below the mean, the deficit ranging from 1° in 'England, N.E.,' to 4° in 'England, S.,' and 5° in 'England, E.' The highest of the maxima were registered on the 18th, when the thermometer rose to 52° in 'Scotland, E. and Ireland, S.,' and to 50° or 51° in most other districts; over the 'Midland Counties' and 'Ireland, S.,' however, the highest reading was 47°, and in 'England, E.,' 44°. The lowest of the minima were recorded during the earlier part of the period, and ranged from 17° in 'England, E. and S.,' and 18° in the 'Midland Counties,' to 28° in 'England, N.W.,' and 29° in the 'Channel Islands.'

"The *rainfall* was much about the mean in

'Scotland, N. and E.,' and 'England, N.E. and E.;' in all other districts the fall was deficient, and in 'Scotland, W.,' 'England, S.W.,' and 'Ireland, S.,' the deficiency was large.

"The *bright sunshine* exceeded the mean in 'Scotland, W.' and 'England, S.W., N.W., and N.E.,' but was very little prevalent elsewhere. The percentage of the possible duration ranged from 28 in 'England, S.W.,' to 7 in 'England, S.,' and to 3 in 'Scotland, N.'"

MARKETS.

COVENT GARDEN, January 26.

[We cannot accept any editorial responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. ED.]

No alteration. Business very dull. *James Webber, Wholesale Apple Market.*

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Azalea, per doz.	...24 0-42 0	Ficus elastica, each	1 6- 7 6
Adiantum, per doz.	6 0-12 0	Genesta, per doz.	...10 0-15 0
Aspidistra, per doz.	15 0-30 0	Hyacinths, doz. pots	8 0-12 0
— specimen, each	7 6-21 0	Lily of the Valley, 12 pots	12-18 0
Chrysanthemum, doz.	4 0-12 0	Marguerite, per doz.	6 0-12 0
Cineraria, per doz.	... 8 0-12 0	Mignonette, doz. pots	6 0-12 0
Cyclamen, doz.	... 9 0-18 0	Palms, various, each	2 0-10 0
Cyperus, per dozen	4 0-10 0	— specimens, each	10 6-84 0
Dracæna, each	... 1 0- 5 0	Solanums, per doz.	9 0-12 0
Erica, various, doz.	9 0-18 0	Tulips, per doz. pots	6 0- 9 0
Ferns, various, doz.	4 0- 9 0		
Ferns, small, per 100	5 0- 8 0		

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, p. half-sieve	0- 3 6	Lemons, per case	...12 0- 20 0
— Nova Scotia, per barrel	10 0- 17 6	Pine-apples, St. Michael	... ... 4 0- 6 0
Cobs, per 100 lb.	.... 120 0 125 0	Oranges, Florida, per case	... ...10 0-16 0
Grapes, per lb.	... 0 6- 2 6		

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Arum, per doz. bl.	... 3 0- 6 0	Narciss, various, French, doz. bun.	4 0- 6 0
Bouvardias, per bun.	0 9- 1 0	Orchids:—	
Carnations, 12 blms.	2 0- 4 0	Cattleya, 12 blms.	6 0-12 0
Chrysanthemums, p. p. doz. bunches	... 6 0-12 0	Odontoglossum crispum, 12 blms.	2 0- 6 0
Cyclamen, doz. blms.	0 6- 0 9	Pelargonium, scarlet, per 12 bun.	6 0-12 0
Daffodil, double, doz. blooms	... 1 0- 1 6	12 sprays	...1 0- 1 6
— single do.	... 1 3- 2 0	Poinsettias, per doz. blooms	3 0- 6 0
Eucharis, per dozen	4 0- 6 0	Primula, double	... 0 6- 1 0
Gardenia, per dozen	12 0-24 0	Roses, Tea, per dozen	2 0- 4 0
Heliotrope, per doz. sprays	... ... 0 6 0 9	— coloured, dozen	3 0- 6 0
Hyacinth, Roman, doz. sprays	0 6- 1 0	— yellow (Maréchals), per doz.	4 0- 9 0
— dozen spikes	... 3 0- 6 0	— red, per dozen	... 1 0- 2 0
Lilac, white French, per bunch	4 0- 5 0	— (French) p. doz.	1 6- 4 0
Lilium Harrisii, doz.	8 0-10 0	Tuberose, 12 blms.	1 0- 1 6
Lily of the Valley, doz. sprays	0 6- 1 0	Tulips, red, doz. bm.	0 6- 0 9
Maiden Hair Fern, 12 bunches	... 4 0- 8 0	— white, doz. blm.	1 6- 3 0
Marguerite, per doz. bunches	... ... 4 0- 6 0	— yellow, doz. blm.	1 6- 2 0
Mignonette, 12 bun.	3 0- 6 0	Violets, Parme French per bunch	6 0- 8 0
Mimosa, French, bun.	1 0- 2 0	— Czar, French, per bunch	3 0- 5 0
		— small French, p. doz. bunches	3 0- 6 0

ORCHID-BLOOM in variety not in quantity.

VEGETABLES. — AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Beans, French, lb.	... 1 0- 1 6	Mushrooms, punnet	2 0-
Beet, red, per dozen	2 0- 3 0	Mustard and Cress, punnet	... ... 0 4- ...
Carrots, per bunch	... 0 4- 0 6	Parsley per bunch	... 0 3- 0 6
Cauliflowers, each	... 0 3- 0 6	Seakale, per basket	... 2 6- ...
Cucumbers, each	... 0 9- 1 6	Shallots, per lb.	... 0 6- ...
Endive, per dozen	... 2 0- 3 0	Tomatos, per lb.	... 0 6- 1 0
Herbs, per bunch	... 0 9- 1 0	Turnips, per bunch	... 0 4- 0 6
Lettuces, per doz.	... 1 6- 2 0		

POTATOS.

The weather being more favourable, farmers are loading freely, and stock is increasing. Prices still continue firm. Best samples, 90*s.* to 100*s.*; ordinary kinds, 50*s.* to 55*s.* *J. B. Thomas.*

SEEDS.

LONDON: *Jan.* 25.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report a fair business now doing in seeds. The United States it is now evident, have overshipped their Clover seed, and as the stocks they hold are proving unsufficient for their own requirements, American merchants are attempting to buy back from Europe their own seed. In Trefoil an active business has been passing at enhanced currencies. There is no change this week in either Alsike or White. Rye-grasses keep very firm. For Tares there is an improved inquiry. Canary seed is steady. In Hemp seed the late sudden rise of 8*s.* is maintained. For Peas and Haricots the sale is slow. Linseed is dearer, Scarlet and White Runner Beans offer at tempting rates.

FRUITS AND VEGETABLES.

SPITALFIELDS: *Jan.* 24.—Quotations:—Collards, 2*s.* to 3*s.*; Savoys, 3*s.* to 4*s.*; Cauliflowers, 7*s.* to 10*s.* per tally; Sprouts, 1*s.* 3*d.* to 1*s.* 6*d.* per half-sieve; Turnip-tops, 2*s.* to 3*s.* per sack; Curly Kale, 1*s.* to 1*s.* 6*d.* per bushel; Seakale, 1*s.* 3*d.* to 1*s.* 6*d.* per punnet; Greens, 2*s.* to 3*s.*; Turnips, 2*s.* 6*d.* to 3*s.*; Carrots, 2*s.* to 3*s.*; Parsley, 6*s.* per dozen bunches; Horseradish, 1*s.* 3*d.* to 1*s.* 6*d.*; Celery, 1*s.* 3*d.* to 1*s.* 6*d.* per bundle; forced Rhubarb, 1*s.* 3*d.* to 1*s.* 6*d.* per dozen bundles; Parsnips, 8*d.* to 1*s.* per score; Beetroot, 1*s.* to 1*s.* 6*d.* per dozen; Mustard and Cress, 2*s.* per dozen baskets; English Onions, 8*s.* to 8*s.* 6*d.* per cwt.; Spanish do., 8*s.* to 10*s.*; Bordeaux, do., 6*s.* to 6*s.* 6*d.* per case; Belgian and Dutch do., 6*s.* 8*d.* to 7*s.* 9*d.* per bag of 110 lb.; Carrots, 50*s.* to 60*s.* per ton; foreign Tomatos, 1*s.* to 1*s.* 6*d.* per box; English Apples, 3*s.* to 6*s.* per bushel; American, do., 13*s.* to 18*s.* per barrel.

BOROUGH, *Jan.* 24.—Quotations:—Cabbages, 3*s.* to 3*s.* 6*d.*; Savoys, 4*s.* to 4*s.* 6*d.* per tally; Cauliflowers, 1*s.* 6*d.* to 2*s.* 6*d.* per dozen; Spinach, 1*s.* 6*d.* to 2*s.* per bushel; Sprouts, 1*s.* 6*d.* to 1*s.* 9*d.* per half-sieve; Carrots, 2*s.* 6*d.* to 3*s.*; Turnips, 1*s.* 6*d.*; Parsley, 4*s.* per dozen bunches; English Onions, 7*s.* to 9*s.*; Dutch do., 5*s.* to 6*s.* 6*d.* per cwt.; Horseradish, 1*s.* 6*d.* to 1*s.* 9*d.* per bundle; English Apples, 2*s.* 6*d.* to 10*s.* per bushel.

STRATFORD, *Jan.* 25.—There has been an excellent supply of all kinds of produce at this market during the past week, and a good trade was done at the prices shown below:—Savoys, 1*s.* 6*d.* to 5*s.* per tally; Greens, 9*d.* to 1*s.* 3*d.* per sieve; Sprouts, 1*s.* to 1*s.* 3*d.* per half-sieve; do., 2*s.* to 2*s.* 6*d.* per bushel; Scotch Kale, 10*d.* to 1*s.* per sieve; Turnips, 40*s.* to 60*s.* per ton; Carrots, household, 40*s.* to 50*s.* per ton; do., cattle-feeding, 24*s.* to 35*s.* per ton; Parsnips, 1*s.* to 1*s.* 6*d.* per score; Mangolds, 17*s.* to 20*s.* per ton; Swedes, 20*s.* to 22*s.* per ton; Onions, English, 160*s.* to 180*s.* per ton; do., Dutch, 5*s.* 6*d.* to 7*s.* per bag; Apples, English, 2*s.* to 2*s.* 6*d.* per bushel; do., American, 16*s.* to 24*s.* per barrel; Celery, 6*d.* to 1*s.* per roll; Horse Radish, 1*s.* 9*d.* to 2*s.* per bundle.

FARRINGDON: *Jan.* 26.—Quotations:—English Onions, 8*s.* to 9*s.* per cwt.; Parsnips, 60*s.* to 65*s.* per ton; Carrots, 50*s.* to 55*s.* per ton; Turnips, 50*s.* to 55*s.* per ton; Sprouts, 1*s.* 3*d.* per half-sieve; Savoys, 4*s.* to 5*s.* per tally; Horseradish, 2*s.* 3*d.* per bundle; American Apples, Baldwins, 14*s.* to 17*s.* 6*d.*; Greenings, do., per barrel; Tomatos, 1*s.* 9*d.* per box; Grapes, 14*s.* to 17*s.* per barrel.

POTATOS.

SPITALFIELDS: *Jan.* 24.—Quotations are unaltered from those last reported.

BOROUGH: *Jan.* 24.—Quotations:—English Magnums, 50*s.* to 65*s.*; Hebrons, 60*s.* to 70*s.*; Snowdrops, 60*s.* to 75*s.* per ton.

STRATFORD: *Jan.* 25.—Quotations:—Magnums, 50*s.* to 65*s.*; Bruce do., 55*s.* to 70*s.*; Imperators, 55*s.* to 65*s.*; Scotch Magnums, 60*s.* to 75*s.*; Scotch Bruces, 60*s.* to 85*s.*; Main Crop, 80*s.* to 100*s.*; Belgian Magnums, 50*s.* to 60*s.* per ton.

FARRINGDON, *Jan.* 26.—Quotations:—Magnums, 65*s.* to 70*s.*; Sutton's Abundance, 90*s.* to 100*s.*; Main Crop, 90*s.* to 100*s.*; Imperators, 60*s.* to 65*s.*; Bruces, 70*s.* to 80*s.* per ton.

LONDON AVERAGES: *Jan.* 25.—Quotations:—Magnums, 50*s.* to 75*s.*; Hebrons, 60*s.* to 80*s.*; Snowdrops, 60*s.* to 80*s.*; Dunbar Main Crop, 80*s.* to 95*s.*; Imperators, 60*s.* to 70*s.*; per ton.

NOTICES TO CORRESPONDENTS.

LARGELY INCREASED CIRCULATION of the "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

Increased to the extent of **75 per cent.**

Advertisers are also reminded that the "Chronicle" circulates among ALL *classes of gardeners and garden-lovers at home, has a specially large foreign and colonial circulation, and is preserved for reference in all the principal Libraries.*

ADDRESSES WANTED.—Mr. A. Greaves, late of Thwaite House Gardens, Cottingham, and Mr. Cullen, late of Gresham Road, Staines, are requested to supply their present addresses. Letters forwarded to them at the above addresses respectively having been returned.—*Hortus.* J. Aikman, Whitestile Road, Brentford, Middlesex.

ANTS EATING THE STAMENS OF PEACH BLOOMS: *A. P.* Saturate wood shavings in coal tar, and strew these round the stems of the trees; but do not let the tar touch living tissues. Rags dipped in petroleum may be placed in the ants' runs, or carbolic acid strewn about.

APPLES: *E. Ockenden.* We cannot answer the questions put, neither could any dealer do so, in advance of the time. It would be mere guesswork. Some of the prices realised by Tasmanian fruit were not such as would be likely to induce larger importations than last year. If fruit arrive in first-rate condition, good prices are obtainable.

BAMBUSA FORTUNEI: *L. B. G.* Hardy in this country.

BOOKS: *W. Hilling.* Publisher of *London Market Gardens.* MacMillan & Co., Bedford Street, Covent Garden.

CARNATION: *H. & Sons.* The too common Carnation rust often figured in our columns. Burn the plants, or spray with sulphate of copper in a weak solution.

DENDROBIUM NOBILE, NOT FLOWERING: *J. S.* The plant may have refused to flower, owing to your not resting it properly, or the pseudo-bulbs not being well matured, or too weak; or the old pseudo-bulbs which contain a certain amount of nutriment were removed, which may not be done under ordinary treatment. The sketch sent resembles D. speciosum. The flower spikes (2) are emitted from the apex of the stems or pseudo-bulbs.

ELMS: *G. C.* The pink fungus, Tubercularia, occurs commonly on dead wood. We do not think the fungus kills the tree, but some other cause, and the fungus comes after. See fig. 20.

FIG. 20.—TWO FUNGI GROWING ON DEAD WOOD, THE UPPER ONE, TUBERCULARIA; THE LOWER ONE, NECTRIA.

EUCHARIS: *E.* Your bulbs are attacked by the mite. Some say destroy the bulbs; others say, grow your plants as well as you can, and take no heed of the disease.

INSECTS—GRUB IN VALLOTA: *J. S.* The grub in Vallota is no doubt that of Merodon, which is so injurious to Narcissus and other bulbs. Destroy the infected bulbs by burning them; not by simply throwing them away on the rubbish heap. *R. M. L.*

NAMES OF FRUITS: *A. P.* 1, Brabant Bellefleur; 3, Court of Wick; 4, Boston Russet; 5, Wyken Pippin.—*T. H. C.* Apples not recognized; too much rubbed and bruised.

NAMES OF PLANTS: *G. H.* 1, Libonia floribunda; 2, Eupatorium grandiflorum var. album; 3, Chimonanthus fragrans.—*W. R.* 1, Toxicophlœa spectabile (Poison bark); 2, Arbutus procera; 3, Eriobotrya japonica, Loquat; 4, next week; 5, Ruscus androgynus.—*Alpha.* 1, Pteris cretica; 2, Selaginella Wildenovi, of gardens; 3, S. Mertensii variegata; 4, Lastrea glabella; 5, Adiantum hispidulum; 6, Polypodium aureum; 7, Adiantum trapeziforme; 8, Asplenium australasicum; 9, Agapanthus umbellatus variegatus 10, Clianthus puniceus, probably, send flowers 11, Adiantum excisum multifidum; 12, Aspidium coriaceum capense; 13, Asplenium Belangeri; 14, Aspidium (Cyrtomium) falcatum; 15, Lomaria gibba platyptera; 16, Asplenium bulbiferum; 17, send fertile frond; 18, Aspidium aculeatum (Polystichum); 19, A. angulare grandiceps; 20, Phœnix sylvestris. Six specimens at one time is our limit. How do you think we could do our duty to our other subscribers, and pay our own expenses, if so much extra-editorial work was generally thrust upon us?—*Sindrey, Mon.* Stanhopea grandiflora.—*G. A., Eltham.* Odontoglossum odoratum.—*W. S., Alton.* The Nephrodium may be distinct, but the species is not in favour with market growers, at least.—*T. B., Nottingham.* Your plant is a Gingerwort, but which, it is impossible to say without a perfect specimen. With regard to the Cinerarias, anything which causes a check would produce the result shown in your specimen. *A. G.* 1, Phyllirea angustifolia; 2, Photinia serrulata; 3, Pernettya mucronata; 4, Streptosolen Jamesoni; 5, Cyrtodeira chaotalense; 6, flowers wanting. Send again.

NEW VARIETIES OF CHRYSANTHEMUMS: *X. Y. Z.* Japanese: William Seward, Beauty of Exmouth, J. Shrimpton (Japanese reflexed), J. W. Childs, Mrs. Bruce Findlay, Lizzie Seward, Miss Dorothy Shea, Charles Blick, W. H. Atkinson, Mrs. A. J. Hubbuck, Autumn Tints, Countess of Hambledon, Mrs. W. Herbert Fowler. Incurved and Japanese incurved: Lord Brooke, Miss Annie Manda, M. Alphonse Seux, M. de Longhii, M. H. Briscoe Ironside, Mrs. Sharman, Secretary Farson, W. A. Manda, Yonitza. Anemones, Delaware, and Gertrude Bornemann.

NURSERY TRADE IN AUSTRALIA: *J. C.* The Emigrants Information Office would doubtless furnish trustworthy information on application being made. The address is 31, Broadway, Westminster, S.W.

PETROLEUM AND VINES: *C. W.* The mixture of soft soap, clay, cow-dung, and fir-tree oil, was sufficiently effective and nasty enough to disgust the most hardened insect, without the addition of petroleum. We do not suppose the latter will do any harm to the Vines at the rate of half-a-pint to the bucketful of the mixture, because it has become so attenuated and divided amongst the whole mass of clay. Read *W. R.'s* note on the subject in our last issue. It contains the pith of the matter.

SEEDS OF FINOCHIO: *F. G.* Finochio is a variety of common garden Fennel (Fœniculum officinale), much grown as a vegetable at Florence. It is an annual—at least, it is treated as such; a low-growing, distinct, and thickset plant, with a very short stem, which has the joints very close together at the base (see fig. 19, p. 109). The leaves are large and finely-cut, of a light green colour, the leaf-stalks very broad at the base, of a whitish-green colour, overlapping each other, forming a kind of enlargement about the size of a hen's egg. Sow in the spring for a summer crop, and towards the end of summer for an autumn crop. It is sown in rows 16 to 20 inches apart. The seedlings should be thinned out to 6 inches apart. The plant is usually eaten boiled like celeriac and is very delicious though almost unknown here.

STOCKS FOR APPLES AND PEARS IN A LOW BOGGY SITUATION: *E. F.* Not a suitable place for fruit trees; but if it is to be drained, you should plant on mounds standing at the apex 1 foot to 1½ foot above the surrounding level, and use as stocks the Quince for the Pears, and Paradise for the Apples. The Quince stock will limit the number of varieties of Pears, as but few do well on it. A noted fruit grower gives the following as being very profitable on the Quince as bushes and small trees:—Doyenné d'Eté, Marie Louise d'Uccle, Bon Chrétien (Williams), Souvenir du Congrès, Beurré d'Amanlis, Fertility, Emile d'Heyst, Louise Bonne of Jersey, and Beacon. The following are late varieties:—Doyenné d'Alençon (but it should be in a warm position), Winter Nelis, Josephine de Malines, Beurré Sterckman, Bergamotte D'Esperen, excellent as a bush, and all do well on Quince.

THE ROYAL HORTICULTURAL SOCIETY'S EXAMINATIONS: *W. W.* It would obviously be impossible to print the questions that will be put. We have sent your communication to the Secretary of the Royal Horticultural Society.

THORNS LEAFING IN THE WINTER: *Hortus and G. H. S.* Any plant putting forth leaves at midwinter or about Christmastide was considered in olden times to possess miraculous virtues, as well it might be.

THRESHING PEAS WITH FLAIL OR MACHINE: *Sydney Anderson, Hawkes Bay, N.Z.* Provided the seed is well ripened, it is immaterial which method be adopted.

COMMUNICATIONS RECEIVED.—F. W. Meyer.—F. M.—J. K.—F. D., Ghent.—J. B.—D. M.—H. B., Auckland.—W. W.—N. E. B.—A. K.—J. D. S., Baltimore.—J. W.—C. N., Antibes.—F. W. B.—F. & M., Melbourne.—Lord R.—H. S. J., Victoria.—S. H.—M. R.—J. R.—W. W., Clapton.—W. W., Strand.—D. O.—M. B.—Prof. Macoun, Ottawa.—Ch. de B., Lierre.—P. B.—Madagascar News.—Pioneer Mail, Allahabad.—G. J. I.—Edinburgh Botanical Society.—A. E. (fruit received—next week).—J. D.—W. A. C.—S. H. S.—A. Y.—S. K.—J. MacPherson.—M. C. C.—J, H.—W. F.—A. P.—G. W.—J. G. B.—D. M.—W. H. D.—J. R.—Pteris.—A. D., St. Albans.—J. H. F.—O.—H. M.—C. T. C.—C. S.

PHOTOGRAPHS RECEIVED WITH THANKS.—D. M. and J. C.

SPECIMENS RECEIVED WITH THANKS.—W. W.—P. B.

FRUITS RECEIVED.—G. Southcott.

DIED.—Recently at Acton, Mrs. AYRES, aged 75 years, widow of W. P. Ayes, a well-known horticulturist, who died in 1875.

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HORTICULTURAL ENGINEERS to HER MAJESTY THE QUEEN, call Special Attention to their Patent Wrought-Iron Municipal or Angular Chambered and Tubular

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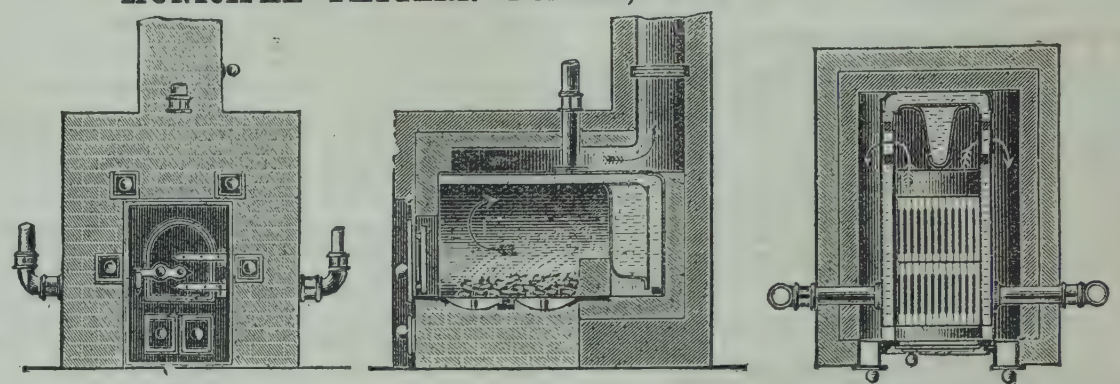
These Patterns secured the FIRST and HIGHEST PRIZE—a SILVER MEDAL—at the Royal Horticultural Society's Exhibition, South Kensington, London, June 1, 1881.

MUNICIPAL PATTERN BOILER, THE BEST EXTANT.



—FRONT ELEVATION— —LONGITUDINAL SECTION— —SECTIONAL PLAN—

The longitudinal section gives a view of the fire-box, water space, flues, &c. The cross section gives a view of the fire-box water space and V-shaped back. The front elevation shows it set in *brickwork, which is necessary for this class of boiler.*

SIZES AND PRICES.

M B 1	3 ft.	2 in.	long	by	2 ft.	0 in.	wide	by	2 ft.	0 in.	deep	Calculated to heat 4-in. piping as follows:—	1000 ft.	Price £15 0 0
M B 2	4	0	„	by	2	0	„	by	2	0	„		1280	„ 21 0 0
M B 3	5	0	„	by	2	3	„	by	2	6	„		2200	„ 32 0 0
M B 4	6	6	„	by	3	0	„	by	3	0	„		4000	„ 60 0 0
M B 5	8	6	„	by	4	0	„	by	3	9	„		7000	„ 85 0 0

Sizes & Prices, including Sole-Plate, Grate-Bars, Fire Door, Dampers, & one Flow and one Return, complete.

Boilers.	Width.			Length.			Height.		Length of 4-inch Piping calculated to heat	Price.		
	ft.	in.		ft.	in.		ft.	in.	feet.	£	s.	d.
B	1	6	by	3	0	by	2	0	600	16	0	0
C	1	9	by	3	6	by	2	0	800	22	0	0
D	1	9	by	4	0	by	2	2	1100	29	0	0
E	2	0	by	4	6	by	2	4	1400	36	0	0
F	2	3	by	5	0	by	2	6	1750	43	0	0
G	2	6	by	5	6	by	2	6	2000	50	0	0
H	2	9	by	6	0	by	2	6	2500	60	0	0
I	3	0	by	6	6	by	2	6	3000	70	0	0

TESTIMONIALS.

Re HEATING APPARATUS. Borough Engineer's Office, Municipal Buildings, Leeds. *January* 9, 1886.

MESSRS. THOS. GREEN AND SON, LTD., NORTH STREET, LEEDS.

GENTLEMEN,—I have great pleasure in bearing testimony to the efficiency and satisfactory working of the Hot-water Heating Apparatus you erected in these public buildings.

The buildings are four storeys high, and we have a total length of about 28,000 feet of piping in them, varying in size from 1½ in. to 6 in. diameter, with their connections, &c. The several offices and rooms can all be in operation at one time or separately, and the heat regulated by means of the valves to the temperature required, even in the coldest weather.

Two of your Patent Municipal Pattern Boilers, No. 4, work the whole of this piping easily, although we have three of them fixed. They are very powerful and economical in the consumption of fuel, and I am pleased to be able to report of them and the apparatus so favourably.

I am, Gentlemen, yours truly, THOS. HEWSON, Borough Engineer.

Morley House, Bagot, St. Saviour's, Jersey, *November* 10*th*, 1886.

GENTLEMEN,—The large Municipal Boiler which you sent me last year is doing its work satisfactorily; it is heating 5000 feet of 4-inch pipe in one of my vineries, and I am quite sure that it has power to work a much greater length, while in cost of fuel it compares favourably with my other Boilers.

I have now five of your Boilers in use, and I cannot speak too well of their heating powers, or their comparatively small consumption of fuel.

MESSRS. THOS. GREEN AND SON, LTD., LEEDS. Yours faithfully, (Signed) G. W. BASHFORD.

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Inches.	Inches.
14×12	20×15
16×12	20×16
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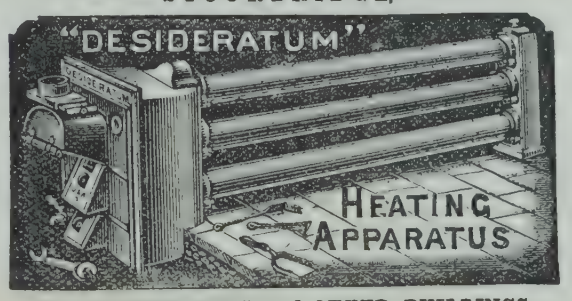

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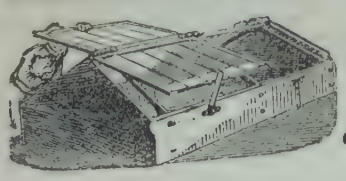

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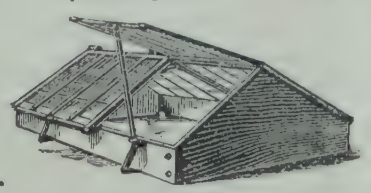

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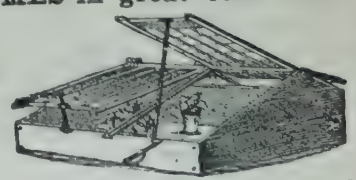

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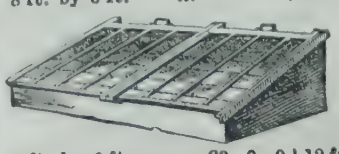

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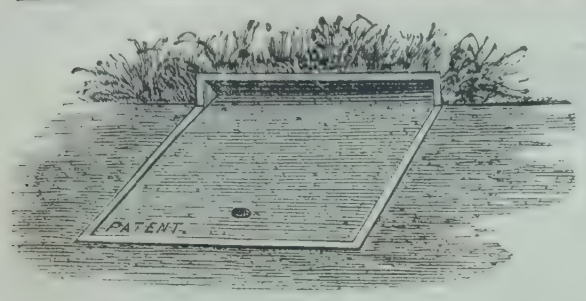

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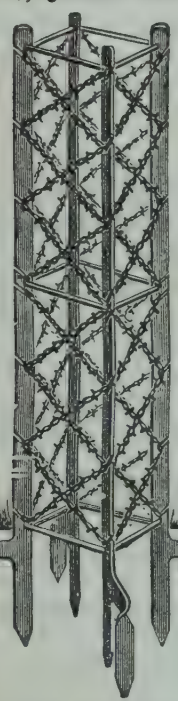

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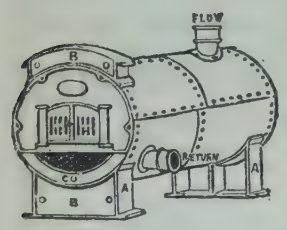

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For Destruction of all Insect Pests and Mildew.
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GISHURST COMPOUND, used since 1859 for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water, 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in lather from cake, for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1*s.*, 3*s.*, and 10*s.* 6*d.*

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WANTED, a SINGLE-HANDED GARDENER, with occasional help.—Must be experienced Indoors and Out. Flowers, Fruit, and Vegetables. To live in three-roomed cottage on premises. One cow to attend to.—Apply, letter only, with full particulars, experience, age, wages, &c., H. W., Mr. Barter's, High Street, Mitcham.

WANTED, a respectable young MAN, as SINGLE-HANDED GARDENER, to live in the house, one who understands a Kitchen Garden and ordinary Flowers. Church of England. Wages £20 and washing. Preference given to total abstainer. Apply or write.—A. S., Clifton Down, Lee Road, Blackheath, S.E.

WANTED, a GARDENER, to Grow Cucumbers, Tomatos, &c., for Market in Houses and Frames. Must be a pushing man, sober, and steady.—Apply, stating wages, references, &c, to JOSEPH COCK, Ruthwick, Worcester.

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WANTED, a good all-round MAN, as GARDENER, where another is kept.—Must understand Vines, Hot-house, and Outdoor Work generally. Also be able to Milk. Wages £1 10s. per week.—Apply by letter, A. W. FAIRFIELD, Eltham Road, Lee.

WANTED, as UNDER GARDENER, a married MAN (without family). Must be experienced in Indoor and Outdoor Gardening; will be required to Milk and take charge of Cows, &c. Wife must be a good Laundress. Wages, 27s. per week, with lodgings on the premises, milk, vegetables, and gas. Good references required.—Apply by letter to W. F., The Manor House, Richmond, Surrey.

WANTED, a WORKING FOREMAN, for a Market Nursery near London, thoroughly accustomed to Growing General Stuff for Market. Must be an energetic and Sober man. Wages 30s. per week, with cottage on the premises.—Apply, stating age, with references from previous engagements. MANAGER, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a GROWER, to take Charge of a Department.—Must be a competent hand at Chrysanthemums, Roses, and Tomatos.—Apply, with references, stating age, married or single, and wages required, to MANAGER, Llys-Onen Gardens, St. Clears, Carmarthenshire.

WANTED, a young MAN, to take charge of Chrysanthemums in a leading London Nursery. None need apply except those used to this class of plant. Also STOKER.—A strong young Man as Assistant Stoker. Applicant must be used to this kind of work. Wages, 20s. per week, and all overtime. Both situations are constant.—Apply by letter to HORTUS, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a steady MAN, well acquainted with Hardy Plants and Alpines and their Propagation, and a fair knowledge of ordinary Greenhouse and Stove Plants, and general Garden Work. Must have good references as to character and abilities. State wages required to Mr. W. THOMPSON, Seedsman, Ipswich.

WANTED, a young MAN, with a fair experience of Growing for Market, and to take charge of the place occasionally.—Apply, stating full particulars and wages required, to L., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, active and experienced young MAN, as Soft-wooded PROPAGATOR and GROWER of Pot Plants for Market only (Chrysanthemums a specialty), under Foreman. Good House on Premises. Permanent situation to suitable man. State wages required with reference.—G. A. WILLIAMSON, Bloomsbury Nursery, Timperley, Manchester.

WANTED, a young MAN, well-up in Growing for Market, Grapes, Tomatos, Cucumbers, Mushrooms, Chrysanthemums, Ferns, &c.—Apply, MACINTOSH, 8, Warwick Square, Carlisle.

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WANTED, for the Houses, a strong active young MAN. State experience.—HEAD GARDENER, Harestone, Caterham Valley.

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TO GARDENERS AND OTHERS SEEKING SITUATIONS.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. *on Wednesday will, in all probability, be held over to the next week.*

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GARDENER (HEAD).—W. B. FISHER, Gardener to the EARL CAWDOR, Stackpole Court, Pembroke, will be pleased to recommend Charles Davis to any Lady or Gentleman who is in want of a first-class man.

GARDENER (HEAD), where three or four are kept.—Age 33, married, no family. Eighteen years' experience. Six years' good character. Vines, Cucumbers, Melons, Flower and Kitchen Garden.—GEO. GOODSELL, The Gardens, Hazelwood, Morden, Surrey.

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GARDENER (HEAD).—Mr. L. SPENCER, Goodrich Court Gardens, Ross, Herefordshire, can with confidence recommend his Foreman (W. Davis) to any Lady or Gentleman requiring a thorough practical man.

GARDENER (HEAD), where three or more are kept; married, without incumbrance.—Owing to the death of T. L. Bristowe, M.P., Mrs. BRISTOWE can highly recommend her Head Gardener, who has been with her for fourteen years, as a good practical working Gardener. Has had charge of Vineries, Peach Houses, Stove and Greenhouses, &c.—G. GREEN, The Lodge, Dulwich Hill House, Denmark Hill.

GARDENER (HEAD).—Age 44, married; thoroughly practical and conversant with the requirements of a good establishment. Ten years' character from last employer.—H. COOK, Box Hill, Dorking.

GARDENER (HEAD), where two or three are kept.—Age 26, married; good knowledge of the profession in its various branches. Can be well recommended from present and previous employers.—G. D., 5, Lydia Villas, Upton Road, Hounslow, Middlesex.

GARDENER (HEAD).—EDWARD SMITH, for the last four and a half years Gardener to W. H. Crabtree, Esq., is at liberty to engage with any Nobleman or Gentleman requiring a practical man. Twenty-two years' experience in Early and Late Forcing, and the General Routine of large Gardens. First-class reference. Age 33, married, no family.—GARDENER, Burnage Hall, Levenshulme, Manchester.

GARDENER (HEAD); age 30, single at present.—Mr. T. PRITCHARD, Head Gardener and Forester to G. F. Muntz, Esq., Umberslade Hall, Hockley Heath, near Birmingham, can with confidence recommend his Foreman, William Abbey, to any Lady or Gentleman requiring a thoroughly experienced, competent man. Four years in present situation. Highest testimonials from four previous situations as to being efficient in all branches of the profession, and personal character.

GARDENER (HEAD); age 30.—Mr. BEARD, Steward, Champney, Tring, is desirous of recommending an experienced man to any Nobleman or Gentleman requiring the services of a good Head Gardener, and one who can undertake the Management of Land and Stock if required. Excellent testimonials.—Address as above.

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GARDENER (HEAD).—Age 37, married; eight years' testimonial as Head from last place. Successful in Forced Fruits, Vegetables and Flowers. Good Grower of Orchids and Chrysanthemums. Willing to take place at home or abroad. Fluent French and Italian.—G., E. Archer, Boleyn Nursery, Upton Park, Forest Gate, E.

GARDENER (HEAD), or ORCHID GROWER.—Age 28, married, no family. Well up in Stove, Greenhouse, Fruit, and Floral Decorations, and General Routine of Garden. Good characters.—W. J., 3, Pownall Road, Fulham.

GARDENER (HEAD); age 31.—Mr. BUGGINS, Head Gardener and Steward to Lord Annaly, wishes to recommend his General Foreman; life experience in all branches; previously General Foreman at Harewood House and Brocklesby Park.—Particulars to LIDDIARD, Woodlands Castle, Clonsilla, co. Dublin.

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GARDENER (HEAD).—Thoroughly industrious, trustworthy, and sober. Thorough good grower, and experienced in all branches of a first-class Establishment.—H. H., 88, Beulah Road, Thornton Heath.

GARDENER (HEAD WORKING).—Age 30, married; thoroughly competent to manage good general place. Highly recommended. Five and a half years present place.—C. HARVEY, Lockerley Hall Gardens, Romsey, Hants.

GARDENER (HEAD WORKING); age 26. H. NORTH, gardener to Lawson Tait, Esq., Burkett Fletchwood, Lyndhurstroad, Hants, wishes to recommend his Foreman, V. Dallimore, to any Lady or Gentleman requiring a practical trustworthy man. Good testimnials from previous employers.

GARDENER (HEAD WORKING). — Mrs. C. A. H. LONG, Dolforgan, Exmouth, will be pleased to recommend Walter Wait as a thorough all-round Head Working Gardener, who has been for the past two years Head Gardener to her late father, and left entirely through a death.—W. WAIT, The Mason's, Long Ditton, Surrey.

GARDENER (HEAD WORKING).—Age 31, married, two in family; thoroughly experienced in all branches. Early and Late Forcing. Three and a half years' good character, seven years previously.—T. LUPTON, Elstree, Herts.

GARDENER (HEAD WORKING).—Age 27; thoroughly experienced in all branches. Can be highly recommended by present and previous employers.—WALTER HILL, Nunnery Gardens, Isle of Man.

GARDENER (HEAD WORKING).—Age 29; thoroughly understands Vines, Peaches, Melons, Cucumbers, Chrysanthemums, and Flower and Kitchen Garden. Highly recommended from good Establishments.—ELSEY, Reigate Hill Cottages, Reigate, Surrey.

GARDENER (HEAD WORKING).—Age 38, married; twenty years' experience in the growing of Fruit, Flowers, and Vegetables. Good character; abstainer.—WHITE, Furzedown Cottages, Mitcham Lane, Streatham, S.W.

GARDENER (HEAD WORKING).—Age 29; one child, aged five years; thirteen years' experience in good Gardens. Good testimonials.—F. WELLS, 29, Hampstead Road, Dorking.

GARDENER (HEAD WORKING); age 35.—A GENTLEMAN can strongly recommend his Gardener to any Lady or Gentleman requiring a thorough practical experienced all-round man, who thoroughly understands Growing for Market if required.—E. D., Trevethan Lodge, Erith, Kent.

GARDENER (HEAD WORKING), where two or three are kept.—Age 45, married, two children at home, age 11 and 7; thoroughly understands Vines, Melons, Stove and Greenhouse Plants, Flower and Kitchen Garden. Eight years' good character, fourteen previous.—GEO. TURNER, Cranmore Lodge, Chislehurst, Kent.

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GARDENER (HEAD WORKING).—Age 30, married when suited; fifteen years' experience in all branches. Foreman in present situation, and twice previously in leading establishments. Good references.—A. BEST, Melchet Court, Romsey, Hants.

GARDENER (HEAD WORKING), where three or more are kept.—Thoroughly experienced in all branches of the Profession; two years and nine months as Foreman in present situation. Good references.—W. H. SHAW, The Gardens, Elford Hall, Tamworth.

GARDENER (HEAD WORKING).—Age 28, married when suited. Foreman in present situation three years. Can be well recommended as good all-round man.—G. CHEAL, Loseley Park Gardens, Guildford.

GARDENER (HEAD WORKING).—Age 28. Advertiser seeks re-engagement as above to any Lady or Gentleman requiring the services of a thoroughly competent man. Fourteen years' experience in large private establishments. Good character; abstainer.—C. HOWELL, West Hill House, Gravesend.

GARDENER (HEAD WORKING).—Age 32; six years Head, with Management of General Stock. Well versed in the routine of good Gardening, both Inside and Out. Early and Late Forcing.—A. B., J. Hill, Florist, New Malden, Surrey.

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CONTENTS.

Allamanda Williamsii ... 142
Apples, American and British 141
Books, notices of—
A Text Book of Tropical Agriculture ... 145
The Ferns of South Africa 145
Cannas 142
Carrot, monstrosity of the flower of the ... 137
Chrysanthemums ... 140
Coffee cultivation ... 146
Corridor at St. Albans ... 139
Crinum pedunculatum... 138
Crotolaria juncea ... 138
Cypress, a new variety of Lawson's 146
Dracænopsis australis ... 133
Flowers under deciduous trees 141
Foreign correspondence—
Antibes, hardy Palms at 132
Blegian notes 132
Germany, hardy plants in 132
Fruit cultivation and imported fruits 139
Fruit selling and growing 136
Fruits, preserved... ... 142
Gardeners' Royal Benevolent 138
Gardenias 143
Gladiolus Nanceianus ... 130
Gold-fish, management of 141
Grevillea robusta ... 142
Hawfinches causing destruction 141
Heating greenhouses ... 141
Investment, a profitable . 130
Jardin des Plantes, Paris 137
Kew notes... 130
Manchester, round ... 140
Melons, early 142
Nursery notes 139
Sander & Co., St. Albans 139
Plants, new or noteworthy—
Cypripedium Calypso×, Cypher's var. ... 130
Nerine mutabilis× ... 130
Plants for decoration, select 133
Prize-fighting and gardening 138
Railway rates, the new, 137, 146
Reinwardtia tetragyna... 38
Rose Maréchal Niel ... 142
Roses in pots 143
Royal College of Surgeons 138
Royal Horticultural Society Certificates ... 138
Salary, a wonderful ... 138
Shamrock, which is the true 138
Snowdrops... 139
Societies—
Banffshire Horticultural 144
Beckenham Horticultural 139
Edinburgh Botanical... 144
Manchester Royal Botanical and Hort. ... 137
Torquay Horticultural 137
Tasmanian fruit exports 138
Technical education ... 138
Tomato Conference ... 141
Traveller's notes, a ... 130
Trees in towns 146
Week's work, the
Apiary, the 144
Flower garden, the ... 134
Fruits under glass ... 135
Hardy fruit garden ... 135
Kitchen garden ... 135
Orchid houses, the ... 134
Plants under glass ... 134

ILLUSTRATIONS.

Corridor at Messrs. Sander's Nursery at St. Albans. (Supplement.)
Dracœnopsis australis, at Belgrove, Cork 133
Gladiolus (Hybridus) Nanceianus 131

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WANTED, healthy well-grown SPECIMEN TREE FERNS, stems not less than 5 feet high, Balantium (Dicksonia) antarcticum excepted. Particulars and price to No. 25, M. R. Silberrad & Co., 25, Savage Gardens, Crutched Friars, London, E.C.

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WANTED, Four large Plants of AGAVE AMERICANA VARIEGATA, Twelve good Plants of AGAVE APPLANATA, and Twelve large Plants of ALOE AFRICANA.—Please quote descriptions and lowest prices to— SANDER AND CO., St. Albans.

SUTTONS' PRIMULAS.—The Best Strain in existence. Price of Seed, 2*s.* 6*d.* to 5*s.* per Packet, post-free.

SUTTONS' CINERARIAS.—Large Flowers and Lovely Colours. Price of Seed, 2*s.* 6*d.* and 5*s.* per packet, post-free.

SUTTONS' GLOXINIAS.—The Prize Flowers of the Season. Seed from these, 2*s.* 6*d.* and 5*s.* per Packet, post-free.

SUTTONS' SEEDS GENUINE ONLY DIRECT FROM SUTTON AND SONS, THE QUEEN'S SEEDSMEN, READING.

HUMEA ELEGANS, HUMEA ELEGANS, English-saved Seed. Germination guaranteed. Per Packet, 1*s.*, Post-free. B. S. WILLIAMS AND SON, Victoria and Paradise Nurseries, Upper Holloway, London, N.

DAVIS'S BEGONIAS.—Only the best. The best in quality; the best tubers; the largest and best Collection. The best Catalogue published, sent free. B. R. DAVIS, Yeovil Nurseries, Somerset.

H. BRIDDEN begs to tender his most SINCERE THANKS to all those who were kind enough to VOTE FOR HIM at the Recent Election of the Gardeners' Royal Benevolent Institution, January 24, 1893.

TOMATO PLANTS, strong and healthy. Sutton's Perfection, true, length 16 inches.

TOMATO PLANTS, 2*s.* per dozen, post-free. Special quotations for larger quantities. GARDENER, Thundersley House, Thundersley, Essex.

New Roses.—Princess May and Corinna.

WM. PAUL AND SON are now Booking Orders for the above. Plants, 10*s.* 6*d.* each, are expected to be ready at the end of May. Orders will be executed in rotation as received. PAULS' NURSERIES, Waltham Cross, Herts.

BERLIN LILY OF THE VALLEY for Forcing, quality unsurpassed in the Trade, 35*s.* per 1000, 4*s.* per 100. LILIUM AURATUM, direct importation from Japan, 30*s.* per 100; 5*s.* per dozen. WALSHAW AND SON, Scarborough.

To the Trade.

IMPORTANT NOTICE.—When you are in London, it will be well worth your time to pay a visit to Albert Nurseries, Peckham Rye, S.E.; or Fleet, Hants. You can make your notes, and have a business look round, combined with an outing; you will NOT be worried to order. E. D. SHUTTLEWORTH AND CO., LTD. Awarded Silver-gilt Flora Medal by the Royal Horticultural Society; also Gold, Silver-gilt, Silver, and Bronze Medals, Prizes, and Certificates at other First-class Shows. Our specialty—really good stuff grown for the Trade.

"KILLMRIGHT," For Destruction of all Insect Pests and Mildew. THE STOTT DISTRIBUTOR CO. (Lmtd.), Barton House, Manchester.

HORTICULTURAL SHADINGS, NETTINGS, TIFFANY, WADDINGS, COTTON WOOL for Packing Flowers, CANVAS, TWINES, &c., supplied wholesale by JOSEPH COOKSON, 21, New Cannon Street, Manchester.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings. Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W.

THOMSON'S MANURE.—The sale of this Manure is steadily increasing, and it can be had as formerly of all the leading Nursery and Seedsmen in the United Kingdom. London Agent, Mr. JAS. GEORGE, 14, Redgrave Road, Putney. Agent for Channel Islands, Mr. J. H. PARSONS, Guernsey. Sole Makers, WILLIAM THOMSON AND SONS, Limited, Tweed Vineyard, Clovenfords.

SALES BY AUCTION.

Monday Next.

50 Standard and 300 DWARF ROSES, Japanese and Home-grown LILIES, 25,000 LILY OF THE VALLEY (true Berlin Crowns), American PEARL TUBEROSES, GLADIOLUS in variety, Hardy BORDER PLANTS, choice named CARNATIONS and PÆONIES, TIGRIDIAS in variety, CACTUS, POMPON, and SINGLE DAHLIAS, BEGONIAS, Double and Single, to colour and mixed, splendid strain; SPIRÆA JAPONICA, a fine batch of HELLEBORUS, Niger varieties; GLOXINIAS, SEA-KALE, 18 clumps CYPRIPEDIUM SPECTABILE, and 60 lots choice FERNS and GREENHOUSE PLANTS.

MESSRS. PROTHEROE and MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, February 6, at 12 o'clock.

On view morning of Sale, and Catalogues had.

Tuesday Next.

SPECIAL SALE.

40 Lots of AZALEA INDICA in flower; CAMELLIAS, PALMS, of sorts; GARDENIAS, DRACÆNAS, FICUS, &c., from Belgium; 90 lots of GREENHOUSE FERNS, ROSES, SEA-KALE, &c., EXHIBITION BEGONIAS, 1500 PEARL TUBEROSES, 3000 JAPANESE LILIES, of sorts; 350 VALLOTTA PURPUREA, 2000 GLADIOLUS LEMOINEI, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, February 7, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Tuesday Next.—February 7.

LÆLIA GRANDIS TENEBROSA.

ONCIDIUM MARSHALLIANUM.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. Charlesworth, Shuttleworth & Co., Heaton, Bradford, and 213, Park Road, Clapham, S.W., to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, February 7, at half-past 12 o'Clock, a valuable consignment of newly-imported ORCHIDS, consisting of the new and handsome

LÆLIA GRANDIS TENEBROSA.

The plants are in special fine condition, superior to any offered yet. They can be recommended with every confidence. Our collector is the only one who knows the habitat of this grand old Lælia, which is quite distinct from any other or the old small-flowered Lælia grandis.

ONCIDIUM MARSHALLIANUM.

A fine healthy consignment of this charming Orchid, very useful for show and cutting purposes.

The Sale will also include a grand lot of ECUADOREAN ORCHIDS, viz., Odontoglossom Edwardi, the Violet-coloured Odontoglot, sweely scented; the useful and pretty Odontoglosium cirrosum, and O. Halli.

On view morning of Sale, and Catalogues had.

Tuesday Next.

Imported by Messrs. Walter Kemsley & Co, 147, Leadenhall Street, London.

About 200 Plants CYPRIPEDIUM CHAMBERLAINIANUM.

A splendid shipment of BURMESE ORCHIDS, comprising

DENDROBIUM WARDIANUM LOWII
,, THYRSIFLORUM
,, CHRYSOTOXUM GIGANTEUM
,, SUAVISSIMUM
,, VIRGINEUM FALCONERI, DEVONIANUM
,, BRYMERIANUM CHRYSANTHUM.

CYPRIPEDIUM BOXALLI, C. LOWEANUM, and a new AËRIDES from the Shan States; VANDA CŒRULEA and AËRIDES CRASSIFOLIUM.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, February 7, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Wednesday Next.

GREAT SALE OF LILIES, GLADIOLI, and OTHER BULBS.

4500 JAPANESE LILIES,

consisting of Lilium auratum, L. macranthum, L. Wittei, L. speciosum rubrum and album, L. tigrinum, L. Fortunei, L. longiflorum, L. cardifolium, &c.; 500 L. Krætzeri.

700 very choice Double and Single BEGONIAS.

TIGRIDIAS, choice hybrid AMARYLLIS, GLOXINIAS,

VALLOTA PURPUREA.

16,000 GLADIOLI from Holland,

comprising 5000 Gandavensis hybrids, 2000 G. Brenchleyensis, 2000 Colvilli alba, and 2000 rubra, 5000 Lemoine's Hardy Seedlings, splendid strain. PÆONIES, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C, on WEDNESDAY NEXT, February 8, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Thursday Next.—Plants from Belgium, &c.

120 DRACÆNAS of sorts, 60 PALMS, 50 EUONYMUS, LILIUM SZONITZIANIUM, HERBACEOUS PHLOX, CYPRIPEDIUM SPECTABILE, Double HOLLYHOCKS, FRENCH PÆONIES, CARNATIONS, CANNAS, HARDY CLIMBERS, Hardy BORDER PLANTS, &c.

MESSRS. PROTHEROE and MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, February 9, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

The Celebrated Fernside Collection of Orchids.

SECOND PORTION.

ABSOLUTELY WITHOUT RESERVE.

PRELIMINARY NOTICE.

MESSRS. PROTHEROE AND MORRIS are favoured with Instructions, from H. M. Pollett, Esq., to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY, March 15, at half-past 12 o'Clock precisely, the SECOND PORTION of this CELEBRATED COLLECTION of ESTABLISHED ORCHIDS. Amongst the many fine things which are to be sold may be mentioned—

Cattleya Warneri, in variety
,, Gaskelliana, in variety.
,, ,, alba
,, Dowiana aurea
,, Bowringiana
,, Lawrenceana
,, Trianæ, in variety
,, ,, alba
,, Schroderæ
,, Mendelii, in variety
,, ,, Wallisii
,, Rex, supposed to be the finest in the country, F.C.C.
,, gigas
,, ,, Sanderiana
,, labiata (autumn flowering)
,, ,, Warocqueana
,, Percivalliana
,, ,, Fernside variety
,, Wagnerii, specimen
,, ,, three smaller plants
Cœlogyne Lowii
,, cristata alba, specimen
,, ,, ,, several smaller plants
Cypripedium Arthurianum
,, bellatulum
,, cardinale, finest variety
,, Crossianum
,, Harrisianum
,, Leeanum superbum
,, leucorhodum
,, marmorophyllum
,, Morganiæ
,, œnanthum superbum
,, orphanum
,, roseum
,, Schlimii, very fine
,, Spicerianum
,, Schroderæ
Cypripedium Sedeni candidulum
Dendrobium Schroderæ
,, Phalænopsis
Lælia anceps alba
,, ,, Dawsonii, true
,, ,, Williamsii
,, ,, Stella
,, ,, Sanderiana
,, ,, Hillii
,, ,, Percivaliana
,, elegans alba
,, ,, Schilleriana
Masdevallia Harryana
,, ,, versicolor
Miltonia vexillaria, in variety
Odontoglossum crispum (Alexandræ)
,, ,, Bickleyense
,, crispum aureum
,, Edwardii
,, Pollettianum, F.C.C.
,, mulus, Bockett's variety
,, elegans, F.C.C.
,, Chestertoni, Lee's grand variety
,, Ruckerianum insigne
,, Wilckeanum
,, Andersonianum (fine varieties
,, Pescatorei, Tompsoniana, F.C.C.
,, blandum
,, citrosmum roseum grandiflorum
,, polyxanthum
Oncidium macranthum
Trichpilia lepida
,, crispa splendens
Vanda cœrulea, specimen, and fine variety
,, suavis Veitchii

Catalogues, with thirty-five Coloured Plates of some of the principal Odontoglossums, will be ready shortly, and can be had, price 2s. 6d. each, of Messrs. Protheroe & Morris, Horticultural Auctioneers and Valuers, Central Auction Rooms, 67 and 68, Cheapside, London, E.C.

Highly Important Sale of Established Orchids.

The Duplicates of nearly all the choicest things in the Celebrated

PICKERING LODGE COLLECTION,

WITHOUT RESERVE.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions from George Hardy, Esq., to SELL by AUCTION, on the premises, Pickering Lodge, Timperley, near Manchester, on WEDNESDAY and THURSDAY, March 8 and 9, at half-past 12 o'Clock, each day, a PORTION of this FAMOUS COLLECTION of ORCHIDS, the whole being in a high state of cultivation. Amongst the varieties to be offered will be found the following:—

8 Cattleya Skinneri alba
,, Hardyana, large plant, 2 leads, original plant
2 ,, calystoglossa
2 ,, Lawrenceana, 2 specimens
6 ,, Mossiæ Hardyana, offered for the first time
,, Mendelii, grand specimens, several varieties
,, Massiana
,, Bowringiana, specimen plants, and fine varieties
,, Phillbrickiana
,, Schilleriana, with 20 bulbs
,, Trianæ Hardyana
,, Mendelii bella
Cypripedium selligerum majus, fine specimens
,, Rothschildianum
,, Elliottianum
,, candidulum, fine specimen
,, Wallisii, do.
,, Spicerianum, grand plants
,, Dominianum, do.
,, calurum, fine variety, and specimen plant
Cymbidium Hookerianum
Calanthe textorum, fine specimen
,, veratrifolia, large plant
1 Lælia Arnoldiana, specimen plant, 2 leads with spikes
1 ,, elegans alba, with 15 bulbs
1 ,, Blenheimense, magnificent plant, with 16 bulbs
1 ,, Schilleriana, grand piece
2 ,, Tressideriana
1 ,, anceps Schroderæ
1 ,, ,, Schroderiana, finest of all the white varieties
1 ,, Harpophyllum giganteum, wonderful specimen
,, purpurata aurora
Dendrobium Cooksonii
,, nobile nobilius
,, Tollianum
,, Leechianum [flora
,, splendidissimum grandi-
,, Ainsworthii
,, Dominianum
Lycaste Skinneri alba
Cœlogyne cristata alba, fine pieces
,, cristata maxima, Trentham and Chatsworth varieties, grand pieces

6 Odontoglossum vexillarium superbum, strong pieces.

Catalogues are now being prepared, and when ready, may be obtained on the premises, of Mr. Holmes, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Begonias and Gladioli.—Special Notice.

MESSRS. PROTHEROE AND MORRIS beg to DRAW ATTENTION to the LARGE QUANTITIES of the above now being SOLD at THEIR ROOMS almost every day. The Bulbs are sent from some of the best Growers in the country, and comprise splendid strains.

Catalogues forwarded on application.

Friday Next.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY NEXT, February 10, at half-past 12 o'Clock, by order of Mr. F. Sander, a superb importation of

ODONTOGLOSSUM PESCATOREI,

in splendid condition, being plump and sound. There is no shadow of a doubt that forms of rare beauty and merit will appear from this importation, many of the plants offered being decidedly distinct in appearance. It is a well-known fact that, flourishing together with O. Pescatorei, are other species, such as tripudians, triumphans, &c., and to their presence we are indebted for the grand hybrid forms that have so frequently appeared.

There will also be included a fine lot of ANGULOA CLOWESII, in excellent condition; ADA AURANTIACA, sound and healthy; a fine lot of the lovely MILTONIA PHALÆNOPSIS, a distinct-looking CYMBIDIUM SPECIES, a new EPISTEPHIUM, BRASSIA SUPERBISSIMA, SOBRALIA IMPERATRIX, the snow-white Sobralia.

CYPRIPEDIUM STONEI,

in superb plants; many extra broad-leaved, distinct-looking pieces are among them.

CALANTHE OCULATA GIGANTEA.

The grandest of the genus. Enormous inflorescence, with bold and lasting blooms. Very rich in superb varieties. SUMMER-FLOWERING. A Grand Lot.

AND MANY OTHER CHOICE AND FINE THINGS.

Friday Next.

An unusually IMPORTANT SALE of HARDY PLANTS and BULBS, undoubtedly the most extensive assortment ever offered, comprising—

10,000 CARNATIONS, PICOTEES, PHLOX, DELPHINIUMS, PYRETHRUMS, PÆONIES, GAILLARDIAS, HOLLYHOCKS, MEGASEAS, SUNFLOWERS, and others.

IMPORTATIONS of PLANTS and BULBS from Texas, South Russia, America, California, Japan, and Germany.

THOUSANDS of ENGLISH-GROWN LILIES,

including beautiful Bulbs of the rare L. Wallichianum superbum, Bloomerianum magnificum, Hansoni, Humboldtii, Washingtonianum, platyphyllum, speciosum in many varieties, and others.

10,000 Berlin Crowns LILY OF THE VALLEY.

NEW CARNATIONS. NEW CALLAS.

NEW CANNAS. NEW PINKS.

A very fine lot of MONTBRETIAS, DAHLIAS, New PERENNIALS and GLOXINIAS, together with a SPLENDID COLLECTION of BEGONIAS and GLADIOLI of the best sorts.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, February 10, at 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

Friday Next.

200 AZALEA MOLLIS, 150 A. INDICA, 100 CAMELLIAS, and 40 CITRUS SINENIS, from Belgium; 140 plants of ASPARAGUS PLUMOSUS NANUS, 70 lots of choice STOVE and GREENHOUSE FERNS, including a few specimens.

MESSRS. PROTHEROE AND MORRIS will include the above in their SALE on FRIDAY NEXT, February 10, at 12 o'clock.

On view morning of Sale, and Catalogues had.

The Studley Castle Collection of Orchids, Palms,

FERNS, STOVE and GREENHOUSE PLANTS, &c.

MR. J. C. STEVENS has received instructions from the Official Receiver in Bankruptcy to SELL by AUCTION, during the month of MARCH, the valuable COLLECTION of ORCHIDS formed by T. Walker, Esq., of Studley Castle, Warwick, including, amongst others—

Cypripedium Spicerianum, best variety
,, cardinale
,, Schroderæ
,, Hincksianum
,, Haynaldianum
,, Elliotianum
,, bellatulum
,, œnanthum superbum
,, Measuresianum
Dendrobium prismatocarpum, fine plant
Dendrobium thyrsiflorum, fine specimens
Cattleya Warocqueana
Cœlogyne cristata, fine specimen
Lælia anceps alba
Cypripedium insigne
Lycaste Skinneri alba
Maxillaria Lehmannii
,, picta
Cymbidium Lowii
Stanhopea tigrina
Cœlogyne Massangeana, &c.

Also the well-grown PALMS, FERNS, and other STOVE and GREENHOUSE PLANTS.

Auction Rooms & Offices, 38, King St., Covent Garden, W.C.

Wednesday Next.

Standard and Dwarf ROSES, from a well-known English grower; a fine Collection of BORDER PLANTS containing a great variety of Carnations, Pinks, Iris, Pæonies, Campanulas, &c.; Ornamental flowering SHRUBS, EVERGREENS, &c.; Collection of home-grown LILIUMS, AZALEAS from Ghent, Pyramid and Dwarf Trained FRUIT TREES, 500 SACRED LILY of Japan, GLADIOLI, BEGONIAS, DUTCH BULBS, &c.

MR. J. C. STEVENS will SELL the above by AUCTION at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, February 8, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

Wednesday Next.

WITHOUT RESERVE.

17 Cases of ARAUCARIA EXCELSA, just received direct, in splendid condition; 5000 fine Bulbs of LILIUM AURATUM, and other LILIUMS, from Japan; 100,000 Best Berlin LILY OF THE VALLEY Crowns and Clumps, 500 CYPRIPEDIUM SPECTABILE, and 1000 SPIRÆA.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, February 8.

On view morning of Sale, and Catalogues had.

WANTED to RENT, or with view to PURCHASE, some modern-built HOUSES, suitable for Cucumber and Tomato Growing.—T. J., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand.

HERTS.—In a Village 40 minutes from London.

TO BE SOLD, FREEHOLD NURSERIES, with House, and an acre of rich and highly-cultivated land; three Greenhouses, fitted with about 1400 feet of Piping, and heated by Thames Bank Boiler; two Mushroom Houses.—Further particulars of Mr. H. GIBSON, Auctioneer, St. Albans, Harpenden, and Bedford. (Fol. 1126)

FOR SALE, Compact (Leasehold), Provincial, Hardy Plant NURSERY, in full and successful working. The Stock of Choice Hardy Plants, ready for the coming season, is large and very complete, second to none in the country, systematically arranged and true to name. This Established Nursery is splendidly situated, with Glass and all requisite offices. It is an increasing business, and a sound investment for anyone desiring a pleasant and profitable occupation. Price about £750; half might remain at interest.

Particulars to *oná fide* applicants only, DELTA, 205, Upper Brook Street, Manchester.

FOR DISPOSAL, an Old-established SEED, FRUIT and VEGETABLE BUSINESS, Southsea, main thoroughfare, doing £40 per month, on Lease, rent only £28 per year, nice house. Price £95 if sold at once. Full particulars, apply, G. M., 61, Albert Road, Southsea.

SURREY.—Seven miles from Covent Garden. Genuine NURSERY BUSINESS, 3 acres and 13 Greenhouses, stocked, and well heated; Dwelling House and Outbuildings, all in good repair. Lease unexpired, 16 years. Rents, £115 and £40. West End Shop at £200 a-year. Turnover, about £5000. Price as a going concern, £1000. Strict investigation invited.

Full particulars of Messrs. PROTHEROE AND MORRIS, 67 and 68, Cheapside, E.C. (Folio 7808.)

FOR DISPOSAL, SUMMERHOW VINERIES, Kendal, consisting of about 2,000 feet of Glass, well stocked with Vines, Neil Roses, Maidenhair Ferns, &c. Suitable also for Tomato Culture. Heated with 3900 feet 4-inch Piping by two Boilers.

Particulars on application to owner, A. DUNCAN, Summerhow Vineries, Kendal.

London, S.W., the main thoroughfare, close to Station.

FOR SALE, in consequence of ill-health, the LEASE of a Prominent FLORIST'S SHOP, beautifully fitted up, and Nine-roomed Residence, together with the Goodwill; good Trade attached. Lease, 69 years; Low Rent (£65).—Full particulars of Messrs. PROTHEROE AND MORRIS, 67 and 68, Cheapside, London, E.C.; or at 13, High Street, Putney.

To Nurserymen and Others.

FOR SALE, compact NURSERY PREMISES, comprising Residence, eight conveniently-arranged Greenhouses, Potting Sheds, Stores, and Gardens, well situate on main Road, close to improving Town, and where a lucrative Business has been carried on for many years.

Messrs. NEVE AND SON, Auctioneers, &c., Tonbridge.

South of England, near Three good Towns.

TO BE LET, on LEASE, a capital MARKET NURSERY, containing Twenty-four Houses, well-heated, and in good repair, with large Garden and Orchard in good bearing; in all about 10 Acres, with Dwelling-house, Cottage, and Bothy. Stock at valuation. This is a good opportunity for a Man with a knowledge of his Business.

For rent and all particulars, apply to H. GODDARD, 10, Burleigh Street, Strand, W.C.

To Cut Flower Growers and Florists.
EXCEPTIONAL OPPORTUNITY.

LARGE NURSERY, covered with Glass, TO BE LET, at a very low rental. Easy distance of London. Capital required, about £1000, or Freehold could be Purchased.

Apply to PROTHEROE AND MORRIS, Auctioneers, 67 and 68, Cheapside, London, E.C.

Fifty Nurseries, Market Gardens, Florist and Seed BUSINESSES to be DISPOSED OF.

MESSRS. PROTHEROE AND MORRIS' HORTICULTURAL REGISTER contains full particulars of the above, and can be obtained, gratis, at 67 and 68, Cheapside, London, E.C.

G. A. WILLIAMSON, NURSERYMAN and FLORIST, Smithfield Market, Manchester, is open to RECEIVE CONSIGNMENTS of CUT FLOWERS and MAIDENHAIR FERN ON COMMISSION. Cheques as desired.

GEORGE PIKE, 97, 98, and 99, Flower Market, Covent Garden, W.C., is open to receive CHOICE CUT FLOWERS for SALE on COMMISSION.

Boxes and Labels supplied on application.

RASPBERRY CANES.—Norwich Wonder and Fastolf. 4*s.* 6*d.* per 100, 35*s.* per 1000. DUTCH RED CURRANT TREES (strong, 3-yr. old), 2*s.* 6*d.* per dozen, 10*s.* per 100. Free on Rail. Postal Order with Order.

R. H. BATH, Osborne Farm, Wisbech.

IF YOU WANT FRUIT TREES that will bear regularly, purchase Apples worked upon our Paradise Stock. We have 60,000 to select from, and shall be pleased to show them to visitors.

J. R. PEARSON AND SONS, Chilwell Nurseries, Notts.
Established 1782.

CUCUMBER SEED, Rochford's true strain, per 100, 8*s.* Rollison's Telegraph, true, 4*s.* per 100, post-free.

BREED AND SON, Market Growers, Ravenscroft Road, Beckenham, Kent.

FOR ORCHIDS and GARDENERS to Grow Them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

PHŒNIX RECLINATA, in 5-inch pots, 12*s.* per dozen, 90*s.* per 100.

G. LANGE, Chambery, Hampton, Middlesex.

VEITCH'S EXONIAN PEA.—The Earliest Wrinkled Marrow in Cultivation. A heavy cropper, and of superior flavour and colour, 1*s.* 6*d.* per pint, 2*s.* 6*d.* per quart. Of the leading Seedsmen, and of ROBERT VEITCH AND SON, Exeter.

CHOICE GERMAN FLOWER and VEGETABLE SEEDS. CATALOGUES free on application.

FRED. RŒMER, Seed Grower, Quedlinburg, Germany.

Seed Potatos.

H. AND F. SHARPE have forwarded their SPECIAL PRICED LIST of SEED POTATOS to their Customers and others in the Trade, and will thank those who have not received it to inform them, and a further copy will be posted.

SEED GROWING ESTABLISHMENT, WISBECH.

ORCHIDS.—Many rare and choice Cattleyas, Dendrobiums, Cypripediums, &c., always in stock. Inspection invited. Please write for LIST.

W. L. LEWIS AND CO., F.R.H.S., Chase Side, Southgate, London, N.

CARNATIONS, MISS JOLIFFE.—500 good Stock Plants, in 48's. Price on application.

THOS. GRANT, Serlby Hall, Bawtry, York.

CUCUMBER SEED, Rochford's variety, best for Market or Private Use, beautiful new Seed, per 100, 5*s.* 2*d.*; per 1000, £2 2*s.* Post-free.

A. BENNETT, F.R.H.S., Ashford Vineyard, Cobham, Surrey.

SCOTCH FIR (True Native).—Extra fine well-rooted Plants, in quantity; 15 to 20, 18 to 24, 24 to 30, and 24 to 36 inches. Also strong Larch, Ash, Oak, Beech, Sycamore, Birch, Alder, Poplar, &c. Whinham's Industry Gooseberry. See List, free.

THOMAS MATHESON, Nurseries, Morpeth.

LAXTON'S SEED NOVELTIES, 1893.—The earliest and best New Peas, Potatos, and Tomatos. The best Show Beans, Onions, and Carrots, New White Artichoke, Chou de Bedford, and new Sweet Peas, all the best. Send for List.

THOMAS LAXTON, Seed Grower, Bedford.

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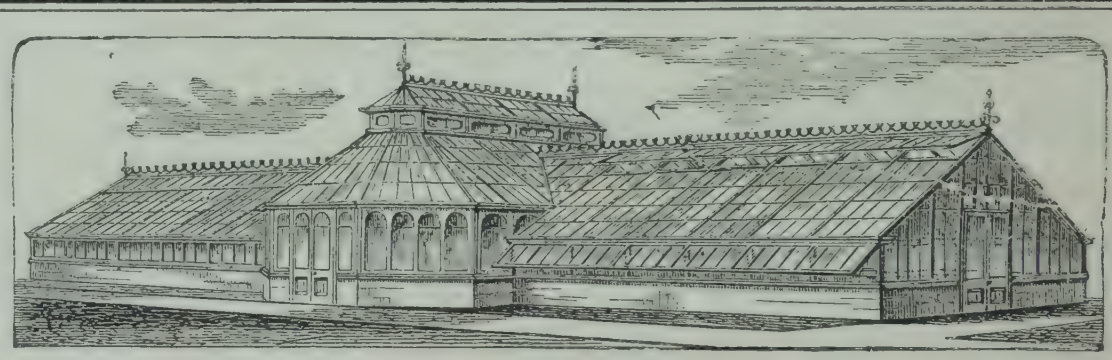

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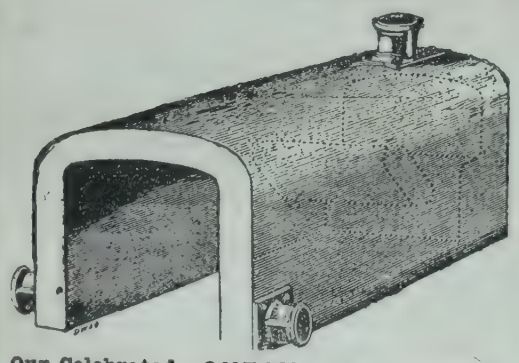

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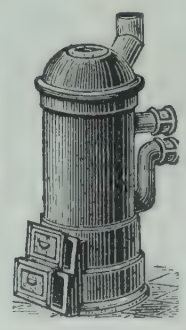

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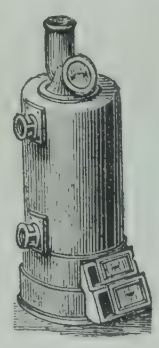

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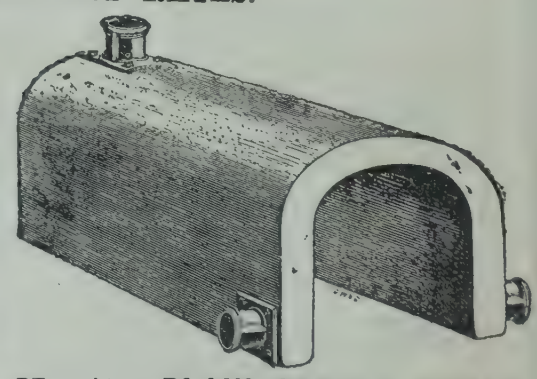

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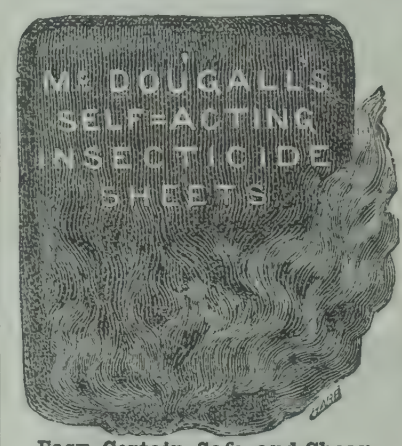

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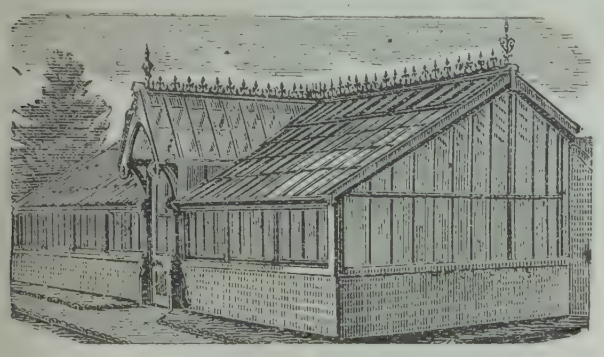

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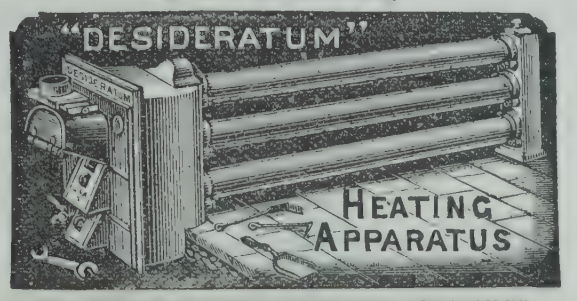

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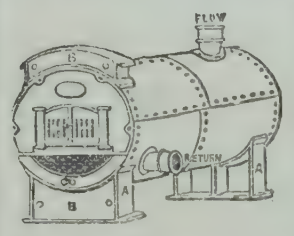

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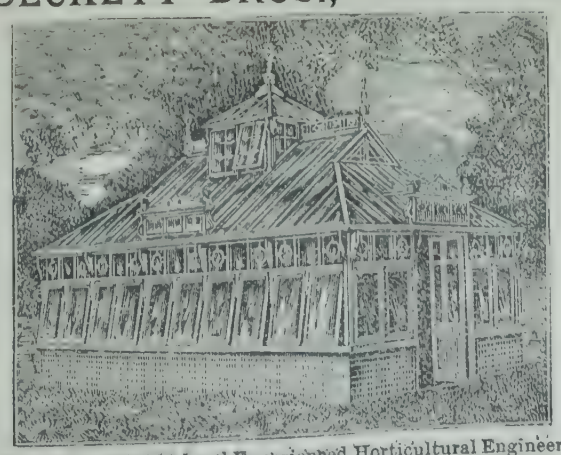

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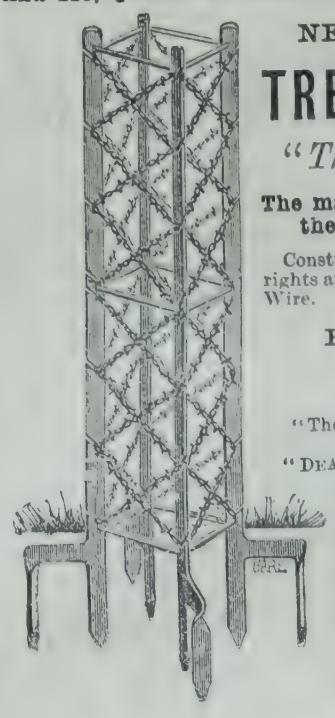

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THE

Gardeners' Chronicle.

SATURDAY, FEBRUARY 4, 1893.

A PROFITABLE INVESTMENT.

THE chief features, topographically, of Sussex are the rolling hills and winding valleys, the former abounding in iron of the finest quality, while the rich alluvial soils of the latter afford some of the richest pastures in this country. Horticulturally, too, Sussex can boast of some good investments, notably in the neighbourhood of Worthing, where certain pioneers of Tomato, Cucumber, Grape, and Fig growers for the London markets are to be met with; but the best of any that I have observed are in the neighbourhood of Balcombe, one of the very prettiest parts of the county. Now, Balcombe is not specially favoured beyond many other parts of the county in regard to soil, the staple consisting of a strong clay loam overlying the native sandstone rock, is an excellent one for Lily culture. Oxide of iron exists abundantly in the heavy clays and clayey loams; and whether the special success attained in the culture of Lilium speciosum album at Balcombe can be traced to this fact, I am unable to say. The spot, a garden of just under a quarter-acre, is attached to a cottage near to the station.

Some five-and-twenty or thirty years ago a few bulbs were grown in pots and allowed to flower out of doors; and this method was continued till the pots became too many to be properly attended to, when a number of them were turned out into the soil of the garden. Here they produced such fine flowers, and in such quantities, as to quite astonish the owner, who then turned the whole of his stock of Lilies out of their pots into the ground.

I had better say here, that this garden is planted with standard Apple trees, which more or less shade the garden. From this time a thorough systematic course of culture was adopted. The stock was taken up and replanted in rows beneath the trees about 10 inches apart in the row, and the rows 1 foot apart. The rows formed narrow beds, with alleys 16 inches wide running between. Generous culture has been afforded these bulbs, and whenever they become crowded, the whole of them are taken up and replanted; but Mr. Bates says he does not mulch or afford manure in a regular manner, but that whenever he noticed a want of a stimulus to growth, something is afforded. Wooden stakes are placed at intervals along the rows, and strings are attached to them, to which the flowering stems are tied as growth proceeds.

Along the alleys upright stakes at intervals of 6 feet, and about the same in height, and opposite each other and across the bed a light lath runs, and is nailed to the tops of the uprights. This is to support a screen of canvas which is put on whenever any danger from frost is apprehended, for these Lilies do not begin to bloom until about the second week in September,

but it may also tend in no small degree to keep the flowers getting tainted by the drip or filth from the trees overhead.

As the flowers begin to open, the anthers are carefully removed to preserve the ivory whiteness of the blooms, and owing to the great quantity of bulbs planted on this small piece of ground there is plenty of work for Mr. Bates and his two daughters.

As the flowering period draws near, preparations have to be made for marketing the crop. This period is from the second week in September to end of October, but the past season it ran into the middle of November. Enormous as this is, considering the small area occupied, no trouble whatever is experienced in disposing of it, but rather anxiety and regret is yearly felt at the inability to supply their ever-widening circle of customers. Boxes, packing, and wrapping materials being all in readiness, the flowers are picked either in the early morning or late evening, this work being left entirely to female fingers to manipulate these ivory-tinted beauties.

Now for the actual results of this quarter-acre garden. Prices in the earliest week or two are not up to the average; at this time the range is from 1*s.* 6*d.* to 2*s.* per dozen; but as the season advances, the average prices run from 2*s.* 3*d.* to 2*s.* 9*d.* per dozen blooms. No doubt this is accounted for by the quantity sent into market by those growing their bulbs in pots, which would not be over when the first blooms from outside arrive; but as the end of September and beginning of October is reached, the competition is with outside flowers.

In the first week or two of sales, the quantities sent off vary from fifty to seventy-five dozen three times per week, but in the height of the season 150 to 200 dozen blooms three times per week have been sent off. The greatest number ever sent off was during the middle of the past season, when for one week at least 130 to 150 dozen per day were despatched, making an average of 840 dozen for this week—truly an astonishing quantity from such a small area of ground. The revenue from this small plot can thus be very readily arrived at by any one for himself. There are then still classes of beautiful hardy plants, which, if their wants were specially attended to, and a market created for them, cultivators would find it profitable to grow, especially at the present time, when growers hardly know how to make ends meet, owing chiefly to influences over which they can have but little or no control.

At the present time I have in my mind's-eye several plants, and, associated with them several sites—or, perhaps, more correctly—several districts, where those plants could be grown to perfection, and at figures quite as remunerative, as shown in the above case of Lily culture.

Why these things are not done more here by those who have both the means and opportunity, is a mystery hard of explanation. I myself can advance several reasons for this torpid attitude everywhere displayed to depart from beaten tracks or ruts, but should most likely be met at the outset with a blunt denial, or at least by an assertion that this or that would not do or would not pay. These, however, it would not be difficult to controvert, on the assumption alone that they had never been tried.

It is needless for me to point out the lessons which may be read by those willing to learn from the instance here given, or to point out the necessity for caution which it is wise to observe in every undertaking. In horticulture, as in all other branches of business, those succeed best who make circumstances subservient to them, and not allow themselves to be subservient to circumstances. *Pomum.*

New or Noteworthy Plants.

NERINE MUTABILIS (HUMILIS × PULCHELLA). *New gard. hyb.*

The beauty of its varying flowers renders this pretty hybrid, which flowered with R. A. Todd, Esq., at Honeyden, Foots Cray, Kent, well worth naming and recording. In growth it is fairly intermediate between the two species crossed; the peduncle 12 to 18 inches in height; pedicels 2 to 2½ inches long; flowers ten to fifteen in a loose umbel. Perianth irregular, five segments forming the upper portion, and one (which is curved on one side), the lower part of the whorl. Segments 1½ inch long; cleft nearly to the ovary; abruptly curved back at the tips; bright rosy-carmine with a bluish keel, which varies in different stages of the flower from lavender to light purple, the other parts of the flower also varying from pink to lilac. Style and stamens declinate; the style as long as the segments, the stamens rather shorter, both pale pink. The whole flower very attractive.

Perhaps we may say, luckily, there are but two or three plants of it, for if there were any quantity, it being so variable, it might have the misfortune to assist in making the same confusion as some persons have caused N. O'Brienii (pudica × Plantii) to make. Originally there were N. O'Brienii, N. O'B. carminata, and N. O'B. cœrulea, but these three have also since been called N. humilis carminata, N. h. cœrulea, N. carminata, N. atro-sanguinea, and many other names. The worst injury of all is cataloguing it as N. atro-sanguinea, which is a totally different thing, some three or four only of which were raised by me, and which is not to be obtained, although doubtless those who order the plant catalogued under that name expect to get it. *James O'Brien.*

CYPRIPEDIUM CALYPSO, CYPHER'S VAR. (SPICERIANUM MAGNIFICUM ♀ × BOXALLI ATRATUM ♂). *New gard. hyb.*

This is an extraordinarily beautiful variety, worthy to keep company with the *élite* of the favourite genus, and take rank with such handsome things as C. Calypso, Oakwood var., and C. Leeanum giganteum.

The upper sepal is round and flat; pure white, with an emerald-green base, a broad purple band extending up the middle, and fainter merging purple lines over the lower two-thirds on each side of the middle line. Petals nearly horizontal, wavy on the upper edge, greenish-yellow, strongly tinged with brown on the upper halves above the broad reddish-brown band, which traverses the middle of the petal. Labellum similar in colour to the petals, beautifully spotted inside. Lower sepal pale green. The general appearance is of a very fine Boxalli, with a large and highly-coloured upper sepal of C. Spicerianum magnificum. It comes from Mr. Jas. Cypher, Queen's Road Nursery, Cheltenham, who has no doubt grown it in his usually excellent manner. *James O'Brien.*

GLADIOLUS (HYBRIDUS) NANCEIANUS.

This new race of Gladioli (fig. 21, p. 131) is the result of a cross between G. Sandersii and G. Lemoinei, and has not only retained the long-lasting properties and the beautiful spot of the latter, but its flowers have reached dimensions surpassing those of the largest-flowering varieties of G. Gandavensis. The spike stands erect, with the flowers evenly developed, looking you straight in the face. The immense flowers somewhat resemble Orchids of the brightest hues and most curious designs, or rather a strange kind of Amaryllis, covered to the tip of the spike with flowers of a new race. Our illustration (for which we are indebted to Mr. Lorenz, of Erfurt, who offers seeds of this strain in his trade catalogue) well shows the general character of the flower. It is one in which the two spotted segments are at the lower part of the flower. In other cases these two petals are at the upper part of the flower, and this variation may be seen in some cases in different flowers of the same spike. The first notice of this section was on August 10, 1889, when Mr. W. E. Gambleton favoured us with a description of the first of this new race of hardy Gladioli. On October 4, 1890, p. 379, he continued his observations, and described several additional forms, supplementing his notes by further descriptions on October 31, 1891.

KEW NOTES.

Gustavia pterocarpa.—This large-flowered Myrtaceous shrub is now in flower in the Palm-house, where it has been cultivated since 1885, and has several times flowered. It is about 3 feet high, with an erect stem, branched, and clothed with long shining green lanceolate leaves. The flowers are Magnolia-like, 4 inches across, formed of five broad, concave, fleshy, ivory-white petals, tinged with reddish outside, and corona-like clusters of yellow stamens, which are curved inwards, as in some of the Passifloras. The flowers are fragrant, and they remain on the plant three or four days after opening. This species was introduced by Messrs. Linden, of Ghent, in 1861, and distributed under the name of G. Leopoldi. There is a figure of it in the *Botanical Magazine*, t. 5239. It is a native of French Guiana. The Gustavias are quite worth a place among cultivated stove plants; at any rate, the one here described, and several others, among them G. gracillima, flower under cultivation, and are decidedly attractive.

Freesias.

There is a large well-flowered group of Freesias in the conservatory at Kew, and there has been a similar group in this house annually at this time for the last five years. Mr. F. Garrett, the foreman in the flower-garden department, which includes the conservatory (No. 4), gives the following directions for the culture of these Freesias:—Never allow the soil in which Freesias are planted to get dry. Shake them out in August, and repot in 6 or 8-inch pots in a mixture of loam, leaf-mould, and dry cow-manure. The round corms, not the thin ones, are those which flower best. For an 8-inch pot, twenty corms are sufficient. Water immediately after potting, and then place them in a cool frame, where they can remain till the frost comes, when they should be placed in a heated frame or on a shelf near the glass in a greenhouse. They require as much sunlight as possible. Stake the plants early, and when the flower-spikes show, a little stimulant, such as Clay's Fertiliser, should be given. *W. W.*

A TRAVELLER'S NOTES.

(*Continued from p. 70.*)

Buitenzorg.—The agricultural garden is, as I have said, some 2½ miles out of Buitenzorg, and some 200 acres in extent. It is most interesting, and consists of large quarters of all kinds of economic plants. Here are made trials of plants said to be of practical use in the colony, and the result is duly reported on.

Large plots of Arabian and Liberian Coffee are in grand condition and look well, though a few small round light brown spots show that the disease exists, but still in too small a degree to be harmful. All kinds of Rubbers are largely represented, one of the best of which is the Hevea brasiliensis. Gambier is also grown, and a large plot of Ficus elastica is very interesting—large trees with their stems all notched and scarred where they had been cut for the sap.

Mahogany, Chinese and Assam Tea, Cacao, Pappaya, Eucalyptus alba (a handsome tree from

Timor), Vanilla, Coca, Pepper (always grown in the shade), Elais guineensis (the African oil Palm—a magnificent plot, containing four rows of splendid trees, many of the trunks being 3 feet in diameter, some seeding and some flowering), Oranges, Rice, the poisonous Upas tree, and many kinds of grasses, are amongst the sights at this place. One does not see a dozen trees or a hundred; the thing is thoroughly done, of each there is a large plot; of Coffee several acres. Cardamom and Cinnamon are also grown, and trials are just being made with Ipecacuanha (Cephælis ipecacuanha); it does not seem to promise very well. Besides the above, a small plot has been set aside for medicinal plants, two of each species of which are grown.

An extensive, well-filled laboratory, also fitted with its own gas, made from petroleum as at Buitenzorg, is at the disposal of the Director of this department; and also apparatus for making experiments with the products of some of the plants, such as dyes, the extraction of Gambier or of oil from the seed of the Elais, and the like. To the ordinary visitor, this agri-

Fig. 21.—Gladiolus Nanceianus, var. (see p. 130.)

cultural garden proves more interesting than that at Buitenzorg; it is practical, the other is scientific.

I arrived at Garvet on the evening of Feb. 2, and at once made arrangements to start for an extinct crater on the morrow.

Ascent of a Volcanic Mountain.

One of the most interesting things I have yet seen since I have been away, is the crater of Papandaya, an excursion to which I made on the morning of Feb. 3. I left the hotel at Garvet at 4.30 A.M., in a small cart, miserably equipped. We were two hours reaching the crater up a very steep rocky path. I never should have thought a pony could have got up. At first we went through some cultivated grounds, Castor Oil, Maize, and several acres of Arabian Coffee, in grand condition, the ends of the shoots covered with bunches of berries. I looked for disease, but saw none. The plants were much higher than those I had seen in Ceylon, and the foliage of the richest green; it was so high and so thick one could only see a few yards into the plantation. Enclosing a plantation of Maize was a clipt hedge of Brugmansia, the flower was not much, but the foliage was a delightful green, growing freely. The hedge was kept pretty straight by long pieces of split Bamboo, tied lengthways to the main stems of the Brugmansia. Goldfussia isophylla, treated in the same way, I also saw used as a hedge-plant. Lantana was very frequent, and a pretty Cassia, possibly C. fistulosa.

We soon got through the cultivated portion of the hill, and into the jungle proper, the finest I have yet seen by a long way, certainly thicker and more luxuriant than in Penang. The Tree Ferns 1500 feet from the base, and to about 1000 feet from the summit, were magnificent. I think they were Cyatheas; their stems were often 20 to 30 feet high, one I noticed in particular, could not have been less than 50 feet. It is now the wet season in Java, and these Ferns were growing freely. It was a wonderful sight to look down on them, the rosettes of young fronds had been produced in such rapid succession, that they were apparently all of the same age, and were actually of the same tint of light green; the next lot to succeed them, usually six or seven, stood up straight, all about the same height, from 1½ to 2½ feet. What I wish to convey is, that one frond was not produced a long time after the other, as at home. Near the top many acres of the jungle had been burnt, but though the stems of these Tree Ferns were quite charred, they were yet growing; nothing else in the whole charred forest, except a few dwarf Ferns, had started. It was very curious to see the pale green of the young Tree Fern foliage, probably the only living thing there, standing out against the background of burnt black and brown wood, a clump of about two dozen in one place was particularly striking. Of course, one could not see far, the burnt trees were too thick, and frequently tangled masses of climbers hung from branches like thick curtains, rendering it still more impossible. At the base of the hill a large Bamboo was magnificent, perfectly impenetrable, but it soon ceased, and did not seem to grow more than a few hundred feet up. This also applies to Plantains. The vegetation on both sides of the rough rocky road was most thick, quite impossible to enter without clearing; in some places one could only see a few feet into it, most scarcely a score of yards, and where the Gleichenia carpet hung down, not 6 inches. This Gleichenia, not as common or as frequent on this hill as in Penang, must be either G. flagellaris or G. dichotoma; I did not see G. longissima at all.

The path, as I have said, was very steep, the ground rising on one side and falling away on the other. Where it fell away to a considerable depth, a glimpse might be caught over the thick jungle for some distance. This sort of view was more particularly obtained where water was descending the hill. Passing over such streams (they were not large) and looking down the ravine, I saw as luxuriant and rampant a vegetation as I ever dreamed of. Some of the tree stems were large (these probably belonged to the Dipterocarpeæ), but it was not the rule, thick undergrowth being more general. Many of the stems were covered with epiphytes, and high up in the branches above I saw many more either epiphytes or parasites. Many Ferns were thus growing on stems, and also a small climbing Fig. Asplenium Nidus was magnificent, completely encircling some trunks, its thick masses of dead leaves hanging down often 6 to 7 feet long; it was most frequent, but never had that regular circular appearance it gets in a pot at home. The other Ferns were numerous, but not striking, except one, a Blechnum, much like brasiliense, its young leaves often 2 feet long, tinted red; it is a fine thing. The vegetation generally was very varied, but generally, when looked at closely, of no especial beauty. The creepers were very numerous, and often hung from the branches above in tangled masses of dead and living vegetation—dead very often. Why, I do not know, for there seemed to be no reason. I also saw a very weak sickly-looking Nepenthes, and of that but two specimens.

As one nears the crater, and at about 800 feet below it, all this richness ceases, and the path and surrounding land changes to bare rock, on which nothing is growing but a low shrub like a Myrtle. The path is now very rough; now passing between huge boulders, evidently rolled off the mouth of the crater, and pitched at some time or other headlong down; and now over flatter ground, on which are small pieces of sulphur, lava, and a whitish stone not unlike chalk. The crater is about half a mile in diameter, completely enclosed on three sides, and open to the country beyond (of which a lovely view is obtained) on the fourth. One side of the mouth, about 400 feet high, has a little scant vegetation, but it is not easy to get there to look at it. The other two are completely bare, sheer precipices of rock, from 300 to 400 feet in height. The fourth side slopes, so far as I could judge, by a series of small plateaus to the plain beneath, but, of course, all one sees is the top of the jungle, the paddy fields below, and a hill of wonderfully even pyramidal shape beyond. The crater proper is interesting. There is probably not a living thing in the place—bird, insect, or reptile. In one place volumes of smoke, so dense that one cannot see through it, pour out and reach even the top of the mouth of the crater; the ground round the hole where it comes from being thick with golden-yellow sulphur, a lovely colour. The main volume of smoke, which comes steadily forth, must be 40 to 50 yards in diameter; and besides this, there are several smaller ones. Boiling water bubbles and hisses out in places, and in one spot hot air rushes out with a noise like a locomotive safety-valve. On approaching this, and hearing the noise, I looked for a waterfall, and was considerably astonished to find the noise produced by the escape of sulphurous air; the pressure beneath must be pretty considerable to make such a sound.

The whole scene was very interesting, beating that which I saw near Naples easily. The floor of that crater was more or less covered with vegetation, but in this case there was nothing but a rough uneven surface, in some places covered with loose stones of all sizes; especially was this the case at the base of what appeared to have been a landslip from one side of the mouth—huge boulders in most extraordinary positions were common at this point.

Coming back from the foot of the hill in the same carriage, I had a good view of the country—wonderfully rich and fertile—for the whole way, about ten miles; on each side of the road the land was under cultivation, all "paddy" of kinds. The Rice is plucked by hand, tied in bunches, and carried by coolies on their Bamboo rods, several bunches being made into a bundle, and suspended by a string. The rods, about 6 feet in length, are carried on the shoulder, with an equal weight attached to each end. The coolies usually travel, when thus loaded, at a slow swinging trot.

The hotel garden at Garvet is rather pretty, and presents a curious mixture. Alternating with a row of Crotons are China Roses in pots, nicely in flower; and in another portion I noticed a large pot of Maranta between a mule Pink and an Ivy-leaved Pelargoniums. Sanchezia grows side by side with

Habrothamnus and Abutilon, all flowering freely. Tea Roses in large pots do well, and the Cocoa-nuts, many with fine fruit, look remarkably well. Garvet is 2200 feet above sea-level, and the crater of Papandaya nearly 5000 feet. It is not known when the latter last indulged in an eruption, but a crater which can be seen from the garden is said to have been active some fifty years ago.

Lake Bagendit.

On February 4, I made an excursion to Lake Bagendit, a most lovely spot. It lies in quite another direction from Garvet. The country, pretty flat for a few miles, was almost entirely under cultivation, chiefly Rice, apparently in the most splendid condition. Water is plentiful (at this season, at least), and no difficulty seems to be experienced with irrigation. We passed through several villages remarkably clean looking, especially when compared with the mud hovels the natives in the out-of-the-way parts of our own India live in. On each side of the main street was a neat fence of split Bamboo, strengthened with tarred string, all the little Bamboo houses on supports a foot or so from the ground, stand thick inside under under the shade of Cocoa-nuts and other trees. The entrance to the chief part of the village is marked by a small Bamboo gateway, like a small triumphal arch.

The lake I went to see is about an hour's drive from the hotel. On its shores are two villages, by one of which I reached the lake. By signs from the driver of my carriage, I understood I was to get out, and was subsequently conducted to the shores of the lake through the main street of the village. Here were several canoes, each being the hollowed out trunk of a tree. I soon espied a small summer-house arrangement, about 20 feet square, with a Bamboo floor, open sides, and pointed grass-roof. This, by the assistance of various men, women and children, was tied on to three canoes, a chair fetched, and myself duly installed inside.

We then rowed about the lake, two boys with short paddles being placed at each end. This lake is one of the loveliest spots imaginable. It is not large, but is surrounded by low hills, gently undulating, mostly under cultivation; behind these low hills rise the taller ones, some 3000 to 4000 feet above the level of Garvet.

On our return, I was struck with the beauty of the lake approach to the village, beneath its tall Cocoa-nut and Areca Palms. On landing, the head-man of the village appeared, and was paid the tariff price, 2½ f. The boatmen never expected tips, and if offered, would not have understood it. The other day I offered a man 2*d.* for following me up Papandaya for four hours, and he never understood it, so I finally laid it on the ground. I had heard of such things in out-of-the-way parts of India, but never yet met with it—it was quite refreshing; one of the advantages of coming to a place not spoiled by the globe-trotter.

At Garvet, early every morning the sky is clear, the sun hot, right overhead, and the weather pleasant. Between 8 and 9 A.M., white clouds, spotlessly white, begin to roll up the hill-sides; about 12 at noon, these become quite thick, hiding the hill-tops all round the basin in which Garvet and the fertile plains I have described lie; between 2 and 3, after a most oppressive heat, they break; and the same performance is repeated next day. *James H. Veitch.*

Foreign Correspondence.

GERMANY.

Hardy plants were hardly known in this country except in nurserymen's and private collections, till a few years since; at any rate, the real commercial value was not understood by our florists as it is now-a-days. Herbaceous plants, suitable for cutting purposes, are now in great demand, and the town florists at last have grasped the right idea in using them to the best advantage. Such plants as Gaillardias, Coreopsis, double and single Pyrethrums, Iceland Poppies, Marguerites, Chrysanthemums, &c., which can be cut with long stalks, are the general favourites. As our summers on the sunny banks of the Rhine are of crystalline clearness, the plants are much more vigorous, and the colours more intense than I ever noticed them to be during my long stay amongst hardy plants in a London establishment.

The first and foremost florist flower which shows a remarkable difference in this clear atmosphere are the varieties of perennial Gaillardias. They vary in colour from the brightest vermilion and richest crimson to the brightest golden-yellow, and I know of no other plant which will produce such a quantity of blooms from early June until severe frost cuts it down. Each plant when thoroughly established measures 3 feet or more across, and carries hundreds of flowers at one time. The various dazzling colours in the bright sunshine is a sight more easily imagined than described. The flowers are especially adapted for cutting, lasting for more than a week in water. The plants are easily raised from seed, and if sown in March will flower the first summer. Lychnis flos cuculi alba plena is one of the most exquisite hardy perennials, and the most beautiful of this genus. The elegantly snow-white flowers have a charm and fascination peculiarly their own. The rich glistening reddish stems and calyx supporting those beautiful snowflake-like blossoms form a charming contrast. For pot-work and cutting purposes it should be largely grown, and ought to be found in every garden where hardy plants are appreciated *C. Sonntag, Rhine Nurseries, Hilden.*

BELGIUM.

Orchids in Belgium.— The severe frosts from which we have suffered here during the last month prevented the holding of the Ghent horticultural meeting, and the meeting of the Brussels Orchidéenne. In certain parts of the country the thermometer registered 25° C. below zero (= 13° F.). This severe weather threatens to have a very disastrous effect upon horticulture.

Cypripedium × *memoria Mœnsi.*—This new hybrid may be best described as a red Leeanum. The dorsal sepal is most conspicuous and remarkable. It is large, and the edges are folded back a little, as in Leeanum; in colour it is bright rosy-scarlet, slightly inclining to purple, with a central longitudinal band of darker red, and a light bordering of white at the top. The petals are bright reddish-brown; at their extreme base is a narrow patch covered with small black specks. The petals are divided into two halves by a dark brown line, and the lower half is slightly lighter than the other. The lip is large, and rather square in shape; it is shining reddish-brown in colour. The staminode resembles, on a larger scale, that of C. Spicerianum; it is pale mauve, the edges a little brighter in tint. This hybrid, so fine and peculiar in colouring, is certainly one of the most beautiful that we have hitherto seen. [Since this was in type we have received an original description of this hybrid from M. Desbois. Ed.].

Cypripedium × *Lucianianum.*—The dorsal sepal of this hybrid is exceedingly fine; it is very large and remarkably bright in colouring, with many conspicuous spots of reddish-brown or violet on a white ground. At the base is a clear green space marked with reddish-brown stripes; the spots at the base are particularly large. The petals are broad, slightly curved inwards; the large lip is bright mahogany-brown. This new hybrid is almost unrivalled except in the Stonei and Rothschildianum group, in size and colouring; its success is assured. In habit, moreover, the plant is very robust. This hybrid is named after M. Lucien Linden, director of the Horticulture Internationale.

M. Jules Hye-Leysen, of Ghent, has now a plant of Cypripedium, Ch. Canham, bearing seven flowers; certainly larger than those of any other hybrid Cypripedium. This magnificent plant is as effective as a well-bloomed Cattleya.

In the houses, we noted the following as being especially interesting:—Odontoglossums amabile, Chestertoni, and guttatum splendidum; also a Cypripedium Albertianum, from some of the same seed from which came the specimen, of which a coloured plate was published in the *Revue de l'Horticulture Belge et Etrangère;* the new specimen is darker both in the lip and on the sepals than was the former.

In one of the houses of the firm of Ed. Pynaert Van Geert there is also in flower a plant of this same hybrid (C. Ch. Canham), but the flowers are handsomely marbled and mottled, like those of C. Dauthieri marmoratum or C. Harrisianum polychromum. The flower is smaller than that of the type, but still of a good size, nearly 5 inches in each diameter. The same firm has also a C. Chamberlainianum of excellent colour; the upper sepal flat and rounded; the petals evenly marked along their length by purplish-mauve lines; the lip dark carmine bordered with pale green.

Mr. Alfred Van Imshoot, had on January 16, thirty-two species and varieties of Orchids in bloom in a cool-house 7° to 12° C. = 45° to 55° F., and more than fifty in a warm-house (15° to 20° C., 60° to 70° F.). We noticed among others a very remarkable variety of Oncidium cucullatum var. Phalænopsis, with a deep purplish spot on each petal; O. tigrinum var. unguiculatum, with a stem 8 feet long; a bright pink Masdavallia Barlaeana, M. Parlatoreana, from M. Veitchii × M. Barlaeana, Amblostoma tridactylos, with large clusters of small white flowers; Oncidium splendidum, with a fine group of about thirty-five blooms; Brassia Lawrenceana var. longisissima, the finest of all the Brassias, the petals golden-yellow, and 12 to 13 inches long; Zygopetalum brachypetalum, a very fine variety, the petals are claret-coloured, the lip bluish-mauve; Z. graminifolium, the petals brown, mottled with green, the lip almost blue; Brownleea cœrulea, a very pretty terrestrial Orchid, with blue flowers, spotted with black; Phalænopsis Micholitzii, a rare variety, the flowers pure white; a beautiful variety of Vanda Cathcarti, &c.

In addition to Odontoglossum, M. C. Vuylsteke, of Loochristy, has bloomed during December several new hybrid Cypripediums, notably C. × Murillo (F. Desbois), a hybrid between C. Boxalli atratum (female) and C. Argus (male); C. Erato (F. D.), from C. Sallieri and C. hirsutissimum; C. Jupiter (F. D.), from C. Boxalli atratum × C. hirsutissimum; C. Eucharis (F. D.), from C. insigne Chantini × C. Lawrenceanum; C. Zampa (F. D.), from C. Leeanum superbum × C. hirsutissimum; and C. villosum violaceum, from C. villosum × C. hirsutissimum.

In the Brussels Botanic Garden there are now in bloom two Maxillarias not very common in cultivation, and partially described by Lindley from herbarium specimens. M. longissima (Lindl.), is a curious species from the forests of Merida. M. pentura (Lindl.), of similar origin, is very like the preceding species, but smaller; the flowers are less numerous, the sepals clear yellow, the petals pure white. Finally, in the same botanic garden, I noticed a new hybrid Cypripedium, C. Kerchovianum, obtained from a cross effected in 1887 between C. Curtisii × barbatum nigrum, and named after the president of the Société Royale d'Agriculture et de Botanique de Gand, M. le Comte de Kerchove of Denterghem. It flowered first in December, 1892. The upper sepal is broad, spreading, even, bright pink striped with green and purple, edged with pinkish-white; the base clear green; lower sepal smaller, oval, acuminate, striped with green; petals oblong, spreading, slightly ciliate, reddish-violet towards the tips, moderately broad, very dark at the base, ending in a white tip; the lip large, widened in the centre, in colour very dark violet-purple; lateral angles obtuse; staminode horseshoe-shaped, deep pink with a green centre; peduncle long; pubescent reddish-black; leaves oblong, from 8 to 9 inches long, clear green, spotted with dark-bluish green. *Ch. de Bosschère.*

FRANCE.

Hybrid-Palms.—I am sending you some notes on hybrid Palms, which, perhaps, may be of interest to the readers of the *Gardeners' Chronicle.* We have here female Phœnix senegalensis, and no males, yet they fructify abundantly, and, as they are near some male P. canariensis, evidently by the action of the pollen of these latter. Doubtless bees or other insects are the agents of this fecundation. The genus Phœnix is so natural, that all the species are capable of fecundation one with another, thus still further augmenting the difficulty of distinguishing between them, which, apart from this, is not inconsiderable; still I did not wish to chronicle this, but

a rather more interesting fact relating to Microphœnix, of which you have already heard some years ago. This Microphœnix was obtained, some say, from Chamærops humilis, fecundated by the Date - Palm. Having attained adult age, it has been again hybridised by Trachycarpus excelsa (or Fortunei) by our friend Sahut, of Montpellier. This Microphœnix Sahuti × was obtained with a distinct physiognomy, remarkable among other peculiarities for the black colour of the base of the petioles, which is, it seems, exhibited by certain varieties of Date-Palms. Its fruits, or it is beginning to fructify, are more elongated than those of the ordinary Chamærops; in fact, it is difficult to tell whether we have here a hybrid plant of three species and three genera, or if its unusual form is merely the result of possible variations of the classic Chamærops humilis. The question is involved, but perhaps in the future will be disentangled. We shall see.

Another question not without interest is that relating to the Carob (Ceratonia). Botanists who have studied it have not noticed that there are sterile long-stamened specimens, and other hermaphrodite plants, which have such short stamens that they have always been believed to be female. The stamens of these are, in fact, so short that it is difficult to find them unless previously aware of their existence. Now, it is these quasi-abortions which fecundate the ovaries, and it is hard to see why the male long-stamened plants are placed so far away from the hermaphrodite specimens for which they are needed. Are the insects the medium here, as in the case of the Carob? We scarcely see how they can be attracted by such inconspicuous, apetalous flowers, and still less how hermaphrodite specimens suffice perfectly to produce fruits. It cannot be for nothing that Nature has made the male Carobs long-stamened. Dr. Heckel, of Marseilles, has recently published his observations on these peculiarities. The Provençal peasants, who are aware of the sterility of the long-stemmed Carobs, destroy them as useless. Are they right? That is the question. *Charles Naudin, Antibes.*

Fig. 22.—Dracænopsis [alias cordyline] australis at Belgrove, Cork.

(From a photogram by Major Lysaght.)

DRACÆNOPSIS AUSTRALIS AT BELGROVE, QUEENSTOWN.

The plant of which the accompanying woodcut (fig. 22) is a faithful and accurate portrait, has been growing in the grass in front of my house on a sheltered branch of Cork Harbour for about twenty years, but I have no record of the exact year in which it was planted. It is specially interesting, from having been killed to the ground during the severe winter of 1879—80, after which it immediately sent up six stout stems, which are now about 15½ feet in height. A seventh stem is about half this height. It has never received any kind of protection, and has not in any way suffered during the winters that have intervened since it began to grow again. The plants appearing alongside it in the engraving are Yucca recurva, Kniphofia Northiana, already figured in the *Gardeners' Chronicle*, and Gynerium jubatum, by far the most beautiful, but, alas! also the most delicate of all the varieties of Pampas-grass. *W. E. Gumbleton.*

SELECT DECORATIVE FOLIAGE PLANTS.

(*Continued from p.* 40.)

Ficus elastica.—This useful old plant still retains its popularity as a decorative plant. Under fair treatment, it will thrive as well indoors as when grown in a greenhouse, and it is only when it has grown too large that it has to be replaced. The variegated variety is very effective when well coloured, but it is not quite so hardy as the normal form. Although it is now some years ago since the variegated variety was first introduced, it is not until quite recently that it has become popular. Two or three years ago the American horticulturists took it in hand, and appear to have bought up all they could find in this country. This stimulated the English growers, many of whom now grow it in large quantities. As in all plants where the variegation is marginal, it requires some care to keep the leaves in good condition. Too much moisture on the foliage, especially in a low temperature, is sure to cause the white portion of the leaves to discolour. I have seen plants from 4 to 5 feet high, with perfect leaves down to the base of the plants; and in the older leaves the variegation is more distinct than in the newer ones.

The best time for propagating the Ficus is early in the year, before the plants begin to start into new growth. Tops taken off with four or five leaves, and put into small pots singly, using plenty of dry sand at the base of the cuttings, will root freely in the stove or propagating pit. It is essential that there should be a good brisk bottom-heat. They may be potted on in any ordinary compost, but good mellow loam with a little well-rotted manure will produce the best results.

I may here refer to Ficus repens, a plant which deserves to be much more grown that it is at the present. For hanging-baskets, walls, or as an edging to a greenhouse stage, it is a most serviceable plant. Many Ferns which make fine basket plants do not cover the lower surface of the baskets, and to clothe these there is no better subject than F. repens; it may also be used to hang down in long sprays. It also provides good foliage for the shower-bouquets, which are now so fashionable. Plants growing against a wall in a shady position in an intermediate-house provide the best material for this purpose. In a dry atmosphere this Ficus is slow of growth, but when well established on a moist wall is grows very rapidly. Cuttings from the tips of young shoots root freely in heat, and for growing in pots, about six cuttings put into a small pot, may be potted on after they are established without dividing them. Grown on in 5-inch pots they make useful plants for edging. It is of free growth, but a dry atmosphere or cold draughts will cause the young leaves to curl up, especially early in the spring. F. repens minima is a variety with much smaller leaves.

F. falcata is another slender-growing species, with small deep green foliage. This does not grow so rapidly as repens, or, at least, as far as my experience goes, but if grown on a moist wall in the stove it may prove more robust.

Agapanthus umbellatus minor variegata is a very pretty variegated plant; the leaves are much

smaller than the ordinary A. umbellatus, and are of a glaucous grey, with white stripes. The only objection to this plant is its large, fleshy roots, which require rather large pots in proportion to the size of the plants. It may be increased by division, and to keep them within limited-sized pots some of the fleshy roots may be cut away. This Agapanthus is particularly valuable, as it does well in a dry cool greenhouse, and requires very little attention.

Coprosma Baueriana variegata is another pretty variegated plant for the cool greenhouse, or may be used for bedding out during the summer. The bright fresh green, with a creamy-white variegation, is very effective. May be propagated from cuttings in spring. The cuttings should be short, and only put into the soil just deep enough to keep them firm; or it is, perhaps, better to use a small stick to each cutting, and put the base of the cuttings on the sandy surface of the pots—they must be kept quite close, and require a moderate bottom-heat; the plants may be potted in any light sandy compost. To make good bushy plants they must be stopped from time to time as they require it. *O.*

THE WEEK'S WORK.

THE ORCHID HOUSES.

By W. HOLMES, *Gardener, Pickering Lodge, Timperley.*

ORCHID SEEDLINGS, ETC.—Seedlings of Dendrobiums which may have been rested a few weeks will be better if started at this period, so that a long season of growth may be before them. Any plants of Cattleya labiata, C. Warneri, and C. maxima that were rested at the cool part of the Cattleya-house, may be removed to the warmest part of the house, if such exist; if not, the plant-stove will be a very good place for them, the plants being now engaged in making growth top and bottom. It is very necessary to be careful with the watering of these plants at this season, and I find that they will do best if placed in baskets and hung close up to the roof-glass. Those that require re-potting or only top-dressing had better be taken in hand forthwith. Let good peat, clean crock, and charcoal be used, and let the plants occupy a place on the south side of the house, C. labiata being a rather shy flowerer if not well matured the previous year.

HINTS ON WORK IN THE HOUSES.—Vanda tricolor, and varieties of it that may require repotting or top-dressing, should be attended to before new roots form, the same potting material being used for them as, in a former Calendar was advised for Aërides, but potting them a little deeper than those, and not watering for about three days afterwards, when it should be thoroughly done. The stems may be syringed daily, which will assist the leaves to remain plump and green, Vandas losing their beauty when the lower leaves fall off. A good place for them is the cool part of the plant stove, on a bed of finely-broken coke or coal ashes kept in a moist state. After having potted them, get the house-blinds ready for running down over them for a few hours during the sunny part of the day, as the plants are impatient of bright sunshine.

PHALÆNOPSIS SCHILLERIANA AND P. AMABILIS. These two species will need special attention, both now being near the flowering period. The flowering of Phalænopsis seems to exhaust their energies greatly, therefore, everything with regard to the right temperature, the amount of moisture in the house, and bottom ventilation when needed, always avoiding cold draughts, must receive careful attention. The ventilators should be opened according as the temperature outside is high or low; and a good kind of inlet for air is made with a finely-perforated zinc plate nailed over the ventilator on the inside, so as to break up the current of air entering the house. Water the plants sparingly at present, just keeping the moss green; and syringing amongst the pots once a day, taking the precaution to have no stagnant air in the house or round about them. After the whole of the flowers are fully expanded—which will be about a fortnight after the first flowers open, do not let the spike remain much longer on the plant, but cut it off, as the plant having nothing but roots and leaves from which to draw support, there being no pseudobulbs, they often become weakened and die when the flower-spikes are allowed to remain. Small plants should have the flower-spikes cut off for a season or two. "Spot" on the leaves is the chief evil which has to be contended with, but it is my opinion that this malady is due to want of fresh air, which in a hot, and moist, shady house causes the leaves to be very soft in texture and immature, when the smallest cause will induce what we know as "spot." I find wooden cylinders best for Phalænopsis. Pots require to be frequently washed, thereby injuring the roots; baskets must be hung up to the roof, whereas cylinders can be placed in pots on a stage, and are usually made deeper than pots—thus, the plants are brought up to the light; and, again, the roots seem to take more freely to the Teak-wood bars, and cling to them well. During the last week or two a great change has taken place in the weather, less fire-heat having been required, and more air has been admitted, which has benefited the plants. The temperature at night may remain as previously advised for a few weeks longer, but a rise in the day warmth by sun-heat alone will do no harm.

THE FLOWER GARDEN.

By T. H. CRASP, *Gardener, Canford Manor, Wimborne.*

RHODODENDRONS.—These plants may justly be classed amongst the most beautiful and attractive of evergreen flowering-shrubs. The foliage is always attractive, and they flower in the greatest profusion where the plants succeed, and none is more showy when in flower than the beautiful cross-bred varieties raised from Rhododendrons ponticum, Catawbiense, caucasicum, and others. They succeed well under a variety of conditions, if the soil contains no lime or chalk; and, as a rule, a moist situation, with partial shade, suits them best; a position not always attainable, or even necessary, as they grow and flower splendidly in sunny positions. The soil best suited to Rhoddoendrons is one consisting of peat and decayed leaf-mould, but the Pontic varieties do very well in one containing a large amount of fibry, sandy loam, provided lime be absent from it. If the transplanting or making of new beds of these shrubs are contemplated, there should be no loss of time in pushing on with operations in open weather. In order that the plants may do well it is generally necessary to have specially-prepared beds made by taking out the staple soil to the depth of 2 to 2½ feet, replacing it with two-thirds peat, if plentiful, or of leaf-soil, and one-third good fibry sandy loam with a small portion of dried cow manure. In moving the plants to their new positions, care should be taken in having a ball of earth large enough to hold all the roots; and after planting them, the bed should have a thorough watering. All Rhododendrons have small hair-like roots, which are found near and on the surface of the soil; it is, therefore, very important that they should receive protection from direct sunshine and frost. If the amount of foliage does not suffice for these purposes, the beds should be top-dressed with half decayed leaf-mould, or similar substance, which will be found of great benefit in keeping the roots cool and moist in the summer time, and uninjured by frost. Plants moved now, and treated in the manner indicated, will not show the effects of transplanting, but continue to flower and grow as if no disturbance had taken place. The same remarks will apply to Ghent Azaleas, hardy Ericas, Kalmias, Ledums, Menziesias, Andromedas, &c. The work of transplanting and making new beds for these may now be undertaken. Where there are beds of these plants, these could be improved and brightened up greatly throughout the summer, when the plants are out of bloom, by planting Lily bulbs between the plants, such as L. auratum, L. speciosum and its varieties, L. pardalinum, L. candidum, and many others which grow wonderfully well in the soil which suits American plants, the former getting partial shade from the sun in summer, and protection from frost in the winter—a condition of things very essential to the well-doing of most Lilies, and when they are thus managed, they scarcely ever require any further attention for some considerable time. In planting the bulbs, care should be taken in arranging them according to the height that they grow, so that the blooms may be seen at a fair distance away, otherwise the effect of the Lilies when in bloom will be marred to a certain extent.

IXIAS AND BABIANAS, &C.—These beautiful little bulbous plants, the flowers of which are so useful to the gardener who has to furnish large quantities of cut flowers, on account of their lasting so long in water after being cut, may now be planted. The most successful way of growing them outside is to make a raised border of good rich soil, planting the bulbs about 4 inches deep, sprinkling a little sand on them, and after filling in the holes, covering the bed with cocoa-nut fibre or partly-decayed leaf-soil to the same depth, which may be removed towards the end of March. They will also do very well on a well-drained sunny south border. In very warm sheltered positions the bulbs may remain all the year round without loss; but the best and safest method is to lift them late in the autumn and store in sand, planting at the present time. Propagation can be readily effected by seeds, but a much quicker method is by offsets, as the bulbs then flower the second year; but in the case of seeds, it would require three or four years. Plenty of these offsets can be obtained from the parent Ixias, when they have ripened-off in the autumn, and should be treated in the same manner as those. Helleborus niger and its varieties, more popularly known as Christmas Roses, are largely cultivated for the beautiful white flowers the plants produce at mid-winter. They thrive well in ordinary garden soil, but a rich loam, with a rather moist shady situation, suits them best. Propagation is readily effected by division, which should be done at this time of the year, taking care to select the healthiest and strongest clumps for this purpose. Plants that have been forced could also be utilised. All the plants at the end of March should have a top-dressing of rich, rotted manure, which will tend to strengthen them greatly. Where the planting of beds of Ranunculus and Anemones is contemplated, no time should be lost in preparing them by digging-in well-rotted cow-manure and leaf-soil, and planting the corms about 4 inches deep, afterwards giving the beds a good mulching with cocoa-nut fibre refuse.

PLANTS UNDER GLASS.

By BAILEY WADDS, *Gardener, Birdsall Gardens, York.*

BAMBUSAS.—Where these are grown for house or other decoration, they should be divided and re-potted at this season, using clean well-drained pots, good loam, leaf-mould, and plenty of rough sand. A good supply of manure-water when the roots fill the pots will help them to "feather" well. Bamboos are amongst the most useful of decorative plants that we have for halls and corridors.

CYCLAMENS.—Careful attention must be paid to the watering of these plants, always waiting till the plants are dry, then affording a thorough watering; tepid liquid manure may be occasionally used. The best place for Cyclamens is a wooden shelf or trellis near the glass in a greenhouse. Keep them clear of aphis and thrips, dipping or syringing them in or with a solution of Lemon-oil and warm water, as formerly recommended.

TUBEROUS-ROOTED BEGONIAS AND GLOXINIAS.—These may now be potted and started in gentle heat, using as potting compost loam, peat, and leaf-mould in about equal proportions, with a small quantity of rich, decayed manure, and plenty of rough sand. Seeds should be sown of these plants as soon as possible. Begonia Weltoniensis and its varieties, if they have been turned on their sides and kept dry for a time, will require attention. First, the plants may be stood in a moderately light place in a house with a temperature of 55° to 58° at night, affording them water sufficient to wet the ball thoroughly; and when growth recommences, they may be shaken out and re-potted. The best of this class of Begonias is Knowsleyana.

FUCHSIAS.—Re-pot and prune such of the plants as are starting into growth, affording them a place in the Peach-house. Standard Fuchsias are very effective, and they show off their flowers better in that way than any other. These should now be pruned, and almost any Fuchsias with good stems will do for standards; they soon form good heads. Cuttings of Fuchsias may be struck as soon as shoots a few inches long can be found; but the best time to strike them is July or August, the young plants being kept growing throughout the winter, and these, if grown in good rich soil, with a liberal supply of manure occasionally, make good specimen plants the following summer. Fuchsia cuttings at this season strike readily in a moist, warm bed of 70° top-heat and 80° bottom-heat.

STOVE PLANTS.—Anthuriums are among the most useful of plants for stove decoration or exhibition purposes. A. Andreanum produces its spathes during the winter months, and is a very telling plant when grown in 6 or 8-inch pots, being useful also for filling vases, &c. It is a plant easy to cultivate in turfy peat and sphagnum moss in about

equal parts, with plenty of sand mixed with these; and good drainage. When the plants get tall and the stems are bare of foliage, a handful of sphagnum moss tied tightly round under the leaves, and kept moist, will soon induce roots to form, when the top may be cut off and potted, it making a good plant at once; or several can be placed in a large pot or deep pan to make a specimen. A. Richardi and A. Scherzerianum and their varieties are readily increased by divisions. Some of the best of the ornamental foliage section are A. crystallinum, with bright green leaves and white veins; A. Veitchii, and A. Warocqueanum, with large metallic Zulu shield-like leaves, 3 to 4 feet long, 12 to 16 inches broad. These varieties like large pots, good drainage, and a compost consisting of turfy loam, peat, and sand, with a strong moist heat, and a plentiful supply of water, and shade from bright sunshine.

THE KITCHEN GARDEN.

By H. C. Prinsep, *Gardener, Buxted Park, Uckfield.*

TOMATOS.—Seeds should now be sown to produce plants for planting in heated structures. Nothing is gained by sowing thus early by those who have not properly-heated houses to grow the plants in, for unless they are kept near the light to prevent them being drawn, they soon spoil. A dry warm atmosphere suits the Tomato best, and for early fruiting there is no better plan than to train them near the glass. Long strong growth is not needed for the production of a heavy crop of fruit, but such as is short, firm, and solid. On this the fruit sets more readily, the clusters are larger, and the fruit more solid; so that if the plants become drawn in their early stage, they are weakened, and good results are an impossibility.

SEAKALE.—Continue to take up batches of roots for forcing, to meet the demand; and, as they will now start more readily into growth than formerly, the time occupied in forcing will be less. All roots of about the thickness of the little finger should be saved for making sets. If these are cut into lengths of 3 or 4 inches, making the cut at the upper end straight across, and that at the lower diagonally, this will at once show which end is to be planted downwards. For though Seakale will grow from any bits of roots, it grows more readily when planted in the same position as it grew. The new Seakale quarter should be well manured and deeply dug if good crowns are required early in the autumn. Before planting, dress the soil with nitrate of soda, or if this cannot be procured use common salt, and do not plant the sets deeply, only covering them by about an inch to an inch and a half. The sets should be planted in rows 2 feet apart, 9 inches being allowed between each set in the row.

RHUBARB.—Roots planted in warm situations in the open ground will soon be starting into growth, so that if they are covered with pots, and a little fermenting material placed round these, the stalks will be sufficiently advanced in a short time as to be fit for consumption. Those roots which were taken up for forcing indoors, and are become exhausted, should be taken outside and covered with leaf-mould or litter so as to exclude frost and air, and be broken up, each bit with a bud, for planting towards the end of the month.

POTATOS.—A batch may now be planted in cold frames or on warm open borders where they can be protected from frost. These sets should be planted wider apart than those in heated pits. A distance of 18 inches between the rows, and a foot apart in the row, will not be too great for planting out-of-doors. Better results are obtained by allowing them plenty of room, especially if the ground be in good heart. For the Ashleaf kinds the soil cannot be too rich. Earth-up those in warm pits and frames, as they become sufficiently advanced in growth, using a light rich soil which has been raised to the same temperature as the soil of the bed. Take care not to allow cold draughts to come into contact with the foliage, which is very tender and susceptible to injury from that cause.

PARSNIPS.—A sowing may be made on light well-prepared soil, as soon as it gets into a workable condition; but where the land is heavy, it will be better to defer sowing for a short time, as the seed if sown, would most likely perish. Where the land is retentive of moisture, it is better to sow Parsnip seed on slightly raised ridges.

SMALL SEEDS.—If a raised bed, 18 inches to 2 feet thick, be made with fermenting materials, and covered with about 6 inches of light soil, Carrots, Brussels Sprouts, Cauliflowers, Cabbages, Lettuces, Savoys, and Mammoth Broccoli may be sown, which will soon germinate; they should be protected at night and also by day, if it be cold or the wind is boisterous. A sowing of the above may also be made on a warm border.

TURNIPS.—Make a sowing of Extra Early Milan on a warm south border; the seed should be protected from birds, which are very troublesome at this time of the year, especially if thick hedges, plantations, &c., are in the vicinity of the garden.

PEAS.—Second early kinds may now be sown in the open ground. I prefer Duke of Albany, Empress of India, Early Marrow, Windsor Castle, and other Marrowfat Peas, these being of excellent flavour. Sow in drills 7 feet apart or more, and take a dwarf crop of some kind off the land between the rows, such as Turnips, Spinach, Lettuces, or early Cauliflowers. By arranging the ground thus, Celery may be planted between the rows of Peas after the other crops are off, and before all the Peas are gathered. Another crop may be taken from the ground which the Peas occupied, immediately afterwards, but this necessitates judicious manuring to keep the soil in good heart.

STORE ROOM.—If Potatos for seed are not already stood up ready for sprouting, this should be done without further delay. By so doing, much stronger growths are obtained, even with late kinds, which materially increase the crop. See that those intended for consumption have all the eyes removed as soon as seen. Parsnips, Carrots, Beet, Hamburgh Parsley, Salsafy, Scorzonera, &c., in store should be kept free from growth.

FRUITS UNDER GLASS.

By Jas. Whitton, *Gardener, Glamis Castle, Glamis, N.B.*

PEACHES AND NECTARINES.—Attend carefully and regularly to the early-started trees. Those on which the fruits are set and beginning to swell, will require careful and systematic disbudding, and thinning of fruits. The young and inexperienced cultivator frequently delays that operation too long. Thin early and often, is an old but true saying. If he have any doubt as to the proper method, a little practice and careful study of the matter will soon give him confidence. At the first disbudding, remove those growths which are placed at right angles to the plane of the trellis; at the second thinning, half of the buds on upper and lower sides of branch on plane of trellis should be removed, and at the third thinning, nearly all on the lower side of the branches, while at the final operation leave only those necessary to fill space and determined by system of training adopted. Generally on full-grown trees, the leading one to carry on the sap, and the best next on the upper side for next year's fruiting, will be ample, but no hard-and-fast rule can be given; the cultivator must exercise his judgment; but overcrowding of young shoots must be avoided, as on the proper development of the leaves all future success depends. In thinning the crop of firsts, first remove all small and badly-placed fruits. Endeavour to have all possible on the upper surface, where they will get the fullest amount of light, so that highly-coloured fruits may be obtained. Syringe the trees carefully in bright weather, and maintain a pleasant growing atmosphere. Temperature, 55° to 60° at night, and 10° more than this by day, with air. Succession-houses will now be advancing, and while it is a comparatively easy matter after this month to ensure a good set of fruit if the trees are in good order, still, the best may be ruined by carelessness, while those in an indifferent state may be saved by careful treatment, therefore, all trees that are in bloom will demand close attention. High night temperatures are, I consider, unnecessary and injurious, and productive of a variety of insect pests and other evils. A night temperature of 45° to 50° is ample till the fruits set. If the structures are light and airy, as are most modern houses, do not hesitate to give the trees, when in bloom, a light syringing with clean soft water early in the forenoon, and at 2 P.M. in bright weather. In old-fashioned heavily-timbered houses the case is different. Usually in these the atmosphere is more humid, and syringing would be injudicious, especially in the absence of sunshine, and trees in such structures should be kept somewhat drier; and to cause the pollen to fly or spread freely, adopt the usual modes of tapping the branches with the hand, or fertilising the blooms by a large camel-hair pencil, or other light article. Many cases of failure in the setting of stone fruits may be traced to the exhaustion of the trees when in bloom by a dry parched atmosphere, a state of the air which should be carefully avoided by judicious damping down and ventilating. Keep the late houses cool and airy, but not too dry at the roots, and afford the trees an occasional syringing; also damp the borders in dry weather.

FIGS.—Maintain a genial growing atmosphere in the early-house. A minimum of 65° at night will as yet suffice. As the growths come on, stop the shoots at the fifth or sixth leaf by simply squeezing the point in preference to breaking it off. Plants in pots must be carefully watered with water heated to 70°, and on no account allowed to get dry. As the fruits swell, give supplies of weak liquid manure water also warmed. Those houses from which midsummer and autumn supplies are obtained must be cleaned and dressed without delay. Where the crop is desired early in June and again in September, the plants should receive a thorough root watering, and be started with a night temperature of 50° to 55°. Syringe the trees twice a day, and frequently damp the paths, &c. Trees from which one crop annually is taken, usually in unheated houses, may be pruned and put in order, but the house need not be closed for some time yet.

CUCUMBERS.—During the frost, fruit did not set freely, but now that mild weather prevails, if a small amount of fire-heat be used, air may be afforded the house or pits early in the forenoon, by which means the pollen may become dry by midday, and the flowers fertilised before the ventilators are closed. More seed to provide plants for succession may be sown; and plants that are large enough for planting out should not be kept longer in pots than is necessary.

THE HARDY FRUIT GARDEN.

By T. Tubton, *Gardener, Maiden Erlegh, Reading.*

PLUM TREES ON WALLS.—These should immediately be pruned and trained, if this sort of work still remains to be done. Should the promise be for an abundance of bloom, it will be opportune to remove many of the longer spurs to within an inch or so of the stems, when, if the trees are healthy, young wood will show during the summer, much of which can be cut back to a few basal buds, thus forming new fruit spurs. Where crowded, the spurs should be cut away level with the branch. Plum-trees planted but a few years, which have made very strong shoots, should have them shortened back to about 2 feet from the point whence they sprang, selecting a well-placed bud to prune to. The overcrowding of the branches in these young trees should be avoided, no two branches being brought closer together than 6 inches, and wherever shoots were laid in excess of what was required during last summer, some of these should be cut back to two or three buds. All young trees growing strongly after being planted two years, should be lifted and replanted. Defer dressing the trees for the present, for the reasons given in the case of Sweet Cherries. The same kind of insecticide advised for those may also be used for the Plums. In soils deficient in lime, a dressing of mortar-rubble, chalk, or lime, should be afforded, as for the Cherry. As lime by its weight is always sinking deeper into the earth, it is better to afford slight annual dressings rather than heavy ones at long intervals of time, scratching it just under the surface, not digging it into the land deeply; in fact, the draw-hoe would be the proper tool with which to bury it.

ARREARS OF WORK.—Young vigorous Apple or Pear trees may still be root-pruned, and this is advisable rather than allow them remain until the autumn, and consequently have to wait a year longer. Where the trees are on free stocks, i.e., Apples on the Crab and Pears on Pear stocks, take out a sufficiently-wide trench that will enable the men to tunnel underneath the stems, where tap-roots may be expected. The cutting of these roots should be effected with discretion, and by men who have been accustomed to the work. In the case of trees on dwarfing stocks, as Apples on the Paradise and Pears on the Quince, less severe measures will be found sufficient to induce fruitfulness.

PRUNING GRAPE VINES.—The pruning of these should no longer be delayed, or the chances are, that where they are growing in warm soil on the south side of houses or other buildings, a short spell of mild weather may excite the sap, which would cause them to "bleed" when cut. Select suitably-placed eyes to make young rods, which should replace worn-out ones, and on the rods still to be retained, prune back the lateral shoots to one or two eyes.

EDITORIAL NOTICES.

LETTERS FOR PUBLICATION.—*All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

PLANTS, &c., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be carefully packed and numbered, and not more than six should be sent at one time.*

LOCAL NEWS.—*Correspondents will greatly oblige by sending be the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

ILLUSTRATIONS.—*Photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c., are particularly solicited.*

NEWSPAPERS.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Advertisements should be sent to the PUBLISHER.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

WEDNESDAY, FEB. 8—East Anglian Horticultural Club.
SATURDAY FEB. 12—Royal Botanic Society.

SALES.

MONDAY, FEB. 6 { Plants and Bulbs, at Protheroe & Morris' Rooms.
TUESDAY, FEB. 7 { Orchids, Azaleas, Camellias, Begonias, &c., at Protheroe & Morris' Rooms.
WEDNESDAY, FEB. 8 { Begonias, Gladioli, Pæonies, &c., at Protheroe & Morris' Rooms.
THURSDAY, FEB. 9 { Plants from Belgium, Carnations, Hardy Plants, &c., at Protheroe & Morris' Rooms.
FRIDAY, FEB. 10 { Important Sale of Hardy Border Plants and Bulbs, at Protheroe & Morris' Rooms. Orchids, from Messrs. Sander & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—39°.2.

London and the Provinces.

How often have we heard it said that provincial exhibitors have no chance against those in the immediate vicinity of the metropolis at the exhibitions of the Royal Horticultural Society! How often have we heard the Society described as a London Society, and nothing else! and yet we know that its objects are imperial—we may say cosmopolitan, and that the Society numbers among its adherents numerous Fellows in the colonies, especially in Australia, where the Society has found an excellent friend in the energetic Baron VON MUELLER. But reverting to the question of the allotment of Certificates to exhibitors from the home counties, and to those at a wider distance respectively, we may say that we have been lately provided with some statistics which will be read with interest. They show that the larger portion do fall to the share of the dwellers in the home counties; but until distance and time, to say nothing of railway rates, are abrogated, local proximity must, of necessity, continue to be an advantage to those who can avail themselves of it. As a matter of fact, the Royal Horticultural Society and its committees of experts, in estimating its merits, care nothing for the source whence an exhibit is derived. Even if one member did so, what would he be among so many? That mistakes of commission, and especially of omission, do sometimes occur is only to say that the jurors are human.

Here are the figures showing the distribution of the certificates during the year 1892; they tell their own tale:—

TABLE I.—GENERAL DISTRIBUTION.

Africa	1	France	6
America	1	Ireland	3
Belgium	10	Jersey	1
England and Wales	380	Scotland	2

TABLE II.—ENGLISH AND WELSH COUNTY DISTRIBUTION.

Bedfordshire ...	2	Lincolnshire ...	2
Berkshire	21	Middlesex	86
Buckinghamshire ...	10	Monmouth	15
Cambridgeshire ...	1	Norfolk	2
Derbyshire	2	Northamptonshire...	1
Devonshire ...	2	Northumberland ...	8
Dorsetshire ...	1	Nottinghamshire ...	6
Essex	9	Oxfordshire ...	1
Gloucestershire ...	17	Shropshire	1
Hampshire	5	Somersetshire ...	13
Herefordshire ...	1	Surrey	38
Hertfordshire ...	50	Warwickshire ...	1
Kent	49	Wiltshire	4
Lancashire	10	Worcestershire ...	2
Leicestershire ...	2	Yorkshire	7

We trust that these figures will induce our provincial friends to exhibit more freely than they do, in the full assurance that a really good thing is sure of recognition, be its source what it may. Provincial exhibitors, especially provincial gardeners, however, sometimes send up specimens which might perhaps pass muster at Little Peddlington, but which are not up to the London standard and are passed over accordingly. It is unfortunate in some measure, no doubt, but no one could recommend that the standard should be lowered. In our opinion, it should, on the contrary, be impartially maintained as high as it is possible. Country gardeners should take every possible opportunity of ascertaining what that standard is. We are ourselves able to gauge the lack of knowledge on the part of a certain proportion of gardeners by the specimens they sometimes send us of Chrysanthemums or Begonias, or what not, which the senders think very highly of, but which are much below the London standard—representing, indeed, a state of things that, perhaps, existed ten years ago. This arises, we believe, from the circumstance that the senders have not the opportunity they should have of visiting the local shows in their district; for we are well aware that certain things, Fuchsias for one instance, are better done in the provinces than we ever see them in London.

From one point of view the high standard which is evolved by force of circumstances at the Royal Horticultural Society's committees acts prejudicially on the gardener. The employers, and especially the employers' wives, visit the show, and they see and admire the Gloxinias of Messrs. So-and-So, or the Begonias of Messrs. This-and-That. Well they may, but too often it is to be feared they go home and marvel that their gardener is not able to produce flowers, or fruit, or vegetables equal to those on the exhibition table. This, of course, is grievously unfair to the gardener—as a moment's reflection would enable them to perceive. But it is no reason why the standard should be lowered.

Grumblers of an analogous type to that abovementioned are those who maintain that preference is shown at the Gardeners' Benevolent and at the Gardeners' Orphan Fund to applicants residing near London. Of course, the charge is preposterous. Those who make it have only to study the published records for themselves, but this they do not think of doing, and some, we fear, even base their refusal to subscribe their mite upon a fallacy of this kind, without ever giving themselves the trouble to make themselves acquainted with the facts of the case.

Fruit Selling and Growing.

IN some correspondence which has reached us we find, amongst other items of lesser moment, touching fruit, remarks on the smaller market prices obtained for excellent home-grown fruit as compared with American fruit. The writers seem to labour under the mistaken labour-economics of a past generation. To any cognisant, as we are, of what is shown and sold in the open markets of the metropolis, it is no secret that much of the success attending the importations of American Apples is due to colour in the fruit, irrespective of all other qualities which ought to weigh with the consumer, and to good sampling and packing.

Compare these fruits with the much juicier, heavier, and better-flavoured English fruit in baskets alongside in the wholesale shops, and in the eye of the usually uneducated buyer there are many points in favour of the American fruit, which therefore sells at the higher figure, to the neglect of the better home-grown produce. We may mention King of Tomkins County and Baldwin, the two, perhaps, which have the highest colour and are the commonest met with in the markets, although there are others almost as brilliant. Contemporaneously with the growers' efforts in making a better selection of varieties of Apples (and it is chiefly in this fruit that heavy competition is felt in our largest markets), as well as improved methods of culture, and of packing, the girls and boys might be taught whilst at school the names and appearance of our best varieties. It would be so easy to do this, and furnish the real thing to illustrate the lessons during the autumn and winter—there are scarcely a dozen; and at other seasons a few coloured figures would suffice. The children should be taught, too, that it is a patriotic virtue to consume a home-grown Apple, and that mere colour is not always a criterion of good quality even in our own varieties of Apples. Take, for instance, Autumn Calville, Hoary Morning, Marvellous, Lincolnshire Holland Pippin, and others, which are beautiful in appearance, but without good eating qualities. On the other hand, most of our early Apples, amongst culinary varieties, are deficient in bright colour, but it is not in this class of Apples that the foreigner competes to any great extent as yet.

We should like to know at what prices the American grower sells his fruit per barrel, and how much is garnered-in by the middleman — the man who takes some risks, certainly, but who has done nothing whatever in growing, sampling, packing or shipping it—and who buys it at an auction, and places it in his shop, and waits for the ignorant retail fruit dealer, who in his turn supplies the equally badly-informed housewife, servant-maid, and others.

The desired alteration in these things must begin at school, before we shall see British fruit-growing a real success. The County Councils everywhere seem to be doing much to educate the countryman, but they do not get at the town dweller, and he, after all, is a greater consumer of fruit from the foreigner, for is it not put in attractive guise under his nose and in quantity? And here the schoolmaster could become the best ally of the fruit grower if he were to supplement precept by example. There is a certain fallacy preached about the saving of labour brought about by the home grower planting only early varieties, but that is really giving away ourselves for no adequate reward, for what reason should we not grow the late varieties? Are we, forsooth, to leave the

Corridor at Messrs. Sander & Co.'s Nursery, St. Albans.

American an open field for his enterprise after the winter season begins, because by so doing we can do without labour? That is, we can make the poor man's earnings smaller, and they are still small enough, by withholding from him and his, work that he and they can well do — the gathering-in, storing, examining in store, and other jobs connected with the Apple-room during the winter. It is, in our opinion, a mistaken policy to pursue, and one that has opened our gates to the foreigner, has not cheapened fruit to the consumer, but it has led to an increase of the poor's rate and other evils in country parishes. It now looks as if in some parts of the country, notably where small holdings are not rare, as in Cambridgeshire, Lincolnshire, and Notts, the cottagers and the smaller holders would take up the culture of fruit, and it is to be hoped that these persons will be shown by the lecturers of the County Council, the advantages to be derived from growing well the finer, late-keeping Apples, not forgetting those which have an inviting appearance, albeit that is nearly always sacrificed when the fruit is eaten.

RAILWAY RATES.—A copy of the following letter has been communicated to us by the London Agricultural Seed Trade Association, 6, Market Buildings, Mark Lane, London, E.C. To the Right Honourable A. J. MUNDELLA, M.P., President of the Board of Trade. "Sir,—I am instructed by my Directors to call your earnest attention to the recent great advance made by the railway companies in their rates for the carriage of all articles brought from, and carried into, the farms of this country, an advance which cannot fail to have the most injurious effect on an industry, already in a deplorable condition. Railway rates in this country, compared with those ruling abroad, have always been excessive, and have been most detrimental to the interests of producers, handicapping them unfairly in their struggle with foreign competitors. Great hopes were founded on the recent Royal Commission on the subject, it being confidently expected that, not only would the companies be compelled to adopt a more reasonable scale of charges at home, but that the crying grievance of foreign produce being carried at much lower rates than home-grown, would be abolished. Both these expectations have been bitterly disappointed, and the present state of things is much worse than the last. Home rates, speaking roughly, have been raised from 20 to 60 per cent., while through-rates for foreign produce are substantially unaltered. Moreover, in addition to the great rise in carriage rates on home-grown produce, terminal charges have been imposed or incurred, acting practically as an increase of carriage. For instance, loading charges have been put on, and warehouse rent at the termini has, in many cases, been doubled. It will be found, too, in many cases, that the rates, &c., from competing stations are higher than those from which there is only one line; each company excusing itself for charges which it admits to be excessive, on the ground that it is fettered by its agreement with its competitors. So far then from the public benefiting, as they fondly suppose by the existence of rival lines, by allowing the companies to band themselves together to support rates, they actually suffer from the existence of competition! In brief, every device has apparently been resorted to, to extort from the commerce of the country the uttermost farthing, oblivious of the fact that excessive charges, by killing traffic, are as injurious to the railways themselves as harmful to the interests of the nation. As an illustration of the excessive charges which agriculture in this country has to submit to, it may be mentioned that it costs less to bring agricultural seeds from Chicago to London, a distance of about 4000 miles (of which 1000 are by rail and 3000 by steamer, than it does from stations within 150 miles of London. In Europe also, the difference though less is still excessive, the carriage from the North of France to London being less than from the home counties, and from the South of France than from Yorkshire! It appears to this Association, that when the monopoly of transport in a certain district has been handed over to a railway company, it is the duty of Government to see that the Company exercises its powers in a reasonable way, that it carries passengers and goods at charges in fair proportion to the work done, and that short-sighted or ignorant railway boards shall not be suffered to injure their own traffic, and kill the commerce of the country by undue rates. I am instructed, then, by my directors, to express a hope that the Board of Trade will exercise their powers to compel the railway companies to desist from a course, suicidal to their own interests, and disastrous to the country at large, and if the present powers of the Board are found insufficient to bring the companies to reason, application may be made to Parliament to enlarge them.—I have the honour to be your obedient servant (Signed), DAVID ALLESTER, Secretary. Chairman: John Picard. Vice-Chairman: Wm. Neustelet. Directors: Thomas Barker, James S. Easter, Bernard Henderson, Wm. J. Nutting, Nathaniel Sherwood, David Syme, Thomas Thornton, Jun."

—— A meeting of delegates from 128 Chambers of Commerce and other bodies, of traders and agriculturists from all parts of the United Kingdom, in connection with the Mansion House Association on Railway and Canal Traffic, was held on Monday afternoon at the Mansion House, to protest against the action of the railway companies with reference to the recent raising of rates. A large number of Members of Parliament was present. Sir JAMES WHITEHEAD, M.P., moved the first resolution, to the effect, that in the opinion of the meeting, in view of the persistent efforts made by the railway companies for many years to secure additional powers of charge, the large and general increase in rates which they had recently made had shown conclusively that the fixing of actual rates should not be left to their irresponsible discretion. This, he said, expressed a want of confidence in the railway companies. Mr. JAMES LOWTHER, M.P., seconded the resolution, and in so doing pointed out that on this occasion town and country were united in their efforts to obtain justice at the hands of Parliament. He was in favour of appointing a tribunal, or the extension of the powers of some existing tribunal, to protect the trade of the country. If rightly used, he contended that they had in their hands the power to compel the railway companies to accede to their just demands. Mr. CHANNING, M.P., and others supported the resolution, which was unanimously carried. Mr. W. S. CAINE, M.P., the Marquis of HUNTLY, Mr. C. M'LAREN, M.P., and others supported subsequent resolutions, which were also passed in favour of extending the powers of the Board of Trade, and pledging those present to support the Mansion House Association in its efforts.

LONDON COUNTY COUNCIL.—Mr. G. GENSEL, assistant in the Frame Ground, Kensington Gardens and Hyde Park, has been selected from a number of competitors to fill the post of Landscape Draughtsman in the Parks Department of the London County Council.

ROYAL MANCHESTER BOTANICAL AND HORTICULTURAL SOCIETY.—The report of the Council submitted to the annual meeting of proprietors on Monday last, states that in consequence of the arrangements made with the committee of "Old America, Limited," several fixtures set forth in the last annual report had to be abandoned—notably, the annual national horticultural exhibition held for the last twenty-five years at Whitsuntide. The other floral and horticultural exhibitions were held. The promoters of the "Old America" Exhibition sustained a serious loss, and the Council have accepted £1000 less than the amount (£4250) agreed upon. Several items of expenditure connected with the fruit conference held in the autumn of 1891, are included in this year's financial statement, besides which a considerable amount has been expended upon the buildings. It will be seen by referring to the provisional arrangements for the year, that a new departure is recommended in connection with the Whitsuntide exhibition. It is suggested that this exhibition shall consist of two specialties—namely, Orchids and artistic groups. Another feature of considerable importance will be incorporated in the year's proceedings, namely, that of technical education in connection with horticulture. When the details are complete, the public will be made acquainted with them. Special exhibitions of bulbs, Auriculas, Roses, Chrysanthemums, Tulips, Carnations, Picotees, Pinks, &c., will also take place during the year.

Provisional arrangements for 1893:—Spring flower show at the Town Hall, March 14 and 15; sacred concert at the Gardens, on Good Friday; miscellaneous concert at the Gardens, on Easter Monday; spring flower show at the Town Hall, April 25; Whitsuntide Exhibition open at Gardens, May 19; Rose show at the Gardens, July 22; Chrysanthemum and hardy fruit show at the Town Hall, November 21 and 22. In addition to the above, exhibitions of the National Auricula, Tulip, Carnation, and Pink Societies, will be held. The time will, in each case, be duly announced. Technical horticultural education, Friday afternoons or evenings. Musical days, Wednesdays and Saturdays during the months of June, July, and August.

TORQUAY HORTICULTURAL SOCIETY.—The annual meeting of the above Society was held on Saturday, the 21st ult. Captain FANE TUCKER presided. The committee reported an adverse balance of £6 13*s.* 1*d.* They were glad to say, however, that it was less than last year, but this was entirely owing to an anonymous donation of £10. Subscriptions had again fallen off, but the entrance-money taken at the two shows exceeded that of 1891 by £33. There was an increase in the amounts paid for prizes at the two shows, but a less amount was given to the Rose show for prizes. Mr. WYNDHAM FITZHERBERT had consented to allow himself to be nominated as hon. secretary. The spring show was fixed for Thursday, March 23, and the Chrysanthemum show, Wednesday, November 8; and it was decided to give £15 towards the prizes at the Rose show at the Devon Rosery on June 27 and 28.

TRENT VALLEY COTTAGE GARDENING SOCIETY.—The show this year will be held on Bank Holiday, August 7, by the permission of the Earl of LICHFIELD, in Shugborough Park.

MONSTROSITY OF THE FLOWER OF THE CARROT.—In the *Bulletin Mensuel de la Société Linnéenne de Paris*, July 6, 1892, M. HEIM records the existence of a monstrosity in Daucus Carota, in which two leaves spring from the base of the receptacular tube, the leaves representing the carpellary leaves. M. HEIM is under the impression that this monstrosity has not been described in teratological books, even those most recently published. A reference to *Vegetable Teratology*, p. 261, shows that the change in Daucus is specially frequent, the * denoting frequency being prefixed to the name. A long list of references to similar malformations is given in PENZIG's *Pflanzen Teratologie*, and a figure of a similar state of things is figured in the *Transactions of the Linnean Society*, vol. xxiii., p. 490, tab. liv., fig. 4, and in Dr. DAMMER's German edition of Dr. MASTERS' *Teratology*, p. 300, and *Journal of Botany* (1875), p. 79.

THE JARDIN DES PLANTES, PARIS.—From a pamphlet before us, it appears that a disaster was imminent a few weeks since, when with the thermometer each night at —7° C. or —8° C. (= 17° to 19° F.), there were not two "paniers" of coal left, and this in spite of frequent "reclamations" and warnings on the part of the "Professeur de Culture," who on one occasion had to order a supply of coal at his own cost.

It appears, moreover, that the heating apparatus is altogether defective, and requires re-arranging under the direction of a competent hot-water engineer. It is only reasonable that the director of a great botanic garden, and responsible for its due maintenance, should be allowed his discretion and freedom of action untrammelled.

CHISLEHURST GARDENERS' ASSOCIATION.—At a large and overflowing meeting held by this association on the 24th ult., Mr. CANNELL, of Swanley, gave a lecture on the Rose, and many were the points of interest alluded to by such an authority, which called forth hearty applause from those assembled. Although the society is only in its second session, it is already recognised as forming a means by which much useful information has been obtained, and Mr. CANNELL'S visit had been looked forward to with great interest.

CRINUM PEDUNCULATUM.—Baron Sir FERDINAND VON MUELLER sends us the following interesting communication:—"I visited an island ten miles up the river, the centre of which was very swampy; in fact, we camped there for three weeks. This swamp contained hundreds of plants of Crinum pedunculatum, which are just now in full flower, and a more magnificent sight I have never seen. The plants I saw on the Richmond River a few months since are mere infants compared with these. I measured one plant, and as it may be of interest, I give the details, viz.:—Circumference of stem, 2 feet 5 inches; height from root to leaf-tip, 7 feet 11 inches; height from root to flower-head, 8 feet 2 inches; circumference of flower-head, 2 feet 10 inches. The weight of plant when dug up and soil washed from the roots must be 30 lb. to 35 lb. Each plant gives three to five flower-stalks. The flower is a pure white wax, and gives a delicate perfume. To my mind, this is the most beautiful bulbous plant in Australia. I had no means of bringing any of these very large specimens away, but when again in that district (in two or three months) I will send you a few. Some months since I sent a few of these bulbs to England. They carried in first-rate condition, but could not be sold; I suppose, because they are unknown. CH. CRESSWELL, *Sydney*."

ROYAL COLLEGE OF SURGEONS OF ENGLAND—The following is the syllabus of three lectures on the "Action of Fungi on the Human Body," to be delivered in the theatre of the College on Monday, Wednesday, and Friday, February 6, 8, and 10, at 5 o'clock each day, by Professor CHARLES BAGGE PLOWRIGHT, M.D., M.R.C.S.:—

Lecture I.: Monday, February 6.—"Fungi as Food-stuffs."—Introductory remarks; Morphology and biology; Hymenomycetes; Elvellacei; Classical allusions to fungus-eating; Discrimination of edible from poisonous kinds; Methods of preparation and cooking; Chemical composition—cellulose, albuminoids, fats, sugars, mannite, trehalose; the common Mushroom and its varieties.

Lecture II.: Wednesday, February 8.—"Fungi as Poisons."—Agaricus Phalloides and its allies; Botanical characters; Cases of poisoning by; Symptoms; Chemical composition; Kobert's investigations; Phallin; Agaricus muscarius; Cases; Action of Muscarin; "Pilzatropin;" The Lactarii; Helvella esculenta; Helvellic acid; Other species.

Lecture III.: Friday, February 10.—"Edible and Poisonous Fungi."—Brief descriptions, actions, and uses of the more important dietetic, toxic, and therapeutic species, with illustrations.

SALARY OF ESTATE MANAGER.—The necessity for raising the professional standard of gardeners, and others fulfilling responsible positions in connection with horticulture and allied branches of industry, is evidenced by a letter before us, in which the advertiser offers the sum of £65 a year, with house, garden, and haulage of coal. For this sum the fortunate competitor is to manage "a small estate of 1600 acres, superintend everything, gardens, land in hand, farms let, buildings, keepers, woods, planting, &c., pay all wages, keep all accounts, and receive and account for all rents under ten pounds a year. A skilled head gardener is kept, but he, and all my men, would be under the manager." We wonder what the salary of the skilled head gardener is, under such circumstances. Such low rates of wages, though they cannot justify, extenuate the receipt of commissions, tend towards dishonesty, and prevent capable men from attaining the position to which their experience and capabilities entitle them.

TASMANIAN FRUIT EXPORTS.—Growers of fruit in this colony are at present apprehensive about the success of the oncoming Apple crop, owing to unfavourable weather, and the probable value of the fruit when placed on the London market—if it should be ample enough to justify a large shipment. New orchards it is supposed will make up for failures through unfavourable meteorological conditions, and greater care in picking, choice, and packing will this season be looked to, last year's experience on these lines having been costly—not everything will do for the English market, it is found. Should the Australian crops prove short, of which there is some prospect, then a local demand will be experienced, and shipments for England be restricted—but a short time will settle these matters. It would appear that much more attention is being paid to the cultivation of sorts best suited to the English market, and altogether, recent bad fortune would appear to have been looked at in the proper light.

CROTOLARIA JUNCEA.—This plant has for some time been placed on its trial in several parts of Natal, with a view to competing in the English market, but up to the present time results have not been sufficiently favourable to justify carrying on the experiment.

THE TRANSVAAL AND FRUIT IMPORTS.—The reports from the upper districts of Natal are to the effect that large crops of Apples, Pears, Plums, &c., have been gathered, which would have been sent to the Transvaal, but for the prohibitive duty of 15*s.* per 100 lb. load on fruit. This also affects the fruit grown at the Cape; and thus producers in both colonies are severely hit by this heavy and surely injudicious duty.

THE SURVEYORS' INSTITUTE.—The next ordinary general meeting will be held on Monday, February 6, 1893, when the adjourned discussion will be resumed on the papers read at the meeting on January 9.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—It is with great pleasure we make the announcement that Baron SCHRODER has undertaken to preside at the Fifty-fourth Anniversary Festival Dinner at the Hôtel Métropole on June 22 next, in aid of the funds of the Gardeners' Royal Benevolent Institution. We trust that this popular patron of horticulture will be generously aided in his efforts on behalf of this useful Institution.

METROPOLITAN PUBLIC GARDENS ASSOCIATION.—The tenth annual report shows what valuable work has been done during the last ten years by this society. In this period, speaking broadly, eighty-two grounds have been opened under the society's auspices, 116 play-grounds for children thrown open, 2240 trees planted in fifty-one different metropolitan districts, 1000 seats supplied, eighteen fountains erected. Six and a half acres at Bethnal Green have been saved from the builders, and no fewer than 345 acres at Hackney. The income of this valuable society, we regret to see, has fallen off, but the publication and circulation of this report ought surely to secure a large additional body of subscribers.

PRIZE-FIGHTING AND GARDENING!—Gardeners are addicted to contending for prizes, but they are certainly as a class, not given to prize-fighting. There is no accounting for individual aberrations, and so we find the National United Order of Free Gardeners in assembly at Higham Ferrers, passing a resolution on the proposition of the Moss Rose Lodge, that in the case of the death of any member in consequence of a prize-fight, no funeral allowance be paid to his representatives. It appeared that a member of the "Fuchsia Lodge" was killed under such circumstances. The meeting adopted the resolution by a large majority, so that free-gardeners before engaging in prize-fights must remember that their funeral expenses may not be provided for. The "lodges" of this Society take their names after Snowdrops, Roses, Sunflowers, White Lily, Vine-leaf, Shamrock, Thistle, Primrose, Lily of the Valley, Blue Violet, and other flowers. Clearly, prize-fighting is out of place in such meetings, though a little diversion might be acceptable, for the meeting to which we refer lasted, according to the *Oundle Gazette*, for upwards of seven hours. We strongly suspect that the "Free Gardeners" are gardeners in name only.

SHAMROCK.—According to the *Irish Naturalist*, Mr. COLGAN has collected from eleven of the Irish counties thirteen specimens vouched for by the natives as being the true Shamrock. The specimens were duly labelled and cultivated till they flowered, when of the thirteen eight were determined to be Trifolium minus, and the remainder T. repens, What is generally sold in London is T. repens, but we have seen the leaves of Oxalis Acetosella designated as Shamrock.

FASHION IN FLOWERS.—A correspondent of the *Garden* points out that ten years ago forty-seven Pelargoniums were certificated and six Chrysanthemums. In 1892, however, twenty-four Chrysanthemums were certificated at the Royal Horticultural Society, and only seven Pelargoniums. Does not this show that special societies are powerless to avert the changes of fashion?

TECHNICAL EDUCATION.—On the 19th ult. evening, Mr. R. COCK, County Council lecturer on cottage gardening, gave an interesting lecture in the schoolroom at Sandon (Staffs.). Mr. COCK spoke first on bees and bee-keeping, illustrating his remarks with magic-lantern views. He strongly recommended cottagers to try bee-keeping as a profitable business. He afterwards dealt with winter work in the garden, discussing insect-pests among other things, and recommending fruit-growing, which, with care, could be made to pay well.

SEMI-DOUBLE FLOWERS OF REINWARDTIA TETRAGYNA.—Among the many items which render the Show-house at Kew gay at the present time, the two species of Reinwardtia are by no means the least conspicuous. They are better known in gardens as Linum tetragynum and L. trigynum respectively, but differ in some minute technical points from Linum. Their clear yellow circular plate-like flowers, which are produced in profusion, render them desirable inmates of the greenhouse at this season. The method of propagation and cultivation prescribed in NICHOLSON'S *Dictionary*, is to take cuttings from the strongest points of old plants in spring, and place them in the propagating-frame. When rooted, they may be grown on in an intermediate temperate until established in 5 or 6-inch pots. A compact habit should be induced by frequent pinching. In autumn the plants should be exposed as much as possible to sun and air in order to ripen the wood, and promote flowering in the winter. The old plants may be preserved, but it is more satisfactory to grow them from cuttings every year. The species are natives of hilly regions in North-West India, Sikkim, Assam, and Chittagon, southward to the Nilghiri hills. R. tetragyna has larger lanceolate leaves, R. trigyna has broader, more obovate leaves, but the two are probably only forms of one species. Many of the flowers we observed lately had the innermost sepal of a yellow colour, like the petals, thus offering an instance of petalody of the sepals.

SNOWDROPS.—No sooner has the frost gone, than we begin to look out for the Snowdrops.

According to Roberts' *Naturalist's Diary*, the average earliest first appearance is on January 11, the latest average first appearance, on the forty-seventh day of the year, e.g., February 16. In some tables published in the *Gardeners' Chronicle*, April 7, 1888, the earliest flowering of the Snowdrop is given as December 24, 1778, the latest February 10, 1795, a difference of forty-eight days as observed at Stratton, Norfolk, during a period of fifty-five years. At Cobham, Surrey, according to Miss Ormerod's reductions of Miss Molesworth's observations, the mean earliest date, out of twenty annual observations in the same place was, the thirty-third day of the year, i.e., February 2, the earliest, January 10, the latest on the fifty-sixth day of the year, viz., February 25. The earliest date of which we have any record (we omit, of course, the October-flowering variety), is December 22, 1890, at Greenock. In our own garden, in Middlesex, the subsoil of which is cold clay, the dates for the last four years are as follows: —1890, January 9; 1891, February 6; 1892, January 22; 1893, January 30.

Fruit Cultivation in England, and Imported Fruit.—The following interesting statement as to the cultivation of fruit in England was made by Mr. H. R. Williams (the acting Master) at the dinner of the Fruiterers' Company lately:—"The following was the area under small fruit cultivation in England and Wales in each of the following years: —1888, 36,700 acres; 1890, 46,200 acres; 1891, 58,700 acres. Compared with 1888, there is an increase in 1891 of no fewer than 22,000 acres. Of this increase, 1760 acres were added to the small fruit area in Kent, the area for that county for the year 1890 being 10,061 acres, and for 1891, 19,821 acres. From these figures it will be seen that Kent maintains its pre-eminence in fruit-growing. Orchards also show a gradual and not inconsiderable increase in area. In 1881 the returns show 185,000 acres, while in 1891 the total was 210,000 acres, an increase in ten years of 25,000 acres. Market gardens also show a considerable advance in area. In 1881 there were under cultivation 46,604 acres, while in 1891 there were 81,368 acres, an increase in ten years of 34,764 acres. In 1882 the raw fruit imported, exclusive of Oranges and Lemons, amounted to 5,000,861 bushels, while the quantity in 1892 was 7,387,670 bushels. The Oranges and Lemons imported in 1890 represented a quantity of 5,746,135 bushels of the value of £1,756,852, while in 1892 the imports came to 6,763,276 bushels, of the value of £2,052,561. *City Press.*

Beckenham Horticultural Society.—The annual meeting of this society was held on Friday, January 27, at the Public Hall, the Rev. Chas. Green, in the absence of the president, in the chair. Although only started in April last, the society has made great progress. From the report it is seen summer and autumn shows were held, and during the autumn a course of lectures has been given by Professor Cheshire. The total income for the nine months was £271, and although encountering bad weather for the autumn show, there is a substantial balance in hand. There are 200 members, and 300 subscribers. The society promises to become very important. The members of the above paid a tribute of respect to the memory of Mr. Alfred Thornton, who was buried at Beckenham on Saturday last, by sending a magnificent wreath of Orchids, &c. The deceased gentleman took an active part in the secretarial duties of the society, and among the mourners, Mr. Cooper, the chairman of the committee, attended, as representing the society.

Foreign Fruit.—Sir William Hart Dyke has given notice that he intends to introduce a bill into the House of Commons for the better regulation of the sale of foreign and colonial fruits.

Brixton, Streatham, and Clapham Horticultural Society.—At the annual general meeting of this Society, held recently, the date of the autumn show was fixed for November 8 and 9. The show will be held at the Town Hall, Streatham, and on the suggestion of the Honorary Secretary, Mr. W. Roupell, it was resolved to affiliate the Society with the Royal Horticultural Society.

Publications Received.—*Les Orchidées de Semis*, par Ernest Bergman.—*Bulletino d. Soc. Roy. Toscana di Orticultura.*—*Le Moniteur d'Horticulture.* —*Gardening.*—*Illustration Horticole.*—*Massachusetts.* —*Horticult. Soc.*—*Notes on British Guiana*, by Mr. E. im Thurn.—*Journal of Royal Horticultural Society.*— *Annales Agronomiques.*—*Pharmaceutical Journal.*— *L'Italia Agricola.* — *Illustrierte Wiener. Garten Zeitung.*—*Les Plantes de Grande Culture Vilmorin et Cie.*

Nursery Notes.

MESSRS. SANDER & CO., ST. ALBANS.

[*See Supplementary Illustration.*]

Our supplement represents a corridor at the entrance to the various parts of these extensive and admirably-constructed premises. Its position is such that the visitor passes into it from the entrance hall. The aim has evidently been to represent a rockery or dell, cut out of the solid rock, and in this the builder has been successful to a large degree.

The pockets are made as natural as the circumstances would allow, and the efforts to produce an effect similar to that wrought by the ravages of weather and time upon stone, show judgment and skill of the first order, particularly that immediately opposite the entrance. The house is kept at an intermediate temperature, and it is therefore an easy matter for Messrs. Sander to furnish it with suitable plants; whilst the Orchids, which are planted in the various pockets, lend an uncommon appearance to a structure of this description. In many places the stone is almost hidden beneath the fronds of the different Ferns, the leaves of Begonias, Aspidistras, Cyperus, Echeverias, Pitcairnias, &c., but in others again the leafage is not so dense, and here many Orchids are planted, which thrive admirably, and cling to the rock with wonderful pertinacity, particularly Angræcum Sanderianum, whose roots were wandering over and about the stone in every direction. Some of the Cymbidiums are here in clumps, especially C. Lowii, which is quite happy in the pockets, and from which there are many spikes of bloom now ascending. Although only part of the corridor is represented in the figure, another, and more narrow, wing proceeds along from the left of the centre, and leads into the large house into which all the other houses on this side open, and which includes the new plant department. The rockery in this corridor, to the left, is formed on a comparatively straight wall, and the conditions have not been such as to permit of the same thoroughness that we see in that on the other side. The pockets are small, and for the most part filled with Cypripediums in variety, which, when in bloom, would no doubt be attractive; for we noticed that C. caudatum had been planted near the top, so that its long petals are able to hang down and show themselves in a natural manner. At the extreme end, in the other direction, is placed a mammoth tub of Sobralia macrantha var. nana; and here the door opens into a very long corridor, into which all the opens into a very long corridor, into which all the remaining houses open, and which also leads to the extensive buildings in which is produced the *Reichenbachia.* Hence, when the visitor has once made his *entrée* to the establishment, the whole of the houses are open to his inspection, without any further acquaintance with the outer air.

But the photograph from which our supplement is taken does not represent the corridor in its normal appearance, nor as it is described in the foregoing remarks, inasmuch as it was taken but a few days before one of the large exhibitions of last year, at which Messrs. Sander were successful in obtaining many certificates and other awards for rare and valuable plants. These specialties had been brought from their usual places, and were grouped together in this house as a kind of preparation, which should the better enable them to withstand the dangers inseparable from travelling to and from London. The only stage upon which these are collected can easily be seen in the photograph, and is arranged over a kind of basin, containing water which has trickled from the highest point of the artificial rock. These new plants, as we have before remarked, are not in this place except on such occasions, and now the stage and everything connected therewith is removed. At the present time they are in their several quarters, and as most of them were noticed and described in our issue for June 4, 1892, when reporting the International Show at Earl's Court, we may be excused from again describing them at this time. In addition to these, however, we noticed a new Kentia, called K. Bohnhofiana, which appears quite distinct from the rest of the species, the leaflets of which are nearly erect instead of drooping, and which may prove a very useful plant. The only known plant of the new Selaginella Moorei is looking well, and there are several other new species of plants here of which it would be premature to speak at present except in the most general terms. All the Orchids are looking in their usual healthy condition, and we think that this is attributable in no small measure to the size and character of the houses, which present so striking a contrast to the inconveniently little places so many growers have at command. It is seldom that the houses are entirely closed, for Mr. Godseff is a veritable enthusiast in his belief in abundance of fresh air. There are many hybrids of most species of Orchids near upon blooming, and, indeed, a good number are carrying flowers at this date.

From a cross between Dendrobium Wardianum and D. Dominianum× (the latter being the seed-bearing parent) we noticed several very pretty forms, in which both the parents are distinctly traceable. D. Wardianum in the flower, and D. Dominianum× in the less deciduous character of the hybrids. They will be known as D. Owenianum×. One of these flowers is finely marked on the lip with deep maroon, and fringed with pale lemon; a pretty hybrid. A hybrid Phaius, from P. tuberculosus, and P. grandifolius, is in spike, and if sufficiently forward will be shown at the next meeting of the Royal Horticultural Society. The new Cypripedium exul×, figured in our issue for April 23rd, 1892, is in bloom, and some fine spikes of the beautiful Lælia anceps Stella, also the little-seen L. Lindleyana. Huge batches of healthy plants of Cattleya Trianæ, C. Schroderiana, and C. Percivaliana, are throwing up innumerable sheaths, but some plants of Oncidium ampliatum majus surpassed all for their wonderfully strong spikes, which were as thick as the finest Asparagus. A new little Cattleya—a cross between C. dolosa and C. Trianæ Dayana, has produced a violet bloom with intensely coloured lip. This is the first bloom, and there are stronger plants yet to disclose their worth, it will therefore be wise to wait a little longer before passing judgment upon this, as upon many others here. Odontoglossums are in bloom in good variety, and close to these are some flowers of Lycaste Skinneri alba, and two pretty hybrid Masdevallias. Planted at the end of one of the houses is a monster specimen of Grammatophyllum Sanderianum, which was imported during the autumn of last year, and possesses many pseudobulbs, 7 or 8 feet high, and 3 inches in diameter. Really, a very curious object it makes, and it is said that it may find its way to Chicago during the present year. A fine importation of Lælia purpurata has arrived in splendid condition, and also small consignments of other species. The Cœlogynes, Cypripediums, &c., are looking first-rate, whilst, as we were leaving, we noticed some good pieces of Cattleya citrina, not in flower, of course, but in perfect health. The above does not enumerate by any means all the objects of interest at St. Albans, but our object was not a general review, and we must refrain from writing further.

FLORISTS' FLOWERS.

CHRYSANTHEMUMS.

If all has gone well with the cuttings of the above, the first batch will be rooted, and occupying a shelf close to the glass in the greenhouse, where they will be gaining strength and laying the foundation of good blooms in the future. Sufficient space should be allowed them, that the leaves of one potful do not touch those next to it. Water should be afforded when the soil approaches dryness. It is not prudent at this season to afford the plants, in a cool house, water at a low temperature, neither should very much water be supplied them. Many examples of paleness in the foliage may be traced to one of these two causes, as anyone may test for himself, by allowing a sickly-coloured plant to remain on the dry side for a fortnight or thereabouts, when a change will take place in the green tints. Tepid water then is best for the plants at this early part of their growth, as cold water checks rooting and gives the pale colour to the foliage. When the cutting-pots are filled by the roots, the cuttings are fit for their first shift into larger ones; for should the roots become matted together before repotting, future growth will be stunted, and the lower leaves will fall prematurely and when least expected, as it is not directly after root-action is checked that the leaves show signs of it.

It is necessary to determine at this time the size of pots the plants are to flower in, because upon this will depend the size of pots employed for the intermediate shifts.

For the bulk of the varieties, a 9-inch pot is sufficiently large, and the first shift should be into pots of 3½ inches in diameter, and the next one into pots of 5½ inches, and from those into 9-inch pots. If growers desire to use larger pots, say, of 10 inches in diameter, 4½-inch pots should be used at the first shift, 6½-inch at the next, and, finally, 10-inch pots. Where pots 10½ and 11 inches are in stock, I prefer placing two plants in each in preference to using them for single plants, and using the weaker-growing varieties. By this means a great saving of space is effected, as nearly twice the number of plants may be grown in the same space. To prepare the plants for these pots, at the first shift they should go into the 3½-inch size, and then into the 5½-inch size, which allows them to be of the right size to occupy the 11-inch at the final shift. As the "cast" sizes vary at different potteries, I think it better to give the size in inches, always taking inside measurement. At the first potting, the soil should be well prepared, much depending upon the progress made at this stage. Some cultivators are apt to think because the pots are small, any kind of compost will serve. I once made the same mistake with a batch of plants; for not having fresh soil at command, and not thinking it necessary to wait a few days, I utilised the soil from the pots in which the plants grew the year previously. As this was fibrous, and had received much manure, I concluded it would answer the purpose if I added to it some fresh leaf-mould. But the plants grew very little, and what growth there was only puny, and although the plants were shaken out of the stuff and put into fresh soil, they never thickened at the base as they should have done, and remained nearly as they were the whole year—a failure. The soil for this first potting should, then, consist of two parts fibry loam, one part leaf-soil, and one part spent Mushroom-bed dung, and plenty of sharp silver-sand. If the loam is inclined to be heavy, add crushed charcoal or wood-ashes freely.

For greater convenience in potting, pass the compost through a coarse sieve, rubbing the fibrous parts through it. The pots must be quite clean, and carefully drained, and over the crocks place some of the rougher parts of the soil. Pot firmly. If the soil is moist when used, as it should be, no water will be required for a day or two, after which time they must not be allowed to suffer by want of it; neither must they have too much. Return them to the greenhouse shelf till the roots run through the soil to the sides of the pots.

For a few days after potting, rather less air should be afforded the plants, but when once new roots begin to form, they should have abundance of air. Soon afterwards place a neat stake to each, and transfer them to a cold frame or pit; standing them upon a thick bed of coal-ashes near to the glass. Keep the lights rather close for a day or two, avoiding draughts by tilting the light a little on the opposite side to that from which the wind blows, after which admit abundance of air according to the state of the weather. A convenient spot should be selected for the frame, where it will be sheltered from the east wind, and receive the full day's sun. On some very fine days take the lights off for a time, as by this means the plants are kept "stocky." When the plants are growing freely, they will require abundance of water at the roots, but if too much should be afforded them, being in a low temperature, they will soon suffer in consequence. Green-fly is often troublesome to the points of the shoots, and if neglected, the tender leaves quickly curl up, and thus growth is badly checked. A dusting of the infested points with tobacco-powder will soon put an end to these troublesome insects, applying the powder at night, syringing the plants the next day to cleanse them from both powder and fly.

CHRYSANTHEMUMS ON WALLS.

I do not think nearly enough pains are taken to make use of the means at hand to produce a show of blooms during the month of November, in addition to the regular display in the greenhouse. Very few people seem to realise what a quantity of blooms can be had from plants growing at the base of a south wall, or even from an east wall, with no protection beyond that afforded by the wall itself. By following out a few simple cultural instructions, much of that which would otherwise be bare walls may be rendered gay with blossoms throughout November and part of December. The main point is to grow suitable varieties. Last November, we had a capital display from plants against a south wall, which is 7 feet high. It was, indeed, pleasant to turn from the giants inside, and which were then on the wane, to the smaller but brighter-coloured blooms on the wall.

Where means do not admit of a batch of plants to be grown for late-flowering inside, the wall plants will give flowers in profusion after the ordinary varieties are cut down. If there could be a wide coping temporarily fixed to the wall, and to this some light form of shading arranged, so that the plants could be protected in the case of hard frost, bloom might be prolonged for a much longer period. The reflexed sorts are best adapted for walls, the water not lodging readily amongst the florets. Next in order of merit come the reflexed Japanese varieties and the Pompons, the latter making a good show. Single varieties are also suitable, as these bloom freely, and last in good condition for a long time.

The varieties which were in flower at the time mentioned were golden and pink Christine, Mrs. Forsyth, Progne, and Mrs. Horril of the reflexed section. Of the latter nothing but praise can be said. Strange to say, it is a reflexed sport from George Glenny, the parent being an incurved, which is a rather unusual freak. One plant of Mrs. Horril was 7 feet high, and covers a wall space of 6 feet across, and the flowers being borne on long spikes, it is a striking object, and it is one of the best for a wall. Of Pompons, Sœur Mélanie is very good, the growth free, and bloom abundant. Golden Circle bears a profusion of yellow blooms. President, a purple flower, is one of the most showy in this section. Golden and Madame Martha, the latter white, are both worthy of a place; so are Nelly Rainford, amber; Cendrillon, rose-lilac; Mrs. Bateman, orange-brown; Pygmalion, deep rose; Prince Victor, dark maroon; and Snowdrop, white, are the chief Pompons. Of Pompon Anemones, Dick Turpin, magenta-crimson with yellow disc, is showy; also Antonius, yellow. The Japanese section was represented by Sunflower, very fre covering a space 6 feet high by 5 feet; Etoil de Lyon is a capital variety for outdoor cul ture; L. Canning, white, is very late; Maiden Blush is most proliferous; Annie Cibran gives pale shade of pink. Val d'Andorre is really mor profuse here than when growing under glass, an M. Bernard is certainly richer in colour; both thes deserve to be planted out largely. Sarah Owen, bronze yellow; Mme. J. M. Pigney, white. E. Molyneu provides bright colour; this is really first-rate fo the purpose of producing flowers in abundance individually, the blooms are inclined to be single And lastly, Lady Selborne, which is excelled b none; the flowers are produced in clusters of th purest white. Sœur Dorothée Souillé is very pro ductive of flowers, and when allowed all freedom t bloom, the blooms, if small, show well the silver tint, which affords variety.

A very few remarks of a cultural characte will suffice. The best plants are those which hav flowered in pots, on account of the numerous shoot that spring from the base of each; these seem bette to cover the lower part of the wall than youn plants. Remove the bulk of the soil from the roots If the staple is poor, add some fresh loam or manur at planting time. Afford the roots copious supplie of water in dry summer weather, and syringe th plants on fine evenings, which will check mildew and keep them clean. A mulching of horse dung about the roots would be of use, and rende watering less frequent. One of the principa points to observe is, that crowding of the shoot should not be allowed; therefore, cut away at th base the weak shoots, and those that cannot well b laid in. *E. Molyneux.*

ROUND MANCHESTER.

(*Continued from p. 99.*)

The Royal Botanical Gardens.—A visit t the bright and pleasant gardens at Old Trafford found its clever Curator, Mr. Bruce Findlay steadily directing operations with a view to effacin the traces of the "Old America" Exhibition, an the uncongenial class of visitors such a show must bring in its train. It must have been a sa experience to witness the daily more visible trace of that modern dissipation—a popular exhibition, o the grounds so recently and so beautifully remodelled but it having been got over, the few thousands whic accrue to the treasury, will be useful in preparin other exhibitions and doing other work more i keeping with the dignity of a Royal Botanics Gardens, and in arranging which Mr. Findlay is on of the most successful men of the day.

If the gardens had suffered much from the visitor the collections under glass had been so carefull guarded that but little mischief had been done, an we found all the houses gay with flowers.

The Grand Avenue, as the main exhibition build ing is called, is being re-arranged for the monste Orchid show on Fridsy, May 19, when the groups i competition will be arranged in it, while the variou other classes specified in the schedule will be stage in the large exhibition hall beside the main building and on the higher level. Mr. Findlay means to d his best to have the finest Orchid show ever seen and if growers respond in large numbers, as h anticipates they will do, a grand exhibition will result

A walk through the houses disclosed some prett groups of winter flowers arranged with foliage plants In one of the Orchid-houses a very effective settin of Cypripedium insigne, with Calanthes, Ferns, an coloured foliages was observed; in another in th centre a very finely-flowered specimen of Cypripe dium Haynaldianum, and around it bright-coloure specimens of Cattleya labiata, Cœlogynes, the blue flowered Tillandsia Lindeni, and a few Anthuriu Scherzerianum.

In the large Palm-house, it was remarked tha the fine Palms were in excellent health, and a nobl

specimen of Seaforthia elegans was in flower. The specimens of Araucaria excelsa in this structure have grown to be very large, being about 50 feet in height. Many interesting and beautiful aquatic plants, too, are here; and in a neighbouring large house some noble Palms, Cycads, fine specimens of interesting economic and officinal plants, and in the centre a noble plant of Medinilla magnifica, which annually bears close on one hundred and fifty of its large showy drooping racemes of rosy-crimson flowers—an almost matchless example of a specimen stove-flowering plant, beside which those we usually see at flower exhibitions are but pigmies.

In the greenhouses many pretty Ericas, Epacris, and other things of the class usually denominated New Holland plants, were in bloom; and the Succulent-house was well filled with curiosities, some or other of which are constantly opening their flowers. The Fern Rockery by Clapham is a fine piece of work, and its artistic planting under Mr. Findlay's direction has been excellent. One house was tastefully filled with flowers and foliage plants, the former consisting of Richardia æthiopica, Roman Hyacinths, Bouvardias, and Primula sinensis.

In passing through other of the houses, among many old things we observed two special favourites of bygone times showing forth with undiminished beauty, which found no rival in plants of the same class of more recent introduction. These were Witsenia corymbosa, a pretty Irid, more properly speaking an Aristea, and also known as Nivenia, a very old inhabitant of our greenhouses. Its branched woody stems bearing erect, linear, grassy leaves, and producing profusely its fine bunches of true-blue flowers, constitute it a very beautiful plant, and it has the merit of lasting long in flower, and being an ornamental plant when not in bloom. Reinwardtia trigynum is the other old-fashioned plant noted as being fine, especially when grown well and in quantity, as it is at the Royal Manchester Botanical Gardens. It is now nearly a century since it was introduced to British gardens, and for a showy, easily-grown, rich yellow winter flower there is still nothing to compare with it. Many hundreds of the bright yellow salver-shaped flowers were on the plants alluded to, and they made a charming effect, arranged with some of the showier of the scarlet Hippeastrums and other flowers.

Under glass, we never saw the plants here showing evidence of better care, and we are pleased to say that we found the energetic Curator in excellent health, and making light of the heavy task of remodelling and furbishing up the garden.

HOME CORRESPONDENCE.

DESTRUCTION CAUSED BY HAWFINCHES.—Few people know the Hawfinch, which is a very bold-looking bird when in full plumage, and about the size of a full-grown lark. They have a very massive and hard beak, which gives them the appearance of having a rather large head; being also furnished with a ravenous appetite, they are continually on the feed, therefore the damage that they do in a garden is surprising, especially to Peas. I have seen them attack a row 60 feet long, and in two hours they had spoilt all the best pods. The early varieties suffer mostly; they bring their young up on them, and as soon as the latter can fly, they are taken to the Peas, where the old birds will take a pod in their beak crosswise and crush it, letting the seeds fall on the ground, where are the young ready to pick them up; the bitten pods turn white. Hawfinches are easily frightened, and being quick in their movements, they are not noticed unless you are on the look-out for them in the garden. They also attack in the autumn the young shoots of Cryptomeria japonica by pecking their tips entirely off when about 2 inches long. At first I wondered why they did this, until I found out that they eat or nibble the end of the piece from mischief. My attention was drawn to this by their attacking a large pillar of Ivy, which I noticed dropped its leaves in a green state, and left the shoots quite naked, which began to die. I examined these shoots, and then found that these birds had bitten the tips off the shoots, also pieces of the rind for about 18 inches down the shoot. I could not find out the cause of the shoots dying, till one morning I saw a hawfinch fly from the Ivy, then I came to the conclusion that these birds were the misdoers, and the greater part of the Ivy plant was killed by them. They also will feed on the cones of Cupressus Lawsoniana when ripe, on the keys of the Hornbeam, and on Portugal Laurel berries. The buds of the Beech are attacked just as they are expanding, the heart being taken, leaving the two leaves which are about a quarter expanded. Beech Nuts and Mountain Ash berries are not beneath their notice. Just now the birds are feeding on the Broom seed (Sarothamnus scoparius). To show the hardness and strength of their beaks, they will crack the old seeds of the Laburnum as quickly as a linnet can canary seed. Both sexes are nearly alike in plumage, except that the hen bird has not so black a mark on the head, and the cock bird has a black throat which terminates in a point half way down the breast, the breast being of a light brown colour, changing to white as it reaches the tail. The fore part of the head is black, giving the beak, which inclines to be grey, a nice appearance. The back part of the head is of a rich dark brown, turning to a slate colour at the neck, a beautiful dark brown taking the place on the back, and getting lighter near the tail, the tail being white and brown. The shoulders are dark brown, the wing feathers white, black, and brown, four or five in the centre of the wing being of a blue tint, and curled at the ends, giving the bird a pretty appearance. *M. E. Mills, Coombe House, near Croydon.*

CONFERENCE TOMATO.—It appears difficult to suggest a variety of the Tomato so well adapted for indoor culture for market purposes as this—one of Mr. A. F. Barron's productions at Chiswick. I had last autumn several plants of it in pots in a low span-roofed house which has a raised bed on either side, and a walk down the middle. The pots were plunged in the bed to their rims, the stems carried up from 3 to 4 feet, until they reached the roof, and the stems were slightly bent and trained horizontally along the roof. The plants continued to fruit freely till late in the year, and in the space of 2 feet run three and four huge bunches could be found. The variety is of the Perfection type, very handsome, of good useful size, without being unduly large, produced in bunches of from nine to fourteen, which, in the majority of cases, come a good and equal size—not a few very large, and the rest quite small. It is its good habit, its remarkable freedom, the good average size of the fruits, and the way in which they travel, that constitute its claim to be regarded as a desirable market variety. The colour is all that can be desired, and the firm skin, added to excellent flavour, are other good points in this fine Tomato. It has been suggested, and with much force, that when Tomatos are exhibited, it should not be, as is customary, in the form of a dish of nine or twelve fine fruits of equal size, which may, perhaps, be gathered from several plants, but in bunches, which would be the means of setting up two good tests—namely, prolificacy, which is absolutely essential in the case of a good market Tomato, and the average size of the fruit on a bunch. The experience of the last five years has been against the cultivation of Tomatos as open plantations in gardens and fields. In Jubilee year—the summer being warm, bright, and dry—Tomatos did excellently in the open, and large crops were gathered, the plants standing well, owing to the general fineness of the autumn, until quite late in the season; since then I have seen them go down before the disease or early autumn frosts, until the Tomato-grower in the open has begun to despair. I think if much in the way of successful Tomato culture is to be done in the open air, the plants must be given walls and fences having a south and south-west aspect. Under such favourable circumstances, I think remunerative crops could be grown, provided the plants were well cultivated. Good culture and close attention are essential to success; without them, comparative failure would be pretty certain to follow. *R. D.*

FLOWERS UNDER DECIDUOUS TREES.—The question is sometimes asked, what sort of plants will grow satisfactorily under trees. I wish to relate my own experience in this matter, and describe how we have made a beauty spot under two very old Ash trees situated in the pleasure grounds near a main walk on slightly rising ground, and facing south. The first to flower is the pretty Winter Aconite, Eranthis hyemalis, always one of the earliest and hardiest flowers of the year, having opened its blooms on January 4 this year. It looks well planted in masses, and increases by seeds from year to year. We have not to wait for a succession, the welcome Snowdrop being already in bud. I am under the impression that if the bulbs of the latter be allowed to remain undisturbed for a few years there is a longer succession of bloom, and the masses look better than when annually planted singly. I have them in small clumps of thirty to forty bulbs. Of course, division is necessary sometime [No. Ed.], but it is the wisest plan to do it cautiously. The next to flower is Scilla sibirica, and these bulbs, if planted in groups of a dozen, afford a nice variety of colour, and they do well in the grass under trees, because it is shorter there. Anemone apennina enjoys the shade of trees, and I afford it a position midway between the two trees, and I may remark that I was able to gather fresh flowers from this particular patch at a time when those in the open borders were past their best. The brightest gem of them all is a lot of Cyclamen hederæfolium and C. ibericum, the former flowering in August and September, the latter in March and April. The plants appear to like a dry soil, for they are planted within one yard of the trees, and some Ivy roots do them no harm. The other bulbs which succeed in this spot are, Crocus vernus in variety, and Narcissus poeticus. Doubtless, there are many more which, if tried, would prove of use under trees, helping to clothe what would be otherwise bare land or starved-looking turf. Under other trees we have Hypericum calycinum, Vinca minor, Primroses, and Colchicum autumnale. On purpose to assist these various plants, a heavy mulching of rotted manure, mixed with mould, is afforded each year. *H. May, Markree Gardens, Collooney, Ireland.*

MANAGEMENT OF GOLD-FISH.—So many persons try their hands in keeping gold-fish in small indoor aquaria, and fail, that the following information from a recent issue of *Land and Water* may prove interesting and instructive. It was written on behalf of a person who had reported several failures to maintain his fish in good health. The writer, Mr. T. R. Sachs, states he has kept gold and other fish for years in a small aquarium in a conservatory with a north aspect. "The dimensions of the aquarium is 3 feet by 2 feet, and 2 feet in depth. It is supplied by a cistern from above, and enters the aquarium from below, the overflow or waste-pipe being on the surface of the water. I can then, by turning on a tap, have a constant flow of water. I have tried several methods of feeding the fish, and the best way to do so is to tie about 2 inches of raw fresh meat to a string, on which is a piece of lead to sink it half-way, the upper part tied on to a stick which lies across the top of the aquarium." In the aquarium are gold-fish, some roach caught in the Serpentine, and minnows, the last being such lively and frolicsome fellows. Mr. Sachs lays great stress upon the importance of proper feeding. "All farinaceous foods foul the water, over-swell the fish, and cause their death. The fish peck at the meat all day long, and it certainly amuses and fattens them. I have no weeds, as their growth adheres to the glass." There is no doubt that want of constant change in the water, and improper feeding, are the two main causes of want of success with gold-fish. *D.*

GREENHOUSE HEATING.—Doubtless there will be complaints during the last year of the amount of gas bills where coal-gas is used for heating purposes, either in gas stoves, or as a means of heating water for greenhouses. The weather during the year 1892 was very exceptional in character, as in this district we expect on an average of years about forty nights and twenty days when the temperature will be below the freezing-point, and artificial warmth becomes necessary to prevent plants in a cold greenhouse from damage. Instead of this number of occasions when heat was required, there were eighty-seven nights and fifty days when the thermometer descended below 32° Fahr., and twenty nights on which the temperature ranged from 20° to 11°. The duration of the frost and the continued low temperature meant a high consumption of heating materials in plant-houses, amounting to nearly treble that of the average. *Thos. Fletcher, Warrington.*

MEETING OF NURSERYMEN, ETC.—In the second or third week in September a series of nursery sales is held in and near London. These sales attract many provincial nurserymen to London. Could not some arrangements be made for a social gathering, which would afford the opportunity to many in the trade of meeting

together, and possibly of discussing matters of interest to the trade? Possibly an evening meeting might be desirable, or a dinner—the Englishman's delight. Or the Royal Horticultural Society might fit in one of its minor meetings, or the Nursery and Seed Trade (?) Association, [or the Horticultural Club] might initiate some plan which would bring the trade together. *W. B. S., Torquay.*

MARÉCHAL NIEL ROSE.—In "Wild Rose's" article on Roses in the *Gardeners' Chronicle* of January 28, the origin of Maréchal Niel Rose is stated to be unknown. It is a pity it cannot be cleared up, and I have often wondered if the old yellow Noisette, or the old yellow China, two Roses popular thirty to forty years since, had anything to do with the parentage of the Marshal. Both were very lovely yellows, but I think it was the yellow Noisette which had a great tendency to form a hard green centre at times. Both were lovely flowers when in fine character, and may have been probable parents. In speaking of Noisettes, "Wild Rose" does not mention Noisette Lamarque, a Rose which had a great popularity in the past, and I occasionally meet with it in conservatories, but not often nowadays; but in the half-developed state it is still a beautiful white Rose for florists' work, but it is now one of our neglected Roses. There used also to be another favourite white Noisette, La Riche, a fine variety for pillars and walls. With regard to Gloire de Dijon, of which the parentage is unknown, beyond it being a chance seedling in M. Jacotot's garden at Dijon, it is not impossible that the old Noisette Jaune Desprez may have had something to do with it, as a similarity in one or two respects exists. It was a very free bloomer, and formed seed-pods when we grew it in the South of England as far back as 1840, and it was then highly prized as a yellow-tinted Rose, and hardy, and a free grower. Another fine old Noisette, Aimée Vibert, which must be almost as old a variety, is still cultivated, and is a wonderful bloomer. It is to be met with frequently as standards, with large clusters of pretty white flowers and dark shining green foliage. I shall also be glad to have this opportunity of saying that at the next exhibition of the Shropshire Horticultural Society at Shrewsbury next August, liberal prizes are offered for a collection of Rose blooms, any kinds, to occupy a certain space, and it is to be hoped that some of our old-fashioned Roses may be seen in these collections, although the time fixed is late for the southern growers. At two exhibitions last year in July, in the Midlands, where large prizes were offered for Roses, collections of old-fashioned Roses were staged by Messrs. Cooling & Son, of Bath, and were much admired by many, ladies especially. It was a treat to the older horticulturists to see so many old favourites brought into notice again, and ample opportunities will shortly be given for much larger displays. *W. D.*

ALLAMANDA WILLIAMSII.—This is a very distinct variety, of a free-blooming habit; and where a great quantity of cut bloom is required most of the year, it is a great advantage to the gardener who is thus situated, that it will carry a good lot of bloom on quite a small plant, which is no small matter to the house decorator, as nice plants may be obtained in a 4½-inch pot. *W. Finch, Coventry.*

PRESERVED FRUIT.—It is difficult to avoid feeling some sympathy with the fruit preservers and bottlers, who seem very anxious to have a "look in" at the Agricultural Hall, when the Royal Horticultural Society conducts its first experiment of holding a great exhibition in the northern side of the metropolis in August next. Fruit preserving is now recognised as a very important horticultural industry. Tne manufacturers take in enormous quantities, not the surplus, but of the best average of our home-grown fruit, and thus give encouragement to hardy fruit culture, that but for these preservers would be altogether lacking. Practically, they save fruit-culture from becoming a ruinous enterprise, as in abundant seasons it might well be because they draw off from the markets such immense quantities of fruit, that it is found possible for growers to secure fair prices under adverse conditions. It is an error to assume that the preservers are content to take the surplus, and therefore the inferior fruit. So far from that being the case, the growers rather find these manufacturers to be satisfied only with the best, and it pays the grower only to produce the best for all the various purposes of preserving. It is obvious that they can present their commodities in a most attractive, nay, even beautiful form. It does seem as if, in this direction, the Britisher is fully capable of holding his own, and our people may fear no foe or competitor, come from whence he may. It is not enough that we heartily encourage fruit culture, we must equally give the fullest encouragement to the healthful and profitable utilisation in every direction of its products. *D.*

WINTER-BLOOMING GALANTHUS.—I am sending a flower of an Albanian Snowdrop, which has been blooming here since the third week of November. It is evidently a vigorous-growing kind, and of a very hardy constitution, as it has not received the slightest protection since it was planted outside in August. I have it planted in a western position at at the foot of a hedge. You will notice the glaucous whitish line running down the leaves, this is a peculiarity of the autumn-blooming kinds. *C. G. Van Tubergen, Jr., Haarlem.* [A form of G. nivalis. Ed.]

EARLY MELONS.

Without suitable pits or houses it is rather difficult to have Melons fit for dessert early in the year, even when the appliances at hand are as good as may be. Whilst writing this note, the fog has settled down over the entire district around us, and at the best the supply of sunshine so necessary for Melon culture is never quite sufficient; but other growers may be better situated in this respect than ourselves. Those who have robust plants at this date, and suitable structures in which to grow them, have the best chances of success. I myself prefer pot-grown Melons, if the bottom-heat is sufficient to keep the plants moving; and if this be furnished by a bed of manure or tree-leaves, care must be exercised to prevent root-burning. There is now no difficulty as regards early-fruiting varieties, but this is a thorny question that I do not intend to enter into.

Some gardeners think there is nothing to equal the older varieties, and deprecate the raising of new ones; although I think the latter must be allowed for some good reasons, such as the loss of flavour, and of form and distinct character, which is certain to occur in course of time.

To secure fruit at the end of the month of April or in May, large fruited varieties are not so suitable as small ones, which attain to maturity in a shorter period of time, and those with thin rinds should be preferred to those having a thick rind; also a scarlet-fleshed variety is better than a green or white one, although this latter point is, perhaps, a matter of opinion, but my observation has lead me to adopt it, a scarlet-flesh Melon with a thin skin becoming ripe from ten to fourteen days earlier than a green one. Another point in early Melons deserving of being mentioned is, that Melons with a smooth exterior will be ripe a few days earlier than a much-netted one. I give this for what it is worth, as such is my experience; and I have for the past few years made use of a variety with thin skin, and only slightly netted. I do not mention varieties by name, but feel sure that I shall not err in saying; the best certificated Melons of last year were small ones, with a thin skin and thick flesh. Small-fruited varieties are more economical than large ones, more fruits being grown on a plant. Those who may find a difficulty in raising early Melons, would do well to adopt the good old plan of sowing a couple of seeds on mounds of soil, when the bed is at the proper temperature, which will soon germinate. When it is seen which is the stronger, the other may be removed. Melons so raised grow rapidly if the mounds reach well up towards the light, and there has been no check. This plan is not to be advised with a new scarce variety, or when seed is not plentiful. When new Melons are grown, they should be apart from others, if seed saving is desired. As previously said, pot culture is best for early fruiting, a crop of, at least, three or four fruits being attainable in 16 or 18-inch pots, and the fruit ripens earlier than those from plants growing in a bed. This is a point worth taking count of when the bed is formed of manure, as the moisture arising from this sets up decay in the plants, or causes very strong growth of bine. Moreover, the bed settles as time goes on, and the stems being fastened to a trellis, drag on the roots, setting up canker. If pots be used, they may be fixed upon the hot-water pipes. With this firm base there is no settlement of the materials to fear. Pot Melons may be surface-dressed at various times. When Melons are in pots, the surface-dressings can be conveniently added as the plants appear to need them, moulding up the stem somewhat, and inducing the emission of roots. It is also easier to finish off the fruits satisfactorily when pots are used; whereas in beds the requisite dryness at the roots is not attainable just when it is wanted, hence loss of flavour.

In frames I like to have a hard coal-ash or slate bottom to the bed, rather than allow the roots a free run into the manure or leaf-bed. Owing to this, many varieties of Melons get condemned as bad-doers. In pots, rich top-dressings and manurial aids to growth may be applied when the fruits are swelling. It is not judicious to starve the Melons, especially early ones, but to apply assistance at the proper time, inattention to this point being a common cause of cracking and lack of flavour. No manure should be made into beds that has not been prepared by frequent turnings. If seeds or plants have failed, there should be no delay in replacing them. The potting-compost for Melons in pots or hills should consist of strong loam, with a small quantity of old Mushroom-bed manure. The top-temperature should not be less than 70°, or more than 75°, and the atmospheric moisture should be abundant in fine weather, but root-waterings should be sparse until the growth has become considerable. When planting Melons from small pots, every root must be retained, and the ball kept intact, making the soil firm about them. The bottom-heat should always be 10° higher than that of the pit or house. *George Wythes, Syon House.*

CULTURAL MEMORANDA.

CANNAS.

These brilliant-flowering plants have very hard seeds, which take a long time to germinate, so that to have good strong plants by the month of June the seeds should be sown forthwith. Previous to sowing, steep the seeds in tepid water twenty-four hours, and sow in an open and sandy soil, plunging the pots in a bottom-heat of 85° or 90°. The plants usually come somewhat irregularly, and the earlier should be carefully lifted and potted in very small pots, hence the need of their sowing. Grow the young Cannas on in moderate warmth, repotting them as they increase in size, and using a stronger and richer compost. A hot bed suits Cannas from the first and till they come into 48's, when, as the season is then getting advanced, a warm pit, say of a temperature of 60° by night, and 75° by day, would be a better place. Plants needed for beds must be hardened off in May, but those for growing on for the greenhouse should stay under glass. *H. Markham.*

Grevillea robusta.

Seeds of this useful decorative plant may be sown at this season. Sow in lightish soil pressed firmly in well-drained pots, and do not afford much water, after once watering the soil when sown, till they begin to grow. When the plants have made a few leaves, prick them off singly in very small pots, and grow them along, repotting them when the roots have filled the soil, if for use out-of-doors and for decorative purposes generally, until the size of pot is a 32 or a 48. As a means of keeping the foliage in the best condition, the plant must not suffer lack of water, or an occasional dose of manure, its beauty being spoiled when the lower leaves fall or become discoloured; dryness at the roots also favours thrips. These plants are very useful and hardy, and do not suffer from sudden changes of temperature, like

some others do. The plant is a perennial, which may be kept for years in a greenhouse, increasing yearly in size, and for some purposes in usefulness. *H. Markham.*

Gardenias.

There are few white flowers more useful, and probably more keenly sought after for button-holes, bouquets, wreaths, &c., than are the fragrant blooms of the Gardenia radicans, G. florida, &c.; still, in many gardens the amount of attention bestowed upon their culture is not equal to their merits. The plants get stunted, and not seldom they are allowed to become a prey to scale, mealy-bug, and other insects. With fair treatment, few plants are more easily grown or more generally attractive in leaf and flower. To work up strong healthy stock, the best time to strike the cuttings are the months of December and January. The cuttings should be clean, healthy pieces, and cut off with a heel by preference, or cut just below a joint. Prepare some small 60's, filling them with sandy compost, loam, and leaf-mould, and cover with half an inch of clean sand, and after watering the soil, insert the cuttings, affording tepid water when the foliage is dry. Plunge the pots to the rim in a frame having a brisk bottom-heat, placing a *cloche* or a handlight over them. Failing a hot-bed, the hot-water pipes in a forcing-house or stove may be utilised by placing a box 6 inches deep filled with moss, cocoa-fibre, rough leaf-mould, or the like, and plunging the pots therein. The box should be fitted with a close-fitting glass cover, which should be taken off occasionally and wiped dry, but it should not remain long off the cuttings, which root readiest in a steamy hot atmosphere. The bottom-heat should range from 85° to 90°. When rooted, divide and pot off, keeping them close in a hot-bed till rooting has begun afresh, when more air may be afforded them, or they may be removed to a shelf in the stove. The plants need to be stopped frequently the first year, repotted when the roots touch the sides of the pot, and to have a small amount of shade during bright sunshine, and plenty of water whilst growing, when the soil is filled with roots. *H. M.*

The Rosery.

Roses in Pots.

There are very few subjects that are so pleasing as a well-grown pot Rose, and although somewhat difficult to secure in perfection, when compared to many other plants, they are well worth a little extra attention and care. I do not think there could possibly be a better time than the present for starting the culture of pot Roses. Now that the days are well turned, they will come on rapidly with very little artificial heat, and much more naturally than if their forcing had been commenced in the latter part of last year.

To those who do not already possess plants of suitable varieties, I would recommend their purchasing the following. It is of great importance to have those kinds which open their flowers freely, and produce them more or less upon the points of every young growth; and I have found those named to have these qualities in a high degree:—Anna Olivier (rosy-flesh and buff), Catherine Mermet (light flesh, very sweet), The Bride (white), Dr. Grill (coppery-yellow), Ethel Brownlow (deep pink), Francisca Kruger (copper, shaded peach), Goubault and Souvenir d'un Ami (pinks), Innocente Pirola (creamy-white), Niphetos (white), Madame Falcot (apricot), Madame Hoste (yellow and white), Madame Lambard (red), Perle des Jardins (golden-yellow), Rubens (flesh), Safrano (apricot), Sunset (deep apricot). All of these are good growers, but not climbers.

The following are six well suited to grow in pots on the long-rod system:—Gloire de Dijon, Madame Chauvry, Maréchal Niel, Reine M. Henriette, William Allan Richardson, and Madame Carnot.

Up to the present, I have only named Tea-scented and Noisette varieties, as I consider them much better adapted for pot culture than the hybrid perpetuals. The following six, however, are grand:—General Jacqueminot (deep scarlet), La France (pink), La Rosière (maroon), Duke of Edinburgh (scarlet), Fisher Holmes (velvety-red), and Baroness Rothschild (pink). These can be obtained established in pots. If not so established, they are unsuitable for forcing, and should be grown on ready for early forcing next season.

The hybrid perpetuals would probably be in 6 or 7-inch pots, and the Teas in a 5-inch size. Now, the former may well remain in the same size pot, care having been taken to see that the drainage is clear. But the Teas are much better if shifted on into pots two sizes larger than they are occupying when purchased from the nursery. It is not nearly so necessary that this class be pot-bound; indeed, as they naturally flower so much more freely than the hybrid perpetuals, it is well to afford them facilities for making more growth.

In repotting these, that is if the plants have been doing well, it will be found that many of the roots have got matted around the crocks at the bottom of the pot. I would not trouble about picking the crocks out from among these, unless they came away easily; this cannot be done without injuring the roots to a great extent. Now, a word or two as to compost. Almost every writer recommends turfy loam. Well, turfy loam is a splendid thing, if it can be got, but it is probably the most difficult to obtain of all garden materials. I grow a large number of Roses in pots without it. Clean weeds, vegetable refuse, and decayed leaves will answer our purpose almost as well. By clean weeds, I mean such as grass weeds—not any Bearbine, Couch, Thistle, &c. The grass-weeds have a quantity of fine roots, and when rotted, possess much of the root-fibres so valuable in turfy loam. If you turn over such a lump of weeds, &c., as I have described, and incorporate a little well-decayed manure among it, a compost is made that is well suited for Roses.

Having knocked the Rose out of its pot, remove what little surface soil you can without disturbing the roots, and pot it deep enough for the new soil to cover about an inch more of its base than was previously the case. Pot firmly, using a rammer to press the soil down between the old ball and the pot. The next item is pruning; and here we need some care and thought, as much depends upon the variety and its habit of growth. It was with this view that I put all of one habit together when naming the most suitable varieties for pot-culture. The first batch of varieties should be pruned fairly hard, cutting out all very weak growths and side-shoots, and shortening the others back to within 4 to 6 inches of the shoulders they break from. By continuing this process each year, and by cutting the flowers with long stalks, if these are required as cut flowers, the plants may be kept in a compact and more useful form than would otherwise be the case.

Amateurs very seldom cut their Rose blooms with stalks long enough to be of real service when there is not the least reason why they should not be cut off double the length. Whenever a Rose is cut, the resulting new growth starts from the two or three eyes nearest the end of the wood. Now, if these blooms are also cut with short stems, your plant soon covers a lot of space, leaving the centre comparatively bare. Therefore, cut the Rose blooms with long stalks; it keeps the plants in better shape, and the blooms themselves are doubly useful for decorative purposes.

The strong-growing climbing varieties need a different system of pruning. This is practically done in the summer. I will presume that plants are bought from the nursery this spring. They should be at least in a 7 or 8-inch pot, and carry one or two shoots, 6 to 9 feet long. Only the extreme tip of these shoots will need removing at the present season. If you are growing several plants of this class, it is well to stand them side by side where there is the most space, and then train them in a slanting direction, somewhat on the same lines as cordon fruit trees. Or they may be stood near to the wall of a span-roof, and then trained to the roof similar to Vines. This induces a far more uniform break of young growth than when they are grown to stakes that are quite upright. Providing the wood was properly matured, almost every eye will produce a bloom. But, unlike the more bushy-growing varieties, these climbers will only give one good crop of blooms each season; and, as soon as this is secured, they should be grown on with the object of getting more wood suitable for flowering the following year. Directly the flowers are off, cut the shoots down to the point where other strong growths are already starting from near the base of the plant. This, to the average amateur, appears rather ruthless treatment; but the growth that has already flowered is of very little future use, and it is much best to throw all of the plant's energies towards producing other strong growths for the next flowering season.

Do not attempt to force wood that has had the late severe weather upon it. Wood that has been thoroughly frozen is not suitable for forcing, and seldom returns a satisfactory crop. Trade growers are well aware of this, and during hard weather keep their plants under cover of cool-pits, &c.

Having potted and pruned our Roses, the next thing is to give them a suitable temperature. Far more often than not, the plants are placed in too high a temperature at first. This causes the sap in the wood to move, and push the eyes on too soon for the roots to be able to meet the supply of sap demanded. In this case the shoots grow some 3 to 4 inches, and then receive a slight check, which is decidedly injurious to them. A little thought will show us how unnatural this is. Spring and summer come upon us by almost imperceptible degrees, and yet many will introduce a plant into what is practically a summer temperature at once. I have no hesitation in saying that a steady rise in the temperature, from quite cool treatment, will secure flowers equally as soon as if the plants were introduced to the maximum heat at once, while the number and quality will be far in advance of those receiving the latter treatment. A temperature of 45° F. is quite sufficient for the first three or four weeks, rising another 5° at similar intervals, until the thermometer registers 65° to 70°.

From the very first, war must be waged against insects and mildew. This is easily accomplished if a start be made on the right lines. I syringe my plants frequently, and never without using a little insecticide in the water. I have tried many compositions; in fact, I may say, almost all of them. The bulk of them are very good, but none is better or cheaper than the following: Boil a pound of the best soft soap in a gallon of water. When boiling, remove from the fire, and while still hot, add half a wineglassful of the best petroleum, and about two tablespoonfuls of flowers-of-sulphur. Thoroughly stir this together, and use at the rate of a pint of the mixture to 3 gallons of soft water warmed to a temperature of 75° to 80°. During the first month, I would still further reduce this—say, one-third. If this mixture be used about three times a fortnight, no insect pests will infest the Roses; but it is necessary to start using it early, as once they obtain a hold it is very difficult to eradicate them without injury to the tender points of growth.

Some varieties, notably Niphetos, frequently have their flower-buds turn black when no larger than just visible to the eye. From careful observation, I have come to the conclusion that this is almost always due to drought at the roots, or extreme measures in syringing and fumigating; indeed, I always avoid the use of tobacco as much as possible, the fumes of which are so unnatural, and not nearly so efficient a cleanser as a weak mixture of the insecticide I have just described.

As the Roses begin to grow, they will benefit much from weak liquid-manure twice a week. Roses are by no means such gross feeders as many imagine, and are much more often over-fed than under-fed. Ammonia in some form is a great help towards healthy and glossy foliage. I scatter a little animal manure-water—such as the drainings from a stable—

among the plants occasionally, and find the foliage feeds upon it with marked effect. It also assists in keeping down insects. The newly-potted Roses should not have any manure-water until their roots have thoroughly permeated the fresh soil; such water having a tendency to make the soil stale and sour, unless the manurial qualities can be quickly absorbed by the roots. A draughty current of air must be avoided; so, too, must dryness at the roots. These are the chief causes of mildew, but with the help of the sulphur and petroleum, this insidious blight or disease will be unable to get a footing. Sulphur used in the proportions I have given is not unsightly; and when used in the mixture, comes into contact with the whole of the plant in a much more uniform manner than when applied in any other form.

By the end of June and July, there will be little benefit derived from pot Roses, and they may now be stood out-of-doors, or receive all the air possible, so as to secure a better ripening of their wood, and which will now be in sufficiently forward a state to be equivalent to autumn growth out-of-doors. Plenty of air, and the first slight frosts of autumn, are very conducive to well-ripened wood; but the plants should be housed again before severe weather returns. *A. P.*

THE APIARY.

DRONES IN HIVES.

Hives are sometimes found to contain drones at this season, which is a sign either that the colony has no queen or that an unfertile one is present. When bees from any cause lose their queen late in the year, they do not kill the drones, and these live till the following spring; but it sometimes happens that the queen gets lost after the slaughter of the drones has taken place. The bees start queen cells, and in due course a young queen is hatched, but as there are no drones she does not get fertilised, and, therefore, must always remain a drone breeder. As there is no possibility of buying queens for some time to come, the only remedy is to unite the stock to another standing near, and the sooner it is done the better. Flour is now generally used for uniting stocks, and if each lot is lightly dusted with it there will be no fear of any fighting taking place. It may appear strange to advocate uniting bees in February, but we often get a mild sunny day when such an operation can be performed without any risk of their getting chilled or injured in any way.

Stocking "Wells'" Hives.

In order to get the full advantage of the double queen system, "Wells'" hives should have the bees put into them as early as possible, if it was not done last autumn. The success of the system depends entirely on the strength of the colony at the time of the honey flow, and the longer the bees have the advantage of the extra warmth, so conducive to brood rearing, which is generated by the two lots being so closely connected, the more likely they are to be in readiness at the right moment. *Expert.*

SOCIETIES.

EDINBURGH BOTANICAL.

January 12.—The above Society met on this date, at 5, St. Andrew Square; Dr. D. Christison in the chair.

Mr. R. Lindsay, Curator of the Royal Botanic Gardens, exhibited the following plants.

1. A fruiting specimen of an Aroid, Nephthytes liberica, N. E. Br., which was first introduced into cultivation by Bull in 1881. Its clusters of bright yellow berries were very effective.

2. A young plant of a Bromeliad grown from seed sent to the garden by Mr. J. Graham Kerr, and obtained by him during the Pilcomayo expedition. This plant is known to the natives of the Grand Chaco as the water Caraguata, because the heavy night dews condense on the leaves, in the sheathing-bases of which the water collects. The natives of these dry regions where the soil is impregnated with salt, depend to a considerable extent on these plants for supply of fresh water. A pint of pure water may often be obtained from an adult plant.

3. A branch of Thuia orientalis var., showing russet-brown tints on the tips of the twigs in winter, and golden tints in summer.

4. Fruits of Celastrus scandens, the "Bittersweet" of America, brought from Minnesota, by Mr. J. Orr, and sent to the Society by Dr. Wilson.

Professor Bayley Balfour exhibited a branch of Abies nobilis sent by Sir James Gibson Craig, of Riccarton. It was covered with large tubercles, due to a peculiar development of the cortex. Professor Balfour also showed a number of cultures of bacteria on jelly and agar-agar prepared in a permanent form for museum purposes.

Dr. Christison exhibited an Australian photograph of a tree said to be the largest in Victoria, and measuring 57 feet in girth and 450 feet in height. He also showed a panel about 3 feet square, veneered on both surfaces with walnut of a very high quality obtained from a large tree grown at Otterstone, Fife. This tree was 15 feet in girth, and supposed to be about 300 years old. The panel was afterwards presented to the museum of the Royal Botanic Garden by Dr. Christison. It is one of the finest examples of Walnut ever grown in Scotland.

Mr. J. Graham Kerr read a paper on "The Botany of the Pilcomayo Expedition," and mentioned a number of new plants which he had found. The paper was illustrated by photographs exhibited by means of the limelight.

Professor Bayley Balfour read a note on tubercules found on the roots of a plant of Agathis excelsa grown in a tub in the Botanic Gardens. A fungus had first attacked the tub, and then the rootlets, which had entered the decayed wood.

Mr. R. Lindsay read the report on the temperature and vegetation of the Royal Botanic Garden for December, 1892.

The weather of the past month was of an exceedingly wintry character. Frost was registered on twenty-three mornings, indicating collectively 192° of frost for the month; so much frost has not been registered at the garden for December since 1879. During the corresponding month of 1891, frost was registered on eighteen mornings, the total amount being 83° only.

The lowest readings of the thermometer for last month occurred on the 3rd, 16°; 4th, 16°; 25th, 15°; 26th, 12°; 27th, 13°. The lowest day temperature was 24°, which occurred on the 25th of the month; and the highest 56°, on the 18th.

On the rock garden only one plant came into flower, viz., Primula inflata. A special feature is the deep russet-brown tints of the foliage of the varieties of Thuia orientalis, which, on the south sides of the plants is much more pronounced than on the north, giving them a very curious appearance. During summer the brown tints disappear, and assume a golden colour.

The total number of species and well-marked varieties which have flowered on the rock garden during the year 1892 amounts to 1211, as against 1216 for 1891. The largest number came into bloom during the month of June. A record has been kept showing the date when each plant was first observed in flower. The number of species which came into flower each month was as follows: January, 7; February, 31; March, 39; April, 119; May, 282; June, 330; July, 237; August, 103; September, 45; October, 15; November, 2; December, 1. Total, 1211.

BANFFSHIRE HORTICULTURAL.

January 20.—The annual general meeting was held at Banff on the above date. A statement of the year's transactions was submitted and approved, showing a satisfactory balance in the society's favour. The Duke of Richmond and Gordon and the Duke of Fife were then elected presidents. The lady patronesses, vice-presidents, and committee, both professional and amateur, were re-appointed. Mr. R. G. Mann was re-appointed to the office of secretary and treasurer. The annual exhibition and games was fixed for August 16. A discussion arose as to the advisability of continuing the exhibition of industry and art to be held conjointly with an autumn show during October, but it was agreed to adjourn the meeting, and meet again the following Thursday to discuss the matter fully.

ABERDEENSHIRE GARDENERS' AND FRUITERERS' ASSEMBLY.

January 20.—The annual assembly of the above was held with great *éclat* in the Royal Albert Hall, Aberdeen on this date. Mr. A. R. Gray, Aberdeen, presided during the social meeting, and was supported on the platform by many of the leading local seedsmen and fruiterers. In the course of his introductory speech, the chairman said that among the many honourable existing trades, the occupation of a gardener stood foremost, and it was certainly the most ancient trade. It was the trade that kept the world going, for what was the farmer's work but a form of gardening? And on this and other branches of gardening depended the success of all manufactures. Besides supplying food, it supplied the materials for manufactures, and this fact alone was sufficient to show that the gardener's occupation was the most useful as well as the most ancient in the world. It was the only trade that could stand alone. In reviewing the progress that had been made in the fruit business during the past twenty years, it was hardly possible, Mr. Gray said, to understand and credit the great and rapid advancement. Twenty years ago they were almost entirely confined to fruits grown in this country, with small supplies from Holland and such countries, but of late years nearly all the countries in the world had been opened up, and fruits from almost every country and clime found their way into our markets. Nor was the fruit trade to stop where it was—it was rapidly increasing, and it would continue to do so for a very long time.

DEVON AND EXETER GARDENERS' ASSOCIATION.

January 25.—The fortnightly meeting of the Society was held at the Guildhall, when the attendance of members was large. Mr. G. Lonsdale occupied the chair. The essayist was Mr. E. Sparks, the Earl of Iddesleigh's head-gardener at Pynes, the subject dealt with being "Zonal Pelargoniums." Mr. Sparks being one of the best growers of this class of plants in the neighbourhood, his paper teemed with practical knowledge, useful suggestions, and much information that is essential to the successful culture of this useful class of plants. In taking cuttings from old plants, he recommended taking them off at the joint with a slanting cut, placing the cuttings singly in small thumb-size pots, using a compost consisting of two parts fibrous loam, one part well-decayed leaf-mould, and one sharp sand. August or September—or earlier, if possible—is the best time to do this. In April these cuttings, now rooted, should be shifted into 6-inch pots, using for compost two-thirds fibrous loam, one-third well-rotted cow-manure, and a little coarse sand. If wanted for exhibition in August, shorten the growth in April by cutting off straggling shoots. They will then break into new and sturdy growth. At this season they want assistance in the way of manure in liquid form. Of course, the very large specimens seen at shows are two and three-year-old plants, which have been cut hard back in autumn, and trained in spring. It is well to pinch off the early flowers, as this will eventually produce stronger trusses and larger blooms. The plants should be, when grown indoors, shaded from hot sunshine, which causes them to drop their petals. Mr. Sparks emphasised the fact that early cuttings were best, growing more vigorously, and became well established before the winter set in.

AMERICAN AND BRITISH APPLES.

One must feel puzzled when the price fetched by home-grown produce is compared with that obtained for American. Many besides myself advocated a few years ago an extension of our orchards, the renovation of old ones, the cutting down of unhealthy trees, and replacing them with the best-looking and longest-keeping varieties; while healthy trees of undesirable varieties were to be cut back, and grafted with market varieties well suited to the soil and locality. Since that time great strides have been made in several directions in this matter of fruit-culture, and a large amount of capital expended moreover, cottagers are in many instances developing into skilful cultivators, and farmers and fruit-growers generally are becoming acquainted

with the best methods of selecting and packing their fruit for the market than was formerly the case. Many persons averred that when the amount of our produce was increased, and packing and selecting were improved, the American competition would be materially reduced; but it is not so. Really good-sized, clear-skinned, and well-coloured Cox's Orange and Blenheim Orange Pippins having realised at the best only 5*s*. 6*d*. per bushel wholesale; and since the American fruit arrived, the price has ranged from 2*s*. 6*d*. or 3*s*. at the utmost.

I enclose a fair sample of the two varieties named, which realised the above price. [Fair-sized fruit of good colour. Ed.] *Per contra*, a barrel of Americans containing about 3 bushels, realised 40*s*., or nearly 14*s*. per bushel—and this for fruit of small size, spotted, and very inferior in quantity, I have ever tasted of the New Town Pippins. [We believe there is a spurious New Town Pippin being sent over by Sam Slick's countrymen. Ed.]

Now, surely it is not the quality of the fruit that the British public are anxious to get, but the foolish hankering after that which is grown abroad, for not only is it so in London, where glutted markets are of frequent occurrence, but also in Manchester, as a correspondent informs me. The demand is all for Americans, while good home-grown fruit is passed by unheeded.

There cannot be very large supplies of home-grown Apples this year, judging by the returns of the fruit crop in the *Gardeners' Chronicle*. In most of our orchards early varieties of Apples largely predominate, so that there is no housing required, the fruit being sent to market when gathered, and by the middle of the month of October the growers are nearly cleared out. And taking into consideration the amount of labour saved with early sorts, compared with late ones, even when low prices rule, it pays better to grow them than the late varieties. Those which I would recommend to be grown are Lady Sudeley, Worcester Pearmain, Mr. Gladstone, Lord Suffield, Warner's King, Ecklinville Seedling, Cellini, and Lord Grosvenor. These would be mostly sold before the Canadians come over. Late ones will not pay in the future as in the past, for the simple reason that, after the Canadians are at an end, the imports from Tasmania and Australia take their place. There is one class that may bring to bear a balance in the demand for home-grown fruit, and that is the local and the town tradesmen; the former must well know that it is to the interest of all parties concerned to encourage our local and home industries, and if they abstained from purchasing for their customers the imported fruits till the home supplies were getting cleared off, they would find that their trade would increase in volume. The farmers and fruit-growers would get a fair interest on their capital, more labour would be employed, which again means more customers, and the owners of land would receive a fair rent. The owners in their turn would spend more in the locality, and so encourage trade and sport. Many large owners of land are among the first to purchase imported Apples, and yet they are daily deploring the poor returns that they obtain for their land. I do not find fault with foreign fruit coming to us, but that it is sold to the exclusion of what is home-grown. Some persons may say that it is worst of all to have none at home, and not be able to buy elsewhere; but this is hardly likely to be the case again, nearly every part of the globe being now in communication with us, so that in a few weeks our needs would be supplied at very short notice. *A. Evans, Haslemere.*

NOTICES OF BOOKS.

A Text-Book of Tropical Agriculture. By H. A. Alford Nicholls, M.D., F.L.S., C.M.Z.S. With illustrations. (London: Macmillan & Co., 1892.) (Crown 8vo, pp. 312.)

Following closely upon the *Manuel Pratique des Cultures Tropicales*, by P. Sagot and E. Raoul (lately noticed in these columns), we have here an introductory Text-Book of Tropical Agriculture, probably the first of the kind published in this country. It differs from the works hitherto dealing with tropical agriculture in being a text-book adapted not only for use in colleges and higher schools, but also for the guidance and instruction "of peasant proprietors, owners of small estates, and intending settlers in tropical countries." In fact, it is intended to do for tropical industries what the *Elements of Agriculture* prepared by the Royal Agricultural Society of England is designed to do for the rural industries of this country. The history of the work shows that it has already received high approval. The Government of Jamaica offered a premium for the best Text-Book of Tropical Agriculture, and the award was made to the manuscript of the present author. This manuscript, with a considerable addition (forming the second part of the work), was published by the Government of Jamaica in 1891, and since that time the book has been adopted by the governments of other Colonies, "indicating" as the author justly claims, "that it has supplied a distinct want." The author and publishers have done well to bring out the present edition, and we are sanguine enough to anticipate a favourable reception for it. Under the press of keen competition, and of the vast extension of cultivated areas within tropical regions, it is necessary for planters to cultivate, not only highly but economically, to grow only such produce as can be easily disposed of in the world's markets, and to be prepared at a short notice to enter upon any new industry that offers a more favourable opening than the old. In a word, they have to exercise greater intelligence and forethought than formerly, and they have to be in touch with all that concerns their special enterprise in nearly every part of the world. All this cannot be accomplished at once. Hence, the more enlightened colonial governments, such as Jamaica, begin by introducing the subject into schools and colleges, and by teaching the principles of tropical agriculture side by side with other branches of education. Dr. Nicholls has had the right training to qualify him for his present task. He tells us that twelve years ago when he had to direct his attention to tropical agriculture, he found difficulties constantly cropping up in his path, but there was no practical book that could give him exactly the help he required. These difficulties have, we know, been overcome, and this book, the result of his own observation and experience is "intended as a guide for the young and unlearned, to whom such details as it contains are likely to be of essential service." In the elements of agricultural science, forming the first part of the book, there are discussed very fully—and withal clearly and pleasantly—all the leading facts connected with soils, plant life, manures, rotation of crops and tillage operations, while the whole of the second part is taken up with simple and practical hints respecting the cultivation of numerous tropical products. It is this latter part which the author has made specially his own. His advice is at all times sound and sensible, and all who are "not content to follow in the old grooves of unscientific agriculture" may turn to this little work and pick up very valuable hints respecting the cultivation of numerous "minor industries."

The advance in material prosperity made in the West Indies during the last twenty years has been singularly striking, especially in the cultivation of fruits, spices, and fibrous plants. It is generally acknowledged that this advance is due, in a great measure, to the energy and intelligent efforts associated with the various botanical institutions that have been established there, and to the powerful aid of Kew. We notice that in recognition of the share taken by Kew in the work of regeneration in the West India Islands, this text-book is very appropriately dedicated to Sir Joseph Hooker. Dr. Nicholls (although not in the botanical service) has for many years acted as "Kew correspondent" for Dominica—succeeding in that purely honorary but useful capacity, the late Dr. Imray, to whom Dominica (and, indeed, the West Indies generally) became indebted for the introduction in a practical form of the Lime-juice industry. It is a sign of the times that many of the old industries are gradually giving place to new. The "sugar islands" are fast becoming fruit and spice islands, and as they are placed geographically as to become the "Channel Islands" of the United States and Canada, it is only reasonable to suppose that the increase of their present prosperity is founded on a more permanent basis than that of a century ago, when slave labour and high protective duties gave them wealth and position of a precarious character. Now that Coffee has almost been driven out of cultivation in eastern countries by the attacks of the Coffee-leaf disease, there is a good field for enterprise in the rich lands of tropical America. Cacao is essentially a new world industry, and it is becoming more widely cultivated in all British possessions. Tea and Cinchona have been successfully grown in Jamaica. Nutmegs and Cloves are so thoroughly at home in the lovely island of Grenada, that this has been rightly named "the spice island of the west." Of fruits, the Orange, Lime, Banana, Cocoa-nut, and Pine-apple form a large share in the yearly exports of Jamaica, Trinidad, and the Bahamas. Ginger is a staple product of the hills of Jamaica, while Cardamoms, Pepper, Vanilla, have been recently introduced, and are becoming established experimentally at most of the botanical experimental stations. The list might be almost indefinitely extended, but we notice that Dr. Nicholls regards Coca, Jalap, Sarsaparilla, Annatto, Tumeric, Logwood, Indigo, Maize, Rice, Guinea-Corn, Cassava, Arrowroot, Yams, Tania, as all within the range of remunerative cultivation at the present time. It only remains to add that the book is well printed, and nicely bound. It has several illustrations (all good except the one representing the Coca plant), and there is a suitable index. The botanical names are, as far as we have tested them, correctly given, and altogether we are satisfied the book is one that can be confidently recommended. *D. M.*

The Ferns of South Africa: *containing Descriptions and Figures of the Ferns and Fern Allies of South Africa, with Localities, Cultural Notes, &c.* By Thomas R. Sim, F.R.H.S., and published by J. C. Juta & Co., Cape Town, and Johannesberg; Wm. Wesley & Son, Strand London, 1892. 8vo, 275 pages, 159 plates.

The author of this book is probably known to most of our readers as the writer of the *Handbook of Kaffrarian Ferns* (1891). The present work contains descriptions and plates of all the Ferns and Fern allies known to exist in that part of continental Africa lying south of the Tropic of Capricorn. It is needless, however, to state that nearly half this area, including the whole region north of the Orange, Vaal, and Umvolosi Rivers, is still almost a *terra incognita*, even as regards its physical features, and much more so as regards its botany, and doubtless contains many still unrecorded species. Mr. Sim classifies his localities under the seven regions mapped out by Mr. Bolus, in his *Sketch of the Flora of South Africa*, 1886. Seventy-five species are found in the south-west district, which includes:—

a. The coast slopes from the mouth of the Olifant's River on the West Coast, to the mouth of the Grooté River on the East Coast.

b. The Karroo and Namaqualand.—Seventy-eight species are found in the south-east district, extending from the Grooté River to the Fish River and up to the Winterberg and Sneemberg Mountains. Eighty-nine species are found in Kaffraria, from the Fish River to the Natal Border; 130 in Natal, and sixty-one in the Transvaal. As regards nomenclature and species limitation, Hooker and Baker's *Synopsis Filicum* is followed with very small alteration. We notice that in the table of p. 34, Mr. Sim gives the number of species in Madagascar as 144, and has not taken in account the Ferns which have been added to the flora of this island by the explorations in recent years of Mr. Barron, Miss Helen Gilpin, Mr. Scott-Elliot, and others, which run up the number above 350. The number also for

Tropical Africa is founded on Kühn's *Filices Africanæ*, and is not on the same scale as those founded upon the *Synopsis Filicum*. Compared with the whole flora of South Africa, the Ferns are remarkably few in number, for as it is estimated that there are 10,000 species of flowering plants within the area examined, Ferns only form 1½ per cent., while in Australia, with about 9000 known species of plants, they form 2⅔ per cent., and in several sub-tropical islands they form from 20 to 50 per cent. of the whole flora.

Mr. Sim gives several interesting introductory chapters on Ferns, the parts of Ferns, on their reproduction and propagation, and on the cultivation of Ferns. This chapter contains many useful hints on the different treatment required for various species. Another chapter gives us notes on the identification and preservation of specimens, and another tells us of the collectors who have travelled at the Cape, and the various works on Cape Botany, more particularly those treating of the Ferns of South Africa. We note on p. 23 that the name of Mrs. Baker is given as having brought together the new Ferns in a paper in the *Annals of Botany*. We are not aware that this lady, who is great upon domestic economy, lays claim to rank as a botanical authoress. There is also a chapter on distribution, amplified by lists showing how the Ferns are distributed throughout the geographical areas adopted, what species grow only in South Africa, what species grow also in other parts of Africa or the African Islands, and also it shows in the case of species growing in other countries, what continents they inhabit.

The descriptions are worked out with much care from living specimens where these were obtainable, and from dried specimens in Cape herbaria. The figures are also the work of Mr. Sim's own hand. We hope that this book will give a renewed interest to Pteridology in the colony, and have no doubt that it will be popular with amateurs and others, and will help them to enjoy the study of one of the most beautiful, interesting, and easily understood orders of our South African flora. It may interest our readers to know that Mr. Sim was trained at the Royal Gardens, Kew, and has been for some years curator of the Botanic Garden at King William's Town, South Africa, and that he was successful in winning the Jubilee Gold Medal Offered by the North of Scotland Horticultural Association. The book does him great credit.

Trade Notice.

A new Gardeners' Directory is said to be published at Manchester, and a canvasser has been soliciting orders, and receiving money in advance for it meanwhile, the publication has not, so far as we know, appeared. Is anything known concerning it?

Trees and Shrubs.

LAWSON'S CYPRESS, HASKINS' VARIETY.

Mr. H. Haskins, Branksome Nursery, Bournemouth, sends us a small spray of a seedling, raised by him, in which the young shoots for nearly half their length are of a rich orange-yellow colour, much deeper in tint than the aurea variety. Judging from the sample sent, we should esteem the new variety very highly.

Variorum.

Bananas for the Table.—There are as many kinds of Bananas as there are kinds of Apples—medium-sized ones, such as we see in the North; big ones, a foot long; thick ones, almost like small Musk Melons; and little ones, only 3 or 4 inches in length. When you visit a fruit-stand you are likely to select the biggest and handsomest Bananas you see, and there is just where you make a mistake. The smallest Bananas are in nearly all cases the sweetest and juiciest, the tiny "Fig" Banana being the best of all. The rind should be thin, and there should be no ridges or corners to it. The larger the ridges the coarser the fruit. The Plantain, which is the very coarsest kind of Banana, has enormous ridges. This species is not fit to eat without being cooked; but when boiled, or baked, or fried, is delicious Any coarse Banana—that is, one having a thick rind with large ridges—is good for cooking. All Bananas contain starch while green, which, upon ripening, is changed by Nature's wonderful chemistry into sugar. Now, if the Banana is taken just after its rind has begun to grow golden, but is still streaked with green, it will contain a great deal of starch, which will make it palatable when cooked, while the small amount of sugar which has been formed will give it a sweetness like a Sweet Potato. Strip the rind off, and boil it until soft, and it will make one of the nicest vegetables you ever ate. It is one of the commonest sights along the Amazon to see groups of half-clad Indian men and women squatting around little camp-fires roasting Bananas, and having endless mirth trying to pick them out of the hot coals without burning their fingers. We are all used to fried Bananas, but we are prone to forget that, for this purpose, they should not be fully ripe, as that makes them too soft and too sweet. Above all, a Banana roasted or fried should be served hot, for, as soon as it becomes cold, it grows tough and unpalatable. *Grocer and Trade Journal.*

Trees in Towns.—In large cities the necessity for open spaces—lungs—has not only been recognised, but provision is being rapidly made for the wants of the present generation and for those to follow. The existing open spaces in London, for instance, attract residents into the immediate vicinity, and landlords especially are well aware of this fact, and take advantage of it. Speculative builders are also awake on the subject, and new streets rise in the suburbs enlivened by rows of trees suitable for growth in the metropolis. Public-spirited vestries have taken the matter up, so have the County Council, and in the near future we may expect to find all London streets capable of accommodating them, garnished with trees and shrubs. And all this is as it should be. It may here be noted that inquiries have been made in seventeen London districts with respect to the presence of trees in them, and it has been found that only three of them are at present absolutely treeless, while the number of trees in the public highways of the other fourteen districts is 14,700. Of this number 5158 have been planted by Boards and Vestries, and 5323 have been placed in position by builders and other private persons. There are 2712 in the Hampstead district (included in the first total), but a very small number of these were planted at the cost of the vestry—and the number planted by builders or property owners cannot be given with any certainty. We are further informed that, besides the expense of purchasing and planting, the average cost of maintenance is about 1*s.* 3½*d.* each tree per annum. In some instances, in the case of new streets, we are told that the trees have to be protected—in the first instance with guards, at the cost of the owners; in one district alone are they properly guarded and staked, and the cost included in the apportionments. In eight districts wooden guards are used, and in one expansive metal guards are set up. In Hammersmith, trees are not allowed to be planted in streets of less than 45 feet in width, and Streatham is restricted in this regard to streets of not less than 40 feet in width. Many have been the mistakes made in planting and in selection, but on the whole we are getting into the right track. Similar errors have been made in the cities of the United States; improvement is being effected there as well as here, and in connection with this we note a lengthy illustrated paper, by Mr. W. Saunders, of the United States Department of Agriculture, and issued as a Government paper for general use. It is entitled, "Trees in Cities and on Streets;" the subject being treated under the headings:—Selection of trees, trees for general use, trees for special use, preparation of the soil, preparation of the trees, distance apart, time to plant, planting, box guards, pruning, insects, gas leakage. Mr. Saunders speaks with much authority on his subject, and, if attention be given to his instructions, much valuable time and timber may be saved—the former of great importance to our go-ahead cousins, the latter daily becoming more so. It is pleasant to note how the love for trees and vegetation is spreading, and that it is being gratified in all industrial hives.

Coffee Cultivation.—It is simply astonishing how much adulteration in articles of food the public will put up with—notably in Coffee. Sometimes it is very hard to say, outside of the laboratory, what packets of "fancy" Coffees are made of. Complaint has been made before courts of summary jurisdiction that some samples contain only 30 per cent. of Coffee; and not very long since a well-got-up sample was found to contain only 15 per cent.! True, the matter of adulteration was not detrimental to health, but it was not what was paid for. It is a fact that very much more pure Coffee would be used were it put on the market, and hence new fields for its profitable cultivation are now and again suggested, offering fair inducements to capitalists. But it might, perhaps, be as well to make a note of old fields now only partially at work whose area might be vastly extended. Natal is one of these. At the last Colonial and Indian Exhibition, if we remember aright, some splendid examples of Cape Coffee, cured and uncured, were to be seen, and it was thought that this (then new industry) would prove a source of wealth to our friends below the Drakensborg. This promise, however, has not been carried into effect. Inquiring of a Government official (now in London) for the reason why, he delivered himself as follows:—"The reason Natal is not known as a Coffee-producing country is, that there is none available for export, the present production not being equal to local demands. Twenty years ago Coffee was exported to England, but since then errors in the methods of cultivation and other causes, have led to the industry being abandoned by the majority of planters. The habit of pruning the trees continually is supposed to have had a very pernicious effect on them. The Coffee which is produced, however, is fully equal in quality to plantations in Ceylon." It will be evident from this that there is little reason why Coffee should not soon become an article of export from this colony. As an informant says, there is plenty of labour to be had—plenty now on the spot, and the errors of early years need not be repeated to-day. One planter has now in fallow nearly 400 acres, left in this condition ever since the failure of the crop, after having yielded some £10,000 worth! Doubtless, the botanists now in the colony, if appealed to, could give all the necessary practical instructions, and caution; so that in time this old field could be rejuvenated, and inducements to placing adulterated parcels before the public considerably reduced.

Railway Rates.—A meeting of the Committee of the London Fruit, Flower, and Vegetable Buyers' Protection Association, Limited, and of Growers and Salesmen, was held on Thursday, 2nd inst., at the Mona Hotel, Henrietta Street, Covent Garden, at which it was resolved that a deputation, representing all the different interests of the fruit, flower, and vegetable trade, should be appointed to wait upon the President of the Board of Trade, together with the President of the Board of Agriculture, in relation to the above matter, and to invite the co-operation of all kindred Committees and Associations in the proposed deputation, in order that the same may be fully representative.

MARKETS.

COVENT GARDEN, February 2.

[We cannot accept any editorial responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. ED.]

TRADE improving, with prices generally better. *James Webber, Wholesale Apple Market.*

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Azalea, per doz.	...24	0-42 0	Ficus elastica, each	1 6-	7 6
Adiantum, per doz.	6	0-12 0	Genesta, per doz.	...10	0-15 0
Aspidistra, per doz.	15	0-30 0	Hyacinths, doz. pots	8	0-12 0
— specimen, each	7	6-21 0	Lily of the Valley, 12 pots	12-	18 0
Chrysanthemum, doz.	4	0-12 0	Marguerite, per doz.	6	0-12 0
Cineraria, per doz.	... 8	0-12 0	Mignonette, doz. pots	6	0-12 0
Cyclamen, doz.	... 9	0-18 0	Palms, various, each	2	0-10 0
Cyperus, per dozen	4	0-10 0	— specimens, each	10	6-84 0
Dracæna, each	... 1	0- 5 0	Solanums, per doz.	9	0-12 0
Erica, various, doz.	9	0-18 0	Tulips, per doz. pots	6	0- 9 0
Ferns, various, doz.	4	0- 9 0			
Ferns, small, per 100	5	0- 8 0			

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples, p. half-sieve	0-	3 6	Lemons, per case	...12	0- 20 0
— Nova Scotia, per barrel	10	0- 17 6	Pine-apples, St. Michael	...	... 4 0- 6 0
Cobs, per 100 lb.	... 120	0 125 0	Oranges, Florida, per case	...	...10 0-16 0
Grapes, per lb.	... 0	6- 3 3			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum, per doz. bl.	... 3	0- 6 0	Narciss, various, French, doz. bun.	4	0- 6 0
Bouvardias, per bun.	0	9- 1 0	Orchids:—		
Carnations, 12 blms.	2	0- 4 0	Cattleya, 12 blms.	6	0-12 0
Chrysanthemums, p. p. doz. bunches	... 6	0-12 0	Odontoglossum crispum, 12 blms.	2	0- 6 0
Cyclamen, doz. blms.	0	6- 0 9	Pelargonium, scarlet, per 12 bun.	6	0-12 0
Daffodil, double, doz. blooms	... 1	0- 1 6	— 12 sprays	... 1	0- 1 6
— single do.	... 1	3- 2 0	Poinsettias, per doz. blooms	3	0- 6 0
Eucharis, per dozen	4	0- 6 0	Primula, double	... 0	6- 1 0
Gardenia, per dozen	12	0-24 0	Roses, Tea, per dozen	2	0- 4 0
Heliotrope, per doz. sprays	 0	6 0 9	— coloured, dozen	3	0- 6 0
Hyacinth, Roman, doz. sprays	0	6- 1 0	— yellow (Maréchals), per doz.	4	0- 9 0
— dozen spikes	... 3	0- 6 0	— red, per dozen	... 1	0- 2 0
Lilac, white French, per bunch	4	0- 5 0	— (French) p. doz.	1	6- 4 0
Lilium Harrisii, doz.	8	0-10 0	Tuberose, 12 blms.	1	0- 1 6
Lily of the Valley, doz. sprays	0	6- 1 0	Tulips, red, doz. bm.	0	6- 0 9
Maiden Hair Fern, 12 bunches	... 4	0- 8 0	— white, doz. blm.	1	6- 3 0
Marguerite, per doz. bunches	 4	0- 6 0	— yellow, doz. blm.	1	6- 2 0
Mignonette, 12 bun.	3	0- 6 0	Violets, Parme French per bunch	6	0- 8 0
Mimosa, French, bun.	1	0- 2 0	— Czar, French, per bunch	3	0- 5 0
			— small French, p. doz. bunches	3	0- 6 0

ORCHID-BLOOM in variety not in quantity.

VEGETABLES. — AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Beans, French, lb.	... 1	0- 1 6	Mushrooms, punnet	2	0-
Beet, red, per dozen	2	0- 3 0	Mustard and Cress, punnet	... ...	0 4- ...
Carrots, per bunch	... 0	4- 0 6	Parsley per bunch	... 0	3- 0 6
Cauliflowers, each	... 0	3- 0 6	Seakale, per basket	... 2	6- ...
Cucumbers, each	... 0	9- 1 6	Shallots, per lb.	... 0	6- ...
Endive, per dozen	... 2	0- 3 0	Tomatos, per lb.	... 0	6- 1 0
Herbs, per bunch	... 0	9- 1 0	Turnips, per bunch	... 0	4- 0 6
Lettuces, per doz.	... 1	6- 2 0			

POTATOS.

The weather being more favourable, farmers are loading freely, and stock is increasing. Prices still continue firm. Best samples, 90*s.* to 100*s.*; ordinary kinds, 50*s.* to 55*s.* *J. B. Thomas.*

SEEDS.

LONDON: *Feb.* 1.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that for the time of year a fair business is passing in seeds. American cables come higher again this morning. Offers of English Clover seed are falling off. White and Trefoil keep steady. For Italian Rye-grass extreme prices are realised. There is no change in perennials. Spring Tares, with an improvement alike in value and demand, are getting in narrow compass. Of Sanfoin the supply is short. Canary seed is firm. Hemp seed on the spot appears almost unobtainable. Haricots are dearer abroad. Peas move off slowly. Rape seed is hardening. Mustard continues scarce and dear. Windsor Beans are much inquired for.

FRUITS AND VEGETABLES.

BOROUGH, *Jan.* 31.—Quotations:—Savoys, 3*s.* 6*d.* to 4*s.* 6*d.* per tally; Cauliflowers, 1*s.* 6*d.* per dozen; Sprouts, 1*s.* 6*d.* to 1*s.* 9*d.* per half-sieve; Turnip-tops, 3*s.* per bag; Carrots, 1*s.* 9*d.*; Turnips, 1*s.* 6*d.*; Parsley, 3*s.* per dozen bunches; English Onions, 8*s.* per cwt.; Dutch do., 6*s.* per bag; English Apples, 4*s.* to 6*s.* per bushel.

SPITALFIELDS: *Jan.* 31.—Prices remain as last quoted for nearly all sorts of produce.

STRATFORD, *Jan.* 31.—There has been an excellent supply of all kinds of produce at this market during the past week, and a brisk trade was done at the prices shown below:—Savoys, 1*s.* 6*d.* to 6*s.* per tally; Greens, 9*d.* to 1*s.* 3*d.* per dozen; ditto, 2*s.* to 2*s.* 6*d.* per bunch; Brussels Sprouts, 1*s.* to 1*s.* 3*d.* per half-sieve; do., 2*s.* to 2*s.* 6*d.* per sieve; Scotch Kale, 1*s.* to 1*s.* 3*d.* per half-sieve; Turnips, 2*s.* to 3*s.* per dozen bunches; do., 40*s.* to 50*s.* per ton; Carrots, household, 40*s.* to 50*s.* per ton; do., cattle-feeding, 24*s.* to 36*s.* per ton; Parsnips, 8*d.* to 1*s.* per score; Mangolds, 17*s.* to 20*s.* per ton; Swedes, 18*s.* to 21*s.* per ton; Onions, English, 180*s.* to 200*s.* per ton; do., Bordeaux, 7*s.* to 7*s.* 6*d.* per case; Apples, English, 2*s.* to 2*s.* 6*d.* per bushel; do., American, 12*s.* to 21*s.* per barrel.

FARRINGDON: *Feb.* 2.—Quotations:—English Onions, 9*s.* per cwt.; Turnips, 45*s.* to 50*s.* per ton; Carrots, 50*s.* to 55*s.* do.; Parsnips, 60*s.* to 65*s.* do.; Swedes, 30*s.* to 35*s.* do.; American Baldwin Apples, 14*s.* to 16*s.* 6*d.*; Golden Russets, 22*s.* per barrel; Tomatos, 1*s.* 6*d.* to 1*s.* 9*d.* per box.

POTATOS.

BOROUGH: *Jan.* 31.—Quotations:—English Magnums, 50*s.* to 60*s.*; Hebrons, 60*s.*; Snowdrops, 60*s.* to 70*s.* per ton.

SPITALFIELDS: *Jan.* 31.—Quotations remain as for last week.

STRATFORD: *Jan.* 31.—Quotations:—Magnums, 50*s.* to 65*s.*; Imperators, 50*s.* to 65*s.*; Bruce Magnums, 65*s.* to 70*s.*; Scotch do., 60*s.* to 75*s.*; Main Crop, 80*s.* to 100*s.*; Belgian Magnums, 55*s.* to 65*s.* per ton.

FARRINGDON, *Feb.* 2.—Quotations:—Main Crop, 90*s.* to 100*s.*; Abundance, 90*s.* to 100*s.*; Magnums, English, 65*s.* to 70*s.*; Bruces, do., 65*s.* to 75*s.*; Hebrons, 75*s.* to 80*s.* per ton.

LONDON AVERAGES: *Feb.* 1.—Quotations:—Magnums, 50*s.* to 70*s.*; Hebrons, 60*s.* to 80*s.*; Snowdrops, 60*s.* to 80*s.*; Imperators, 55*s.* to 70*s.*; Champions, 50*s.* to 60*s.* per ton.

THE WEATHER.

[BY the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (−) the Mean for the week ending January 28.	Accumulated. Above 42°, for the Week.	Accumulated. Below 42°, for the Week.	Accumulated. Above 42°, difference from Mean since January 1, 1893.	Accumulated. Below 42°, difference from Mean since January 1, 1893.	Rainfall. More (+) or less (−) than Mean for the Week.	Rainfall. No. of Rainy Days since Jan. 1, 1893.	Rainfall. Total Fall since Jan. 1, 1893.	Bright Sun. Percentage of possible Duration for the Week.	Bright Sun. Percentage of possible Duration since Jan. 1, 1893.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	3 +	10	22	− 16	+ 74	5 +	22	4·2	9	14
1	4 +	11	25	− 17	+ 55	2 —	20	1·9	48	13
2	3 +	12	21	− 13	+ 43	3 —	16	1·2	11	14
3	2 +	10	30	− 18	+ 82	1 +	20	1·7	24	16
4	3 +	15	28	− 21	+ 68	1 +	16	1·4	17	17
5	2 +	11	24	− 30	+ 94	3 —	16	1·7	15	13
6	4 +	21	5	− 9	+ 43	3 —	17	1·8	10	19
7	3 +	17	8	− 12	+ 38	3 —	16	1·1	10	13
8	2 +	24	11	− 28	+ 61	1 +	16	2·3	20	23
9	3 +	21	5	− 14	+ 13	1 —	20	2·3	10	14
10	2 +	39	8	− 24	+ 16	0 aver	16	3·1	16	15
*	2 +	29	0	− 24	+ 27	2 —	19	2·6	24	17

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E. 4, Midland Counties; 5, England, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; (* Channel Islands.)

THE PAST WEEK.

THE following summary record of the weather for the week ending January 28, is furnished from the Meteorological Office:—

"The *weather* during this period was mild and humid, with generally clouded skies and occasional rain.

"The *temperature* exceeded the mean in all districts, the excess varying from 2° to 3° in most parts of the kingdom, to 4° in 'Scotland, E. and W.' The highest of the maxima were registered on the 23rd, and ranged from 53° in several of the English and Scotch districts and 'Ireland, S.,' to 50° in 'England, E.' The lowest of the minima were recorded, as a rule, towards the end of the week, when the thermometer fell to 24° in 'England, S.W.,' 25° in 'Scotland, N.,' and to between 26° and 32° in most other districts; in 'Scotland, W.,' however, the lowest reading was 34°, and in the 'Channel Islands,' 35°.

"The *rainfall* was rather more than the mean in 'Scotland, N.,' 'England, S.,' the 'Midland Counties,' and 'England, S.W.,' and just equal to it in 'Ireland, S.;' in all other districts there was a deficit. In 'England, N. and E.' the fall was very slight.

"The *bright sunshine* exceeded the mean at some of the stations in 'Scotland, N. and E.,' as well as in 'England, E.;' elsewhere there was a deficiency. The percentage of the possible duration ranged from 24 in 'England, E.' and the 'Channel Islands,' and 20 in 'England, S.W.,' to 9 in 'Scotland, N.'"

NOTICES TO CORRESPONDENTS.

TO OUR READERS.—*The Editor begs leave to solicit from the readers and contributors to the Gardeners' Chronicle:—*

Short Practical Notes on Cultural Matters;

Early Intelligence of Local News likely to be of general interest;

Notes and Memoranda useful to the trade;

Specimens of New or Interesting Plants, Fruits, &c.;

Drawings or Photographs of Gardens, Trees, Flowers, &c., and which if suitable for reproduction will be utilised so far as possible.

APPLE SHOOTS: *E. Tappin.* The shoots are attacked badly by canker, which is probably the result of your low wet situation. Some of them also appear injured by hard frost. To prevent canker, keep your ground drained as perfectly as possible, and be careful that the roots of the trees are not allowed to get into cold and wet subsoil.

BEETLE: *H. G. B.* The insect you send is the well-known black weevil, and is very destructive in the plant-houses. Spread a piece of calico on the ground beneath the plants, then by going into the house with a dark lantern, and suddenly turning the light in the direction of the plants, the insects will at once drop on the cloth. They must be speedily captured and destroyed. Hunt the potting-soil over for the small white grubs.

CATTLEYA FLY: *Cattleya labiata.* It is impossible for us to say who is in fault. You might have had the fly before you bought your plants. If you had no arrangement beforehand, we fear you must bear the loss.

CATTLEYA LABIATA ALBA: *C. D.* You may be right, but, in any case, it is of no interest to our readers.

ENTRY INTO THE SERVICES OF BOTANIC GARDENS: *Aspirant.* Application should be made in a regular way to the Director, W. T. Thiselton-Dyer, Esq., Kew; or to the Regius Keeper, Dr. Isaac Bayley Balfour, Botanic Garden, Edinburgh.

EUCHARIS MITE: *F. S.* Well, yes; we have never seen more upon one bulb than there were upon this one. We tremble for the cleanliness of our sanctum even, after this date. There is, perhaps, fungus also, but whether this is the cause or effect of mite has not yet been established.

FINOCHIO SEED: *A. J. S.* This seed is not kept by any of our seedsmen, so far as we know, but it may be obtained from MM. Vilmorin, Andrieux et Cie., 4, Quai Mégisserie, Paris; and MM. Damman & Co., à Teducio, Naples.

LAVENDER BLOOMS: *L. Vera.* We cannot recommend dealers; moreover, we do not believe that the flowers when sent will pay the cost of sending to Covent Garden. Better offer them to some perfumery distiller in Liverpool, or a maker of sachets.

MEALY-BUG ON VINES: *A. B.* Rub off the rough bark, and paint the rods with "Petroleum emulsion," or make a mixture of a wine-glass of petroleum to 3 gallons of hot-water and 1 lb. of soft-soap, mixing the soap in the water first. With this mixture the Vines may be syringed, if the application with a painter's brush takes up too much time. The interior of the vineries should be washed with strong soapy water, or the emulsion, once or twice, and the syringing of the Vines with the same till they expand their buds will check the increase of the bug after heat is applied to the vineries. Shovel out the upper layer of soil, replacing it with fresh materials. Use a camel's-hair pencil and methylated spirits whenever bug is observed during the rest of the year. More radical measures may be taken next winter to clear out the insect.

NAMES OF FRUITS: *G. Southcott.* 1, Rymer; 2, King of the Pippins; 3, Cox's Orange Pippin; 4, not received; 5, Hoary Morning.

NAMES OF PLANTS: *A. C. H.* A scrap of a Conifer, with the young foliage and male flowers; probably a Cupressus, but it is impossible to say which one. —*J. L. P.* 1, Phyllirea angustifolia; 2, Osmanthus aquifolius; 3, Photinia serrulata.—*W. R.* 4, the plant omitted in our last issue, is Corynocarpus lævigatus. — *J. B.* Next week. —*T. R.* Lælia anceps Sanderiana. The variegated Adiantum macrophyllum is a very pretty plant, and it should be very useful.—*H. J. R.* Your plant was imported from Brazil as Lælia Patini, but it seems to be only a form of Cattleya Skinnerii. In the flower you send the pollinia are wanting, and we cannot apply that test. The other is known in gardens as Burlingtonia granatensis, but it seems very near to Rodriguezia (Burlingtonia) refractra.—*J. S.* 1, Rodriguezia secunda; 2, Catasetum atratum.—*H. A. W.* Odontoglossum Lindleyanum.—*C. W.* 1, Probably Brachysema lanceolata; 2, next week; 3, Justicia chrysocoma.

NEW ZEALAND FLAX: *Hortus.* We should say that late autumn sowings made in sandy loam three quarters, and leaf-mould one-quarter, with a small quantity of sand if the loam be heavy, and keeping the seed-pans in a cool pit out of the reach of frost, and covered with a piece of tile or slate, would be the likeliest way of raising plants. The seed would remain below ground till January or February, unless the season should be very mild; and during that period light is not needed, and water in quantities only sufficient to keep the soil moderately moist. After germination there would be no harm in applying a higher degree of warmth than is afforded by a cold pit.

PARAGUAY TEA-MATE: *W. B. M.* Ilex paraguayensis. The taste is slightly bitter, and mucilaginous. We do not know where it may be bought in this country.

PAYMENT FOR LITERARY WORK: *X.* A matter of arrangement, in the absence of which the editor is not, in our opinion, bound to remunerate you, even if he has published your article. Formerly, only the regular members of the staff of a journal received payment. Now that journalism has become a business, most contributors expect to be, and are, paid for their contributions, with few exceptions, but this is by arrangement beforehand.

POISONING BY PRIMULA OBCONICA: *C. W.* Rest, cold lotions, cooling medicine, no stimulants. Consult your doctor.

WINTER-BERRYING CAPSICUMS: *Subscriber.* Obtain some cuttings of firm young wood in March or April, which strike in a mild hotbed. Pot the rooted cuttings without delay, grow them on close to the glass, at first in a warm frame, afterwards in a cool one, stopping the shoots from time to time till the end of July. After the last break, no glass protection is needed till October. Use loamy sandy soil, smallish pots, not much drainage, and feed if necessary with manure-water.

COMMUNICATIONS RECEIVED —Canon E —University College of Wales.—W. C.—W. & S.—A. P. B.—J. B.—J. W.—W. & N.—W. E. G.—B. A.—A. F. B.—S. Yoshida, Tokio.—G. G.—Cattleya labiata.—W. C.—Vagabond.—G. B —R. McL —G. T. Grignon —M. C. C.—B. A.—E. B.—N. E. B. —P. W. D —E. M. W.—Lady C. P.—F. D.—D. O.—F. W. B. —H. K.—S. H.— M. R.—J. R.— W. W. & Son.— W. W. —H. B, Auckland, N.Z.—G. S. S.—M. G. & Co.—Lord K. —P. B —Hon. Mrs. B.—Prof. Vochting.—Senex.—H. H. D'O. —W. E.—A. C. M.—H. Boscawen, New Zealand.—J. G. B.— M. G. T.—D.—D. M —A. H.—C. A. M. C.—J. B. W.— H. H. D.—G, W.—W. B. H.—J. J. W.—T. H.—T. C.— W. H. D.—W. D.—W. Bailey.—East Somerset.—A. F. B.— W. A. C.—W. R.—T. J.—J. C.—R. M.—C. W. Chard.— M. C. C.—S. C.—C. E. B.—W. K.—A. Y.—G. B. L.—A. F. B. —W. R.—A. H —T. R.—J. Ritchie.—J. C.—E. C.—A.— J. W. W.—A. G.—Mushrooms.—Constant Reader, next week.

SPECIMENS RECEIVED.—C. Weston (next week).

DIED.—On Tuesday, January 31, P. GODDARD, for the last fifty years head gardener at Hunton Court, Hunton, near Maidstone.

LARGELY INCREASED CIRCULATION of the "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

Increased to the extent of **75 per cent.**

Advertisers are also reminded that the "Chronicle" circulates among ALL *classes of gardeners and garden-lovers at home, has a specially large foreign and colonial circulation, and is preserved for reference in all the principal Libraries.*

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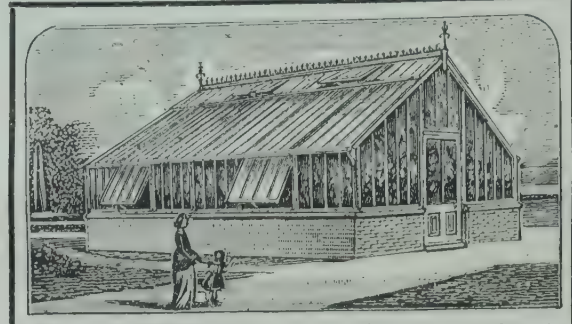
Beware of imitations.



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ORCHID PEAT; Best Quality; BROWN FIBROUS PEAT for Stove and Greenhouse use. RHODODENDRON and AZALEA PEAT. Samples and Prices of WALKER AND CO., Farnborough, Hants.

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Send Postal Order for Sample Sack.
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Hardwood do., Ferns, and Rhododendrons, by sack, yard, ton, or truckload. **SPECIAL ORCHID PEAT,** in sack only.
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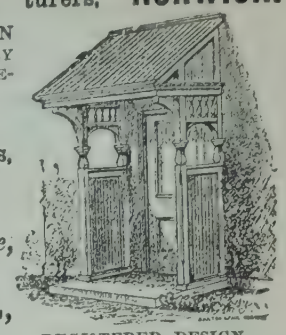

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WARE and SONS' ARE THE **FLOWER POTS** BEST.
THE SUSSEX POTTERY WORKS, UCKFIELD.
Quotations given for quantities. Carriage paid to any **The Best** Railway Station. **are Cheapest.**
SAMPLES and LISTS FREE. Crates packed.

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THE FRUIT GARDEN of the UNIVERSE.—THE AUSTRALIAN IRRIGATION COLONIES (Chaffey Brothers), established and regulated by Government, OFFER an enjoyable life and OCCUPATION, a sunny and salubrious climate, and most highly remunerative returns to Cultivators with small or large capital; pamphlet free.
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GARDENING APPOINTMENTS.

MR. GEO. WHEELER, for many years Gardener to the late Sir FRANCIS GOLDSMID, and more recently to Lady LOUISA GOLDSMID, at St. John's Lodge, Regent's Park, N.W., has been appointed Manager of the Tongswood Estate, Hawkhurst, lately purchased by the Misses GOLDSMID.

Mr. G. BARKER, as Head Gardener to H. P. Leschellas Esq., Higham, Windlesham, Surrey.

Mr. E. TROLLOPE, of The Firs, Lee, Kent, as Head Gardener to J. FOSTER, Esq., Coombe Park, Whitchurch, Reading.

Mr. WM. PITT, late of The Gardens, Callandar Park, Falkirk, as Head Gardener to CHARLES LORAINE BELL, Esq., Woolsington Hall, Newcastle-on-Tyne.

Mr. ROBERT SLEIGHTHOLM, late Head Gardener at Burntwood Hall, Barnsley, as Head Gardener to — WILKINSON, Esq., North Hill, Headingly, Leeds.

Mr. ALFRED KING, late General Foreman, Abberley Hall, Stourport, as Head Gardener to Mrs. DAWSON LAMBTON, The Node, Welwyn, Herts.

Mr. JAS. DUNN, for the last eighteen years Gardener to Colonel and Mrs. GASCOIGNE, Parlington Hall, Leeds, as Gardener to S. TAYLOR WHITEHEAD, Esq., Burton Closes, Bakewell.

CATALOGUES RECEIVED.

W. K. WOODCOCK, Barkby Road Nurseries, Syston, near Leicester—Chrysanthemums.

JNO. PERKINS & SON, 52, Market Square, Northampton—Vegetable and Flower Seeds.

W. DRUMMOND & SONS, Dublin—Garden Seeds.

W. PIERCY, 89, West Road (re-named Beadnell Road), Forest Hill, London, S.E.—Chrysanthemums.

THOS. S. WARE, Hale Farm Nurseries, Tottenham, London—Begonias, Chrysanthemums, Dahlias, and General Seed Catalogues.

BEN REID & Co., Aberdeen—Plants and Seeds.

KENT & BRYDON, Market Place, Darlington—Garden Seeds, &c.

CUNNINGHAM & WYLLIE, 6, West Nile Street, Glasgow—Garden Seeds.

HAAGE & SCHMIDT, Erfurt, Germany—Plants and Seeds.

R. NEAL, Trinity Road, Wandsworth, S.W.—Seeds, Garden Sundries, &c.

R. ERBE, 84, Tower Hill, London, E.C.—Breeding Boxes for Birds.

FISHER, SONS, & SIBRAY, Handsworth Nurseries, near Sheffield—Kitchen Garden and Flower Seeds.

WOOD & INGRAM, Huntingdon—Vegetable, Flower, and Farm Seeds.

A. FINDLEY, Seed Grower, Markinch, N.B.—New Varieties of Potatos.

WILLIAM BULL, 536, King's Road, Chelsea, London—Seeds, &c.

BARR & SON, 12, King Street, Covent Garden, London—Seeds, &c.

BARBIER, BROS. & SON, Nurseries, Orleans, France—General Trade Catalogue.

WM. RUMSEY, Joynings Nursery, Waltham Cross, N.—Seeds, &c.

W. SHAND, New Street, Lancaster—Seeds, &c.

M. BUTCHER & SON, 109, High Street, High Barnet—Vegetable Flower and Farm Seeds.

W. SMITH & SON, Exchange Seed Warehouse, Aberdeen—Seeds, Plants, &c.

ROBT. SYDENHAM, Tenby Street, Birmingham—Vegetable and Flower Seeds.

T. HORSMAN, 102, Godwin Street, Bradford—Seeds, &c.

POPE & SONS, King's Norton, Birmingham—Seeds, &c.

DOMAIN ZOESCHEN, Merseburg—Novelties in Shrubs, Wholesale and Retail.

J. L. CLUCAS, Moor Street, Ormskirk—Vegetable and Flower Seeds.

CHARLES R. SHILLING, Hartley Seed Stores, Winchfield, Hants—Seeds, Plants, and Bulbs.

F. MILLER & Co., 267, Fulham Road, London, S.W.—Vegetable and Flower Seeds, Roots, and Garden Requisites.

J. AND R. THYNNE, 83, St. Vincent Street, Glasgow—Garden Seeds and Requisites.

HOOPER, DYER & Co., Limited, Covent Garden, London—Seeds.

WANTED, an energetic pushing young MAN, to take Charge of a Suburban Branch Business; must be able to Make-up well, and be of good address, and produce satisfactory testimonials.—Apply, by letter first, to J. W. SILVER, Streatham and Norbury Nurseries, S.W.

WANTED AT ONCE, as GARDENER, a married MAN, with a knowledge of Gardening, to attend to Garden, and assist in Management of a Bulb Farm. No Greenhouse. Good house and garden found.—THOS. HODSON, Bethlim Farm, Wainfleet St. Mary, Lincolnshire.

WANTED, as GARDENER, one who will make himself generally useful, for a small Garden and Glass House.—Apply, 64, Haymarket, or to 156, High Street, Fulham.

WANTED, for a Branch Nursery at Loughton, Essex, an OUTDOOR FOREMAN, well up in the Growing of Hardy Trees and Shrubs, Rhododendrons, &c.; no Glass.—W. PAUL AND SON, Waltham Cross, Herts.

WANTED, a WORKING FOREMAN, for a Market Nursery, with a thorough knowledge of Plants, Cut Flowers, Grapes, Cucumbers, and Tomatos.—Apply by letter, with references, to CUMBERLAND, 143, Flower Market, Covent Garden, W.C.

WANTED, a GROWER, to Take Charge of a Department.—Must be a competent hand at Chrysanthemums, Roses, and Tomatos.—Apply, with references, stating age, married or single, and wages required, to MANAGER, Llys-Onen Gardens, St. Clears, Carmarthenshire.

WANTED, a strong and industrious MAN, who understands Growing Ferns and Plants for Market.—Apply, stating experience and wages, to Cumberland Park Nurseries, Willesden Junction, London, N.W.

WANTED, a young MAN (about 25) with great experience in Herbaceous Plants, to take Charge of a large collection in a private establishment. Preference given to one acquainted with Roses and their cultivation.—Apply, with full particulars and references to WM. CUTBUSH AND SON, Highgate Nurseries, London, N.

WANTED, for a Small Nursery in Ireland (nice Protestant locality), an active, intelligent young MAN (single).—Able to Propagate and Grow Roses, and Herbaceous Stuff, and to take charge of two houses. Help given; several men kept. A man able to raise Begonias from seed and cuttings preferred. Only Englishmen need apply.—State age, wages expected, enclosing testimonials. To a good man every encouragement given. Could be boarded if desired.—Apply, FRANK JEEVES, Geashill, King's County.

WANTED, a good SOFTWOODED PROPAGATOR.—One with some experience of Pot Roses preferred. Also an active young man for Wreath and Cut Flower work.—State age, wages expected, with experience, to W. TROUGHTON, Nurseryman, Preston, Lancashire.

WANTED, a PROPAGATOR and GROWER, in a Market Nursery.—Apply, stating age and references, wages expected, &c., to L., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, TWO young MEN, for general work in a small Nursery near London, used to Potting, &c.; also TWO OTHERS for out-door Nursery, trees and herbaceous plants. Wages, 20*s.* per week. Permanent to good steady industrious men.— W. L., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, at ONCE, as JOURNEYMAN (FIRST), a first-rate man, to Take Charge of Fruit-houses, under a Foreman.—At least two years in similar situation. Active and energetic; not under 22 or 23 years of age. 21*s.* per week, no bothy; paid for duty.—GEO. ABBEY, Avery Hill, Eltham, Kent.

WANTED, a young MAN, accustomed to Tomatos and Cucumbers for Market. Wages, £1 per week.—Apply personally, with references, to F. FREEMAN PAGE, Stonecot Nursery, Sutton, Surrey. Nearest Station, Worcester Park, L. & S.W.R.

WANTED, in a Market Nursery, TWO good MEN, for Vines, Cucumbers, and Tomatos. State age, experience, salary required, and send copies of testimonials to AMOS MATTHEWS, Durant's Arbour Nursery, Ponder's End.

WANTED, GARDEN LABOURER for Pleasure Ground.—Married, without family, or with one son. Wife to take charge of house, with three young Gardeners.—Apply, HEAD GARDENER, Glanbrydan Park, Manordilo, Carmarthenshire.

WANTED, AT ONCE, a young MAN, well up in Outside Nursery Stock, able to take charge in master's absence, and execute orders.—State age, and wage required, to J. CLAYTON, The Nurseries, Rothwell, near Leeds.

WANTED, a young MAN, accustomed to Potting and Watering. Commence, 18*s.* per week.—W. T. CHILD, Farnboro', Kent.

WANTED, ONE or TWO young MEN, to assist in Chrysanthemum Growing; must be quick at Tying.—JOSEPH LOWE, Uxbridge.

WANTED, a young MAN, thoroughly experienced in Growing Flowers and Fruit under Glass; also an experienced young MAN for Outside Work. State age, wages, and where last employed.—HARVEY, South Lodge, Down End, Fareham, Hants.

WANTED, a hard-working young MAN, for the Houses, experienced in Plant and Fruit Growing.—Wages, 17*s.* per week, milk, and vegetables.—G. HUTT, The Gardens, Eywood, Titley, Herefordshire.

WANTED, a young MAN, well-up in Growing for Market Grapes, Tomatos, Cucumbers, Mushrooms, Chrysanthemums, Ferns, &c.—Apply, MACKINTOSH, 8, Warwick Square, Carlisle.

WANTED, TWO or THREE good NURSERY SPADE HANDS, used to Planting. None but good men need apply. — State wages required to LISTER KERSHAW, Nurseryman, Brighouse, Yorks.

WANTED, TWO young MEN, for a Market Nursery, where Cucumbers, Tomatos, and Cut Flowers are grown for Market.—State full particulars to The FOREMAN, The Royal Nurseries, Crown Hill, Plymouth.

WANTED, a YOUTH, for Garden Vineries, &c. First-class character required. Wages 14*s.* to 18*s.*—Write, K., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

Seed Trade.

WANTED, a young MAN, as ASSISTANT, not over thirty years of age, who has a good general knowledge of the business.—State age, experience, and where gained, with salary expected, to W. TAIT AND CO., Seedsmen, Dublin.

WANTED, a young MAN, who thoroughly understands Gardening, to act as an ATTENDANT in an ASYLUM. Salary commences at £30 a year, with board, lodging, and uniform, and with prospect of increase —Apply, with full particulars to the MEDICAL SUPERINTENDENT, County Asylum, Rainhill, near Liverpool.

WANTED, a young MAN, to take Charge of Seed Shop, to keep the Books, and to make himself generally useful in his spare time.—Apply WM. HENDERSON, Nurseryman, Birkenhead.

Seed Trade.

WANTED, JUNIOR, who has had some experience of Seeds. A good opening for sharp active youth who is not afraid to dirty his hands.—G. R., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a young LADY ASSISTANT, in a Florist's Business. Must be good at making up Wreaths, Posies, &c. Apply, with testimonials, to FISHLOCK BROS., Elliot Street, Liverpool.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. *on Wednesday will, in all probability, be held over to the next week.*

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. All particulars on application.
Telegraphic and Postal Address—"DICKSONS, CHESTER."

GARDENERS.—Our complete and extensive register of GARDENERS OPEN FOR ENGAGEMENT is at the service of any Lady or Gentleman wishing to secure the services of trustworthy reliable men.—DICKSONS AND CO., 1, Waterloo Place, Edinburgh. Established over a Century.

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character, and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—
F. SANDER AND CO., St. Albans.

SCOTCH GARDENERS.—I have at present several very superior MEN on my Register, whose character and ability will bear the strictest investigation.—JOHN DOWNIE, Seedsman, 144, Princes Street, Edinburgh.

To Noblemen and Gentlemen requiring Land Agents, STEWARDS, BAILIFFS, or GARDENERS.

JAMES CARTER AND CO. have at all times upon their Register reliable and competent MEN, several of whom are personally well known to Messrs. Carter. Enquiries should be made to 237 and 238, High Holborn, W.C.

THOMAS BUTCHER can recommend several HEAD and UNDER GARDENERS of first-rate character and proved ability. Gentlemen seeking such may have particulars free.—Apply to THOMAS BUTCHER, Seed Merchant and Nurseryman, Croydon.

GARDENER (HEAD); age 30.—J. DUMBLE, Gardener to Sir Charles Philipps, Bart., Picton Castle, Haverfordwest, is desirous of recommending his General Foreman, H. Butcher, to any Lady or Gentleman requiring a thoroughly competent man. He has a good knowledge of the different branches of Gardening, is well acquainted with the Cultivation of Fruit (Indoor and Out), Flowers and Vegetables, is also a good hand at Table Decorations.

GARDENER (HEAD); age 30, single at present.—Mr. T. PRITCHARD, Head Gardener and Forester to G. F. Muntz, Esq., Umberslade Hall, Hockley Heath, near Birmingham, can with confidence recommend his Foreman, William Abbey, to any Lady or Gentleman requiring a thoroughly experienced, competent man. Four years in present situation. Highest testimonials from four previous situations as to being efficient in all branches of the profession, and personal character.

GARDENER (HEAD), or where help is given.—Age 23, single; eight years' experience. Vines, Peaches, Eucharis, Tomatos, Chrysanthemums. Highest testimonials.—ALMOND, Udimore, Rye, Sussex.

GARDENER (HEAD); age 30.—Mr. BEARD, Steward, Champney, Tring, is desirous of recommending an experienced man to any Nobleman or Gentleman requiring the services of a good Head Gardener, and one who can undertake the Management of Land and Stock if required. Excellent testimonials.—Address as above.

GARDENER (HEAD).—S. DEADMAN, sixteen years head gardener at Gorway, Teignmouth, is at liberty to engage with any Lady or Gentleman requiring the services of a thorough practical man.—Apply as above.

GARDENER (HEAD); middle age, married, one boy.—Advertiser is open to an engagement where the services of a good all-round practical Man are required. Excellent testimonials, and reference to high garden authorities.—W. S., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

GARDENER (HEAD).—Mr. GRAY, Gardener to R. Barclay, Esq., Bury Hill, Dorking, Surrey, can highly recommend a man as above to any Lady or Gentleman requiring the services of a steady, industrious, all-round man; has been with him five years; excellent references; life experience.

GARDENER (HEAD). — J. BEESLEY, Gardener to Lord Ashcombe, Denbies, can recommend his Foreman as a good practical Man. Good testimonials.—F. WELLS, 29, Hampstead Road, Dorking.

GARDENER (HEAD). — Age 36.—E. G. TAYLOR, Gardener, Manor House, Alton, Hants, knowing of a really practical Working Gardener, who could manage a good establishment, not afraid of work, would be glad to give particulars to any Lady or Gentleman.

GARDENER (HEAD).—W. B. FISHER, Gardener to the Earl Cawdor, Stackpole Court, Pembroke, will be pleased to recommend Charles Davis to any Lady or Gentleman who is in want of a first-class man.

GARDENER (HEAD); age 35.—Mr. EARLE, of Edgemore Kersal, Manchester, wishes to recommend to anyone requiring a thoroughly practical and trustworthy man his Head Gardener (Henry Bennett), who is well qualified to take charge of a large establishment, and has also a good knowledge of Land, Draining, and general Estate Work.—Address as above.

GARDENER (HEAD).—Age 44, married; thoroughly practical and conversant with the requirements of a good establishment. Ten years' character from last employer.—H. COOK, Box Hill, Dorking.

GARDENER (HEAD).—Age 28, married, no family; fourteen years' experience in all branches. Four years' nine months good character.—JOHN FOWLER, Castle Lane Cottage, Reigate.

GARDENER (HEAD); age 39, married.—A GENTLEMAN wishes to recommend a good practical man as Head Gardener. Thoroughly experienced in all branches. Five years' character. — G. SUMMERS, Send, Woking.

GARDENER (HEAD).—Age 35, married, no family.—Mr. J. WILLARD, Head Gardener to the Baroness Burdett-Coutts, Holly Lodge Garden, Highgate, N., can with confidence recommend a thoroughly practical man, with six years' good character, capable of Managing a large Establishment, and will be pleased to supply particulars.—Address as above.

GARDENER (HEAD).—Age 35, married. Mr. T. WHILLANS, Blenheim Gardens, Woodstock, would be pleased to recommend his Fruit and Kitchen Garden Foreman to any Lady or Gentleman requiring the services of a thorough practical man. Seven years' character. Leaving through extensive alterations in establishment.

GARDENER (HEAD WORKING), by a thorough good practical and competent Gardener.—Age 40, married. Twenty-five years' experience in growing Grapes, Peaches, Figs, Melons, Cucumbers, Tomatos, Mushrooms, Stove and Greenhouse plants, Orchids, and Flower and Kitchen Gardening. Abstainer. Highest references. — GARDENER, Compton, Stockbridge, Hants.

GARDENER (HEAD WORKING).—Age 40, married, no family. Thoroughly practical in all branches of Gardening, Vines, Peaches, Cucumbers, Tomatos, Stove and Greenhouse Plants. Will undertake to lay out new Grounds, plant Vines and Peach-houses. Wife experienced Laundress, Poultry and Dairy.—H. Y., Mr. F. Sparks, Lower Teddington Road, Kingston-on-Thames.

GARDENER (HEAD WORKING), where one more is kept.—Age 31, married when suited; ten years' experience in large establishments in all branches. Good character and testimonials.— T. B., 79, Addison Road, Bromley Common, Kent.

GARDENER (HEAD WORKING).—Age 30, single; thoroughly experienced in all branches. Good references.—J. BARKER, 18, Reeve Street, Lowestoft.

GARDENER (HEAD WORKING).—Age 32, married.—Advertiser seeks re-engagement as above. Nineteen years' good practical experience in all branches of the profession in large establishments. Seven years as Head in last situation. Highly recommended, both as regards ability and character.—J. D., 39, Cromwell Road, Colchester.

GARDENER (HEAD WORKING). — Age 27; thoroughly experienced in all branches. Can be highly recommended by present and previous employer. Clergyman desires to find situation for the above.—Rev. ROBERTS, Blackwater, Hants.

GARDENER (HEAD WORKING).—Age 38, married; good character. Abstainer. Twenty years' experience in Growing Grapes, Peaches, Melons, Cucumbers, Tomatos, Stove and Greenhouse Plants, Flower and Kitchen Gardens.—WHITE, Furzedown Cottages, Mitcham Lane, Streatham, S.W.

GARDENER (HEAD WORKING).—Age 30, married; good practical experience in growing Grapes, Peaches, Melons, Tomatos, Cucumbers, Chrysanthemums, Stove and Greenhouse Plants, and in Pleasure and Kitchen Gardens. Sixteen years' experience. Excellent testimonials from present and previous situations.—G. ROBINSON, The Gardens, Southsea House, Dorking, Surrey.

GARDENER (HEAD WORKING), where three or more are kept.— Thoroughly experienced in all branches of the Profession; two years and nine months as Foreman in present situation. Good references.—W. H. SHAW, The Gardens, Elford Hall, Tamworth.

GARDENER (HEAD WORKING).—Age 40; twenty years' thorough experience in all branches. Can be well recommended. — H. CLARKSON, 30, Prospect Road, Upper Sydenham, S.E.

GARDENER (HEAD WORKING).—Age 35, married; thoroughly experienced in all branches. Can be highly recommended from present and previous employers. —W. STACEY, Westcroft Road, Carshalton, Surrey.

GARDENER (HEAD WORKING).—Age 31, where three or more are employed. Sixteen years' practical experience in all branches. Exceptional references. —A. CAMPIN, 24, Perry Hill, Catford, S.E.

GARDENER (HEAD WORKING).—Age 28, married when suited. Foreman in present situation three years. Can be well recommended as good all-round man. —G. CHEAL, Loseley Park Gardens, Guildford.

GARDENER (HEAD WORKING).—Age 30; thoroughly practical in growing Fruit, Flowers, and Vegetables. Can be highly recommended by present and previous employers.—C. TINDALL, The Gardens, The Monk's Orchard, Beckenham, Kent.

GARDENER (HEAD WORKING).—Age 30; sixteen years' good all-round experience; over eleven years' excellent character from present employer.—C. HARRISON, Meriden, Coventry.

GARDENER (HEAD WORKING).—Age 38, married; twenty-two years' practical all-round experience, Inside and Out. Thirteen years' good references.—J. W., 1, Archway Street, Barnes, S.W.

GARDENER (WORKING), two or more under.—Age 30; life experience in good all-round Gardening. Houses (all departments), Pleasure Grounds, Kitchen Garden, Hardy Fruits, Roses, &c. Good testimonials and recommendations. Reference kindly permitted by late employer, E. F. Studd, Esq., Oxton, Exeter.—H. MORRIS, 19, Bramber Road, West Kensington.

GARDENER (WORKING), where some help is given.—Age 28, single; fourteen years' experience in large gardens. Good references.—C. W., Kingswood Gardens, Englefield Green, Staines.

GARDENER (SINGLE-HANDED OR SECOND).—Age 22; twelve years' experience Inside and Out. Excellent references. Total abstainer.—S. ORAM, 5, Hope Cottage, Burnt Oak, Edgware, Middlesex.

GARDENER (SINGLE-HANDED, or otherwise).—Married, no family; thoroughly experienced in all branches. Good characters from last and previous situations. —W. TAYLER, 37, Clarendon Road, Hornsey, N.

GARDENER (SINGLE-HANDED).—Age 25, single; life experience in Fruit, Flower, and Kitchen Garden. Highest references.—T. S., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

GARDENER (SINGLE-HANDED, or SECOND), where three or more are kept.—Age 22, single; eight years' experience, Inside and Out, with good character.—R. HALL, 20, Princes Road, Notting Hill, W.

GARDENER (SINGLE-HANDED, or SECOND), where more are kept.—Age 26, married, no family. Good experience; good character.—W. M., Love Lane, Mitcham, Surrey.

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GARDENER (SECOND), where three or four are kept.—Age 23; eight years' experience Inside and Out. Good character.—F. UPTON, Grange Cottage, Warninglid, Hayward's Heath, Sussex.

GARDENER (SECOND), in a good Establishment; age 30, single.—Mr. ROWE, Gardener to Col. Warde, Squerryes Gardens, Westerham, can highly recommend a man as above.

GARDENER (UNDER), Inside, or Inside and Out.—Age 22; eight years' experience. Good character. —GARDENER, 1, Bective Road, Putney, S.W.

GARDENER (UNDER), Inside and Out.—Age 23; three years in present situation as Single-handed. Good character; total abstainer.—J. E., Mr. Purrott-Brookhill Road, New Barnet, Herts.

GARDENER (UNDER).—Age 19; Inside and Out. Abstainer. Good character. Understands the Management of Bees.—H. R., Milton-Ernest, Bedford.

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FOREMAN, in a good establishment.—Age 26; abstainer.—Mr. JEFFREY, Harewood House Gardens, Leeds, can thoroughly recommend Harry Fox, who was with him two years as General Foreman at Caversham Park. Two years' previous at Wexham Park, Slough.—HARRY FOX, Caversham Park Gardens, Reading.

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JOURNEYMAN, in the Houses.—Age 22; seven years' experience. Mr. J. GRAY will be pleased to recommend F. Rowe as above. Abstainer.—Bodorgan Gardens, Bodorgan, R.S.O., Anglesey, N. Wales.

JOURNEYMAN, Inside preferred.—Age 21; four years' experience. Good character. — E. W., Arborfield, near Reading, Berks.

JOURNEYMAN (Inside, or Inside and Out); age 21.—T. LUPTON, The Gardens, Brockley Hill House, Stanmore, can with confidence recommend T. Carr as above. Sober, steady, and very industrious. Twelve months' good character. Five years' good reference.

JOURNEYMAN (FIRST), in a good establishment; age 22.—H. COSTER, Gardener, Ickworth Park, Bury St. Edmunds, can with confidence recommend a man as above. Two years character from present place.

JOURNEYMAN, in a good establishment.—Age 21; seven years' experience. Good character.—J. A., Collingwood Road, Sutton, Surrey.

JOURNEYMAN, in a good establishment.—Age 20; six years' experience in the general routine of Gardening. Good references from present and previous employers —W. CHILDS, Ashridge Park, Berkhamsted, Herts.

JOURNEYMAN (FIRST).—Age 23; can be well recommended by present and previous employers. Two years in present situation.—A. WEST, The Gardens, Catton Park, Norwich.

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JOURNEYMAN, Inside and Out.—Age 20; Englishman; can be well recommended by present and previous employers.—T. HAZELDINE, Bessborough, Cork, Ireland.

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JOURNEYMAN, in a good establishment.—Age 20; excellent references.—R. WAINWRIGHT, The Gardens, Ferneclough, Bolton, Lancashire.

JOURNEYMAN (FIRST), in a good establishment.—Mr. LAWSON, Dorfold Gardens, Nantwich, can with confidence recommend G. Smith (age 24), who has lived here three years. Yorkshire or Lancashire preferred.

JOURNEYMAN, in the Houses.—Age 23; nine years' experience in Fruit and Plant Culture. Two years in present situation. Good references.—F. TOMS, Park Gardens, Winchcombe, Glos.

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JOURNEYMAN (Inside), in a good English establshment.—Age 22; eight years' experience in good Scotch places, and good references.—T. KENNEDY, Loddington Hall, Leicester.

JOURNEYMAN (FIRST), under a Foreman. Age 22; six and a half years' experience. Abstainer. Good character. Bothy preferred.—WM. KITCHEN, Bishop's Hall Gardens, Romford, Essex.

JOURNEYMAN, Inside and Out.—Age 20; Four years' good practical experience; good characters.—J. PIKE, Dalham Hall Gardens, Newmarket.

JOURNEYMAN (FIRST), Inside, under a Foreman.—Eight and a half years' experience; three years in present situation; good character; bothy preferred.—F. SNELL, The Gardens, Hayes Place, Hayes, Kent.

JOURNEYMAN (Inside), under Foreman.—Age 22; eight years Inside and Out, three years in present situation. Total abstainer. Suburbs preferred.—A. HUNTLEY, 15, Princes Road, Kingston-on-Thames.

JOURNEYMAN (SECOND); Inside in good establishment, where four or more are kept.—F. SIMMONDS, Mamhead Park Gardens, Devon, can highly recommend J. P. to any Gardener wanting a willing hand.—Mabel Villa, Worthington Road, Solworth.

JOURNEYMAN, in a good Establishment, under Glass.—Age 20; two and a-half years in present situation. Good reference. — E. SAUNDERS, Lindisfarne Gardens, Bournemouth.

JOURNEYMAN (Inside), in a good Establishment.—C. BLICK, Head Gardener, The Warren, Hayes Common, Kent, can highly recommend Frederick Adams as above. Five years' practical experience.

JOURNEYMAN (SECOND), in the Houses.—Three and half years in present situation. Age 17. Total abstainer. Good character.—G. L., 26, James Street, Boston, Lincs.

JOURNEYMAN, in the Houses, under a Foreman; age 23.—C. J. WAITE can with every confidence highly recommend Charles Luke as above. Strong and healthy. Five years' most excellent character.—C. J. WAITE, Glenhurst Gardens, Esher, Surrey.

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CONTENTS.

Acacia, the false, for forage 170
Arum palæstinum ... 174
Barrier Island 161
Beaudesert 164
Books, notices of—
Les Orchidées de Semis 171
Revue de l'Horticulture Belge 170
The Garden Oracle ... 170
Canna, a synopsis of the species of 164
Carex japonica variegata 172
Cluster Pine in Britain... 173
Daffodils at the Antipodes 174
Evergreens in pots ... 164
Florists' Flowers... ... 176
Freesias 174
Garden, a South England, in winter 172
Gardeners' Royal Benevolent Institution ... 174
Gold fish, treatment of... 174
Grape, Barbarossa ... 174
,, Gros Colmar cause of flavour in ... 172
Iris alata var. Leichtlinii 171
Irises, the Japanese ... 168
Kniphofia 170
Lily culture in pots ... 163
Manchester, round ... 166
Manures 168
Metropolitan Public Garden Association ... 170
New Zealand, preservation of Flora and Fauna 161
Orchid notes and gleanings 163
Orphan Fund, Gardeners' 168, 173
Orphan Fund, election to 175
Parks, the, improvements in 171
Plants, new or noteworthy—
Begonia Baumanni ... 163
Begonia fulgens ... 163
Brugmansia aurea ... 162
Cattleya Alexandræ ... 162
Clerodendron hastatum 162
Cypripedium Dibden × 162
Cypripedium Leonæ ... 162
Potatos, early 174
Rosa gigantea 163
Societies—
Crystal Palace: show fixtures 169
Corbridge and District 171
Windsor, Eton, and District 170
Spider, red 174
Stock-taking: January 171
Vegetables in London ... 169
Viola, the, as a decorative plant 165
Wales, University College for 169
Weather 176
Week's Work, the—
Flower garden, the ... 167
Fruits under glass ... 166
Hardy fruit garden ... 166
Kitchen garden, the ... 167
Orchid-houses, the ... 166
Plants under glass ... 167
Westwood, the late Professor 170

ILLUSTRATIONS.

Apple fungus 177
Carex japonica variegata 173
Iris lævigata 165
Iris lævigata, a garden of, in Japan 169
Winter moth 177

"GARDENERS' CHRONICLE."

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8 Cattleya Skinneri alba
,, Hardyana, large plant, 2 leads, original plant
2 ,, calystoglossa
2 ,, Lawrenceana, 2 specimens
6 ,, Mossiæ Hardyana, offered for the first time
,, Mendelii, grand specimens, several varieties
,, Massiana
,, Bowringiana, specimen plants, and fine varieties
,, Phillbrickiana
,, Schilleriana, with 20 bulbs
,, Trianæ Hardyana
,, Mendelii bella
Cypripedium selligerum majus, fine specimens
,, Rothschildianum
,, Elliottianum
,, candidulum, fine specimen
,, Wallisii, do.
,, Spicerianum, grand plants
,, Dominianum, do.
,, calurum, fine variety, and specimen plant
Cymbidium Hookerianum
Calanthe textorum, fine specimen
,, veratrifolia, large plant
1 Lælia Arnoldiana, specimen plant, 2 leads with spikes
1 ,, elegans alba, with 15 bulbs
1 ,, Blenheimense, magnificent plant, with 16 bulbs
1 ,, Schilleriana, grand piece
2 ,, Tressideriana
1 ,, anceps Schroderæ
1 ,, ,, Schroderiana, finest of all the white varieties
1 ,, Harpophyllum giganteum, wonderful specimen
,, purpurata aurora
Dendrobium Cooksonii
,, nobile nobilius
,, Tollianum
,, Leechianum [flora
,, splendidissimum grandi-
,, Ainsworthii
,, Dominianum
Lycaste Skinneri alba
Cœlogyne cristata alba, fine pieces
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Catalogues are now being prepared, and when ready, may be obtained on the premises, of Mr. Holmes, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Monday Next—Plants from Belgium—Roses, &c.

50 CAMELLIAS, 36 AZALEA INDICA, 60 A. MOLLIS PALMS and DRACÆNAS from BELGIUM, 200 Dwarf ROSES. Home-grown LILIES, LILY of the VALLEY (Berlin crowns), BEGONIAS (Single and Double), Hardy Border BULBS and PLANTS.

MESSRS. PROTHEROE and MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, February 13, at 12 o'clock.

On view morning of Sale, and Catalogues had.

Tuesday Next.

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MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, February 14, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Tuesday Next.

2000 LILIES in variety, comprising auratum, rubrum, album, longiflorum, rubro-vittatum macranthum, Harrisii, and others; VALLOTAS, BEGONIAS, GLADIOLUS, 60 lots of STOVE and GREENHOUSE FERNS, Hardy PLANTS and BULBS.

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5000 LILIUM AURATUM.
3600 other LILIES, in 20 varieties,

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Dazzling TIGRIDIAS, in 3 varieties; YEI LILIES, LILIUM HARRISII, GLADIOLUS, 200 extra-fine DWARF ROSES. Single and Double BEGONIAS, large Bulbs of English-grown LILIUM BROWNII, RUBRUM-ALBUM, and other popular sorts; PÆONIES, Japanese IRIS, Japanese PAINTINGS of LILIES on SILK, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C, on WEDNESDAY NEXT, February 15, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

The Celebrated Fernside Collection of Orchids.

SECOND PORTION.

ABSOLUTELY WITHOUT RESERVE.

PRELIMINARY NOTICE.

MESSRS. PROTHEROE AND MORRIS are favoured with Instructions, from H. M. Pollett, Esq., to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY, March 15, at half-past 12 o'Clock precisely, the SECOND PORTION of this CELEBRATED COLLECTION of ESTABLISHED ORCHIDS. Amongst the many fine things which are to be sold may be mentioned—

Cattleya Warneri, in variety
,, Gaskelliana, in variety.
,, ,, alba
,, Dowiana aurea
,, Bowringiana
,, Lawrenceana
,, Trianæ, in variety
,, ,, alba
,, Schroderæ
,, Mendelii, in variety
,, ,, Wallisii
,, Rex, supposed to be the finest in the country, F.C.C.
,, gigas
,, ,, Sanderiana
,, labiata (autumn flowering)
,, ,, Warocqueana
,, Percivalliana
,, ,, Fernside variety
,, Wagnerii, specimen
,, ,, three smaller plants
Cœlogyne Lowii
,, cristata alba, specimen
,, ,, ,, several smaller plants
Cypripedium Arthurianum
,, bellatulum
,, cardinale, finest variety
,, Crossianum
,, Harrisianum
,, Leeanum superbum
,, leucorrhodum
,, marmorophyllum
,, Morganiæ
,, œnanthum superbum
,, orphanum
,, roseum
,, Schlimii, very fine
,, Spicerianum
,, Schroderæ
Cypripedium Sedeni candidulum
Dendrobium Schroderæ
,, Phalænopsis
Lælia anceps alba
,, ,, Dawsonii, true
,, ,, Williamsii
,, ,, Stella
,, ,, Sanderiana
,, ,, Hillii
,, ,, Percivaliana
,, elegans alba
,, ,, Schilleriana
Masdevallia Harryana
,, ,, versicolor
Miltonia vexillaria, in variety
Odontoglossum crispum (Alexandræ)
,, ,, Bickleyense
,, crispum aureum
,, Edwardii
,, Pollettianum, F.C.C.
,, mulus, Bockett's variety
,, elegans, F.C.C.
,, Chestertoni, Lee's grand variety
,, Ruckerianum insigne
,, Wilckeanum
,, Andersonianum (fine varieties
,, Pescatorei, Tompsoniana, F.C.C.
,, blandum
,, citrosmum roseum grandiflorum
,, polyxanthum
Oncidium macranthum
Trichpilia lepida
,, crispa splendens
Vanda cœrulea, specimen, and fine variety
,, suavis Veitchii

Catalogues, with thirty-five Coloured Plates of some of the principal Odontoglossums, will be ready shortly, and can be had, price 2*s.* 6*d.* each, of Messrs. Protheroe & Morris, Horticultural Auctioneers and Valuers, Central Auction Rooms, 67 and 68, Cheapside, London, E.C.

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200 Dwarf ROSES, CACTUS and Single DAHLIAS, Home-grown LILIES, LILY OF THE VALLEY (Berlin Crowns), JAPANESE LILIES, PHLOX, PÆONIES, Hardy CLIMBERS, VALOTTA PURPUREA, TIGRIDIAS, CARNATIONS, Hardy BORDER PLANTS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, February 16, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next.

Imported by Messrs. Walter Kemsley & Co., 147, Leadenhall Street, London.

About 200 Plants CYPRIPEDIUM CHAMBERLAINIANUM.

A splendid shipment of BURMESE ORCHIDS, comprising

DENDROBIUM WARDIANUM LOWII
,, THYRSIFLORUM
,, CHRYSOTOXUM GIGANTEUM
,, SUAVISSIMUM
,, VIRGINEUM FALCONERI, DEVONIANUM
,, BRYMERIANUM CHRYSANTHUM.

CYPRIPEDIUM BOXALLI, C. LOWEANUM, and a new AËRIDES from the Shan States; VANDA CŒRULEA and AËRIDES CRASSIFOLIUM.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, February 17, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

N.B. This consignment was advertised for Sale on February 7 last, but did not arrive owing to the ship being delayed. They will, therefore, be sold on the above date.

Friday Next.

CYMBIDIUM GRANDIFLORUM (GRIFFITHS) VERA, clean healthy plant, with six bulbs, and flowering lead. This species is very scarce in its native habit, and the present piece was sent over by a Gentleman, who says that after much difficulty he had at last got the true Grandiflorum. It a vigorous-growing cool-house species, and is undoubtedly by far the finest of all the Cymbidiums.

Also 50 lots of ESTABLISHED ORCHIDS, including Cœlogyne cristata alba, Cypripedium Druryii, and Dendrobium nobile Cooksoni (another property).

MESSRS. PROTHEROE AND MORRIS will include the above in their ORCHID SALE on FRIDAY NEXT, February 17,

On view morning of Sale, and Catalogues had.

The Quorn House Collection of Orchids.

LOUGHBOROUGH.

Highly important CLEARANCE SALE, by order of W. C. B. Farnham, Esq. Without the slightest Reserve.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION, on the Premises, Quorn House, Loughborough, on TUESDAY, April 11, and following days, at 12 o'Clock precisely each day, the whole of this far-famed COLLECTION of ESTABLISHED ORCHIDS, splendidly grown, and containing many rarities. Amongst the principal items may be mentioned—

Dendrobium splendidissimum grandiflorum, 13 matchless specimens
,, Cooksonii, several plants
Phalænopsis Portei, in spike
,, leucorrhoda
Sobralia xantholeuca, dwarf-growing variety
,, ,, alba
Cypripedium insigne, yellow variety, no spots
,, Saundersianum
Cattleya Skinneri alba, 12 plants, grand varieties
,, Mendeli alba, Quorn House variety, F.C.C.
,, Brymeriana
,, Phœnicoptera
Dendrobium seedlings
Cypripedium do.
Calanthe Stevensii and Williamsii
Cattleya gigas varieties and imperialis, one with seed-pods crossed with the Quorn House variety of the white Mendeli
,, Trianæ alba, 5 plants of the true white variety
,, aurea, many fine varieties
Cœlogynes received from the East, probably different from known varieties
,, cristata alba, specimens
Cymbidium Parishii
Dendrobium Leechianum
,, nobile nobilius
,, endocharis
,, Ainsworthii
,, Wardianum and nobile, selected for the past 15 years—perfect marvels of culture
Masdevallia Harryana, the red variety
Aërides Fieldingii, wonderful plant, and special variety
Dendrobium Phalænopsis Schroderæ, 200 plants, the finest lot in the country, comprising many splendid varieties
Cattleya Schroderæ, a grand lot of plants
Lælia anceps Dawsoni, and other fine white varieties
Cattleya Skinneri alba, selected varieties
,, aurea polychroma
Odontoglossum elegans
,, crispum guttatum
,, Ruckerianum magnificum
Cypripedium Wallisii
Lælia purpurata ponderosa
Dendrochilum glumaceum, a grand mass
,, Wardianum album
Cypripedium Morganiæ, big specimen
Lælia anceps Amesiana
,, Gouldiana
Dendrobium Robinsonianum
,, Venus hybrid
,, hybrid, a batch of plants that Juno was raised from
Cattleya Mendeli, special varieties
,, labiata, with nearly 100 bulbs
Odontoglossum cuspidatum
,, Wilkeanum (Cook's var.)
Cattleya Mossiæ, with 100 bulbs
,, Warneri, with 100 bulbs
,, Mossiæ Reineckiana
Dendrobium nobile Sanderianum
Cypripedium Doris, specimen
,, macrochilum
Odontoglossum mulus splendens
Vanda suavis maxima
Disa grandiflora, 200 plants, including several special varieties, all being remarkably well-grown

Catalogues are being prepared, and may be had in a few days.

Friday Next.—Special Sale.

10,000 CARNATIONS, PICOTEES, PHLOX, DELPHINIUMS, PYRETHRUMS, PÆONIES, GAILLARDIAS, HOLLYHOCKS, MEGASEAS, SUNFLOWERS, and others.

THOUSANDS of ENGLISH-GROWN LILIES,

including beautiful Bulbs of the rare L. Wallichianum superbum, Bloomerianum magnificum, Hansoni, Humboldtii, Washingtonianum, platyphyllum, speciosum in many varieties, and others.

10,000 Berlin Crowns LILY OF THE VALLEY.

NEW CARNATIONS. NEW CALLAS.
NEW CANNAS. NEW PINKS.

A very fine lot of MONTBRETIAS, DAHLIAS, New PERENNIALS and GLOXINIAS, together with a SPLENDID COLLECTION of BEGONIAS and GLADIOLI of the best sorts; also 50 lots of Stove and Greenhouse FERNS.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, February 17, at 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

Friday Next.

1000 ODONTOGLOSSUM CRISPUM.
800 ,, LUTEO-PURPUREUM.

MESSRS. PROTHEROE AND MORRIS have received instructions from Mr. R. Erselius, Redhill, to SELL by AUCTION, at their Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, February 17, at half-past 12 o'Clock, 1000 ODONTOGLOSSUM CRISPUM, very fine healthy plants, and many large masses. Good varieties may be expected from them. Also 800 O. LUTEO-PURPUREUM.

On view morning of Sale, and Catalogues had.

The Quorn House Collection of

PITCHER PLANTS,

PROBABLY THE FINEST LOT IN EUROPE.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions from W. E. J. B. Farnham, Esq, to SELL by AUCTION on the Premises, Quorn House, near Loughborough, on TUESDAY, April 11, and FOLLOWING DAYS, without the slightest reserve, the whole of the unrivalled collection of PITCHER and CARNIVEROUS PLANTS, containing the finest varieties raised by Messrs. J. Veitch & Son, and all the best species hitherto introduced.

FRIDAY NEXT.

1000 ODONTOGLOSSUM CRISPUM.
800 ,, LUTEO-PURPUREUM.

MESSRS. PROTHEROE & MORRIS have received instructions from Mr. R. Erselius, Redhill, to SELL by AUCTION, at their Rooms, 67 & 68, Cheapside, London, E.C., on FRIDAY NEXT, February 17, at half-past 12 o'Clock, 1000 ODONTOGLOSSUM CRISPUM, very fine healthy plants, and many large masses. Good varieties may be expected from them. Also 800 O. LUTEO-PURPUREUM.

On view morning of Sale, and Catalogues had.

Lea Bridge Road Nurseries, Leyton, E.
Near Hoe Street and Lea Bridge stations, G.E.R.
GREAT UNRESERVED SALE of superior NURSERY STOCK and 10,000 FRUIT TREES, the land being sold for building.
THREE DAYS SALE.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, as above, on WEDNESDAY, February 22, and TWO FOLLOWING DAYS, at 12 o'Clock each day, without reserve, by order of Mr. John Fraser, who is transferring the business to South Woodford, a large quantity of unusually well-grown NURSERY STOCK, all carefully prepared for removal, comprising 2000 Rhododendrons, best named sorts, a special feature at this Nursery; 2000 Hollies, including Golden Queen; 3000 Laurels, 1000 Pinus austriaca, 2000 Limes, 1000 Mountain Ash, 1000 Ivies, best sort; 750 Sweet-scented Clematis, hard climbers, in pots; 9000 Pyramid Pears, fruiting trees; 2500 Standard and Pyramid Apples and Pears, 1500 Plums and Cherries, 2000 Clove and other Carnations, in pots; 500 Herbaceous Calceolarias, strong fruiting and planting Vine Canes, Maréchal Niel Roses, for training; Tea-scented Roses, Hollyhocks, and other useful stock.

May be viewed any day prior to Sale. Catalogues had on Premises; and of the Auctioneers and Valuers, 67 and 68, Cheapside, E.C., and Leytonstone.

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MESSRS. PROTHEROE AND MORRIS beg to DRAW ATTENTION to the LARGE QUANTITIES of the above now being SOLD at THEIR ROOMS almost every day. The Bulbs are sent from some of the best Growers in the country, and comprise splendid strains.
Catalogues forwarded on application.

Wednesday Next.

5000 grand BULBS of LILIUM AURATUM and other LILIUMS from JAPAN; 50,000 LILY of the VALLEY, Crowns and Clumps; 1000 SPIRÆA, 1000 BEGONIAS, &c.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, February 15.
On view morning of Sale, and Catalogues had.

Wednesday Next.

500 Choice named Standard and Dwarf ROSES, Pyramid and Dwarf-trained FRUIT TREES; very fine Collection of BORDER PLANTS, well-grown GRAPE VINES, FLOWERING TREES, SHRUBS, &c., choice CARNATIONS and PINKS, PÆONIES, ANEMONES, and a consignment of BULBS from Holland.

MR. J. C. STEVENS will SELL the above by AUCTION at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, February 15, at half-past 12 o'Clock precisely.
On view morning of Sale, and Catalogues had.

EXCELLENT SITE for NURSERY!!—Eight-roomed House, Coach-house, Stable, and Shed, with about 3¼ acres of rich Garden Land (Freehold), in the favourite neighbourhood of Hampton, for Sale, on exceedingly favourable terms; or would be Leased.
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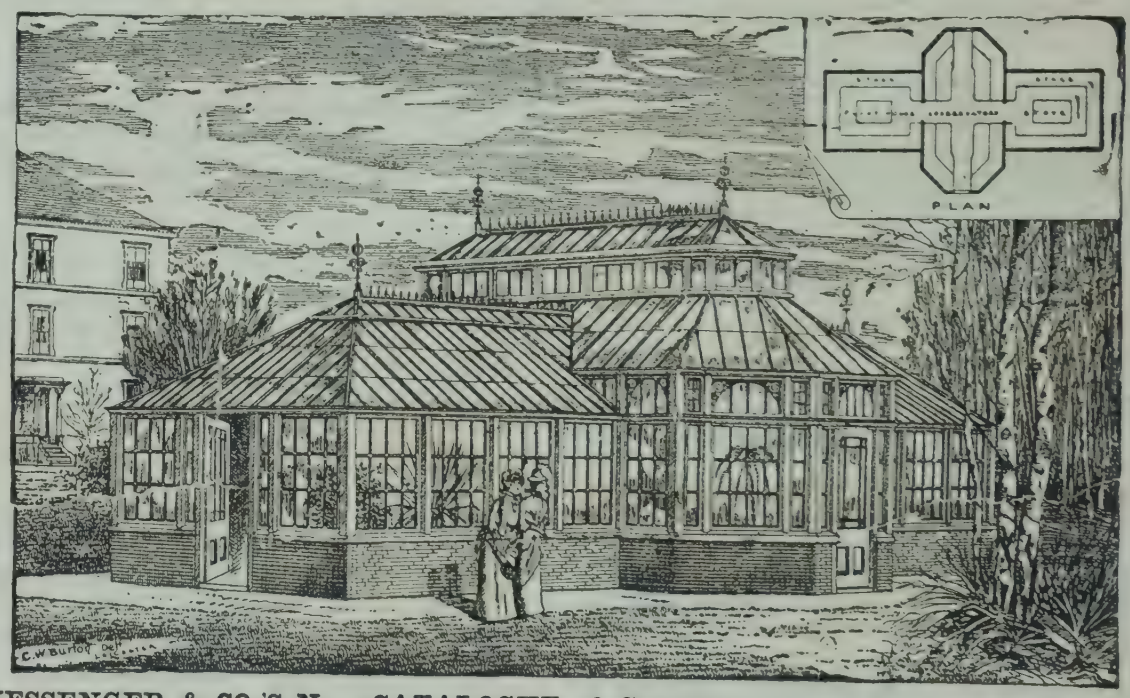

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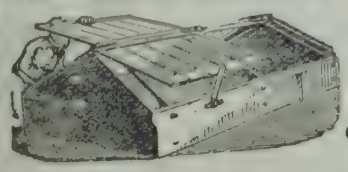

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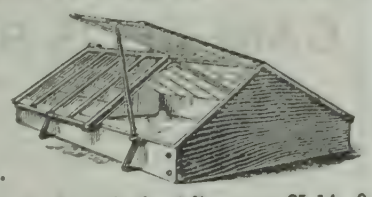

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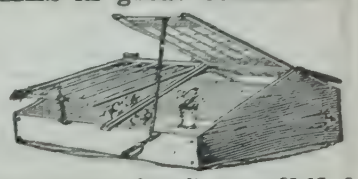

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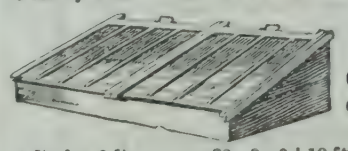

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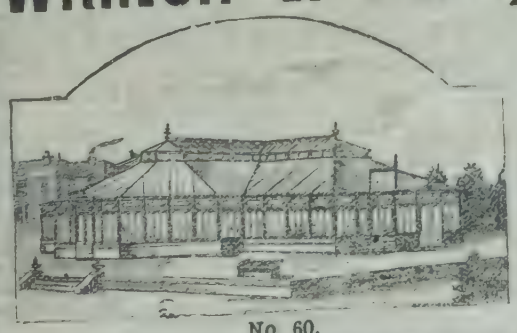

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WEIGELIA ROSEA, 1½ to 2½ feet, fine.
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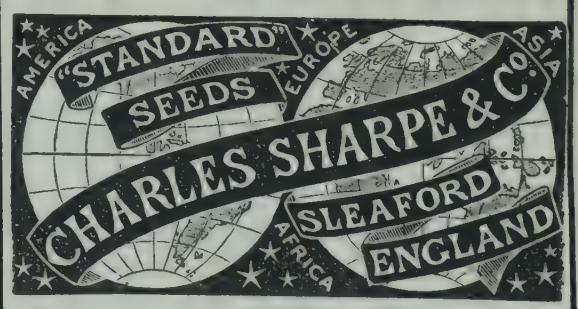

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THE

Gardeners' Chronicle.

SATURDAY, FEBRUARY 11, 1893.

BARRIER ISLAND, N.Z.

THE New Zealand Government having decided to buy a small island called Hauturn, or Little Barrier, for the purpose of establishing a preserve for the native flora and fauna, the Commissioner of Crown Lands (Mr. Mueller) received instructions to proceed there, to try and arrange with the natives for the purchase of the island, and, having permission, I accompanied him to explore the land, take notes, and sketch. The island is about 40 miles from Auckland, and as there is no regular communication, we had to engage a small steamer to land us, and call again to take us off in a few days time. The landing is difficult, except in certain winds, as there is no harbour, and one has to land on the open beach, which consists of large round boulders, with no sand or shells of any sort. The land rises abruptly from the sea, and contains about 6900 acres, rising to a peak of about 2500 feet, with numerous spurs down to the sea, generally ending in cliffs of about 150 feet or more.

The island is nearly all dense mixed bush, and very hard to get about in, there being no tracks. On the mainland, cattle generally form rough tracks about the bush, in search of food, but as there are only a few bullocks on the island, which have only lately been landed for the purpose of dragging out the Kauri timber, they have as yet no opportunity of getting about. The first day was occupied in talking to the natives. The old chief Tenatalie—who is the principal owner, with his wife—is a fine old fellow, and has done a great deal towards preserving the birds on the island by not allowing anyone to introduce bees to the island. It is said by the Maories that the bees kill the bell-bird and other honey-eating birds; they either sting them on the tongue, or rob them of their food—any way, on the Great Barrier, where bees are kept; and on the mainland, the honey-eating birds are fast disappearing. Having ascertained which was the highest peak in the island, the next day we started to reach the top, and to do so we had to climb up the cliffs and get on the terrace above, and so on to the leading spur. On the cliff above we found a dense growth of Manuka scrub growing on poor clay land, which once cleared of Manuka (Leptospermum scoparium), I very much doubt if it would grow grass, as it gets so dry and burnt up in summer.

Amongst this Manuka we noticed several pieces of the valuable Kauri Gum, and from the inquiries we made from the natives, we were informed that they are able to get about 1*s.* a pound for it in Auckland; there seems to be a great quantity of it all over the island, so the Kauri must have covered the island some hundreds of years ago, as it is found at a depth of 3 to 6 feet, or even deeper. After leaving the scrub, we got on the main spur

all dense mixed bush, the principal trees being the Kauri (Agathis australis), Rata (Metrosideros robusta), Puriri (Vitex littoralis), and the Taraire (Beilschmiedia Tarairi), the latter being a handsome laurel with a sort of purple Plum on it, but the wood is only good for firewood, as it is very brittle, and not durable. At the entrance to the bush the Nikan Palm grows better than I have ever seen it on the mainland. The loose rocks and stones make it very hard climbing, and the dense growth of small Ferns covering the ground with the wet moss increase the chances of a sprained foot, but make it just the home for the wingless birds. By steady climbing we reached the summit, which is still bush, though stunted, with an undergrowth of Mountain Flax. A view could be got here through the trees of the mainland and the islands in the Hauraki gulf. The Great Barrier seemed close by, although 12 miles distant. Sketches were obtained, and we started down the hill. There is a tree growing near the summit that I do not think is common on the mainland — a white Rata, the usual colour being red. The descent was easy, and the result of our climb and observations generally were, that no island could be better adapted for the purpose that the Government proposed to buy it for, as it was covered with bush and undergrowth that the birds could get their natural food in, and also difficult of access to man. I may mention that the bush teems with bell-birds, which are nearly extinct on the mainland, and for their sake alone the island should be closed to anybody without permission from the Government to visit it. The stitch-bird is still in existence on this island, which is also very rare indeed. Kiwis are also there, and if preserved will increase, but the dog must be prohibited first, as it is its greatest enemy, and I know that a white settler on the island occasionally gets them, or his dog does; of course, that will be stopped once the Government obtains possession. To obtain the island as a reserve was the object of our late Governor, Lord Onslow, whose recommendation and that of the Ministers, that it ought to be done, would be sufficient guarantee to the public that it will be bought if possible. The island at one time must have been a great native stronghold, as I saw numerous evidences of past occupation by natives; for instance, old stone pahs on the beach, with large ones on the hills, to retreat when they saw their enemies coming in canoes from the mainland. The hill pahs have Kumera-pits, showing they kept their food supply there (Kumera is the sweet Potato).

The spur up one of the cliffs to the pah above has been razor-backed by them, so that only one at a time can get up it, and must have been well defended. No old curios belonging to past generations of Maoris have been found on the island except a stone "mere;" although stone adzes must be there in plenty covered with vegetation. The few natives seem to know very little about the island, although I questioned them closely; and I fancy since Europeans have come to the country, it must have been only visited occasionally by them for fishing and collecting young mutton-birds, a sea-bird that builds in holes on the cliffs, which the Maoris preserve in their own fat; they taste well, something like the smell of a blown-out oil lamp. I doubt if the bush is wet enough and with sufficient undergrowth for the South Island wingless birds; anyway, it will not be required for them, as the Government have reserved a splendid island for the purpose near the West Coast Sound, far from the haunts of man and picnic parties. There is one wingless bird that must be left out, and that is the weka or wood-hen, as they eat every egg they can find, there are none on the island at present. The rare Tecatara lizard lives also on the island, it is the first time that I have seen their eggs, which are white, and when shown to me I thought were eggs of a small sort of turtle. The Pupurangi, the only New Zealand snail, is also found there; it lays eggs just about the size of an English wren's egg, white in colour, with a hard shell, and in the ones I have cracked found a small complete snail shell inside—they are rare now. The shell is of a dark green colour, a pretty light blue inside, with a wonderful natural polish. I kept one a long time in my garden, but it was unfortunately killed by being left in the sun. On the flats near the sea a beautiful fine variety of Maidenhair Fern grows in great quantities; and the now rare edible Fern is found in one place on this island, and from its proximity to the old Maori cultivation I should say that it had been brought from the mainland. There is a small sort of green Orchid that grows on the trees there that has a most delicious scent; it is common, but I forget the name. There are no minerals as far as I could see on the island, although on the Great Barrier close by gold, silver, copper, and other minerals are found. If there had been any quartz in the gullies it would have been an indication that gold might be found, but we found nothing but sandstone. I awoke at about half-past four in the morning, and listened to the song of the birds, especially the bell-bird. It is alone worth a trip to this lovely country, but visitors must not expect to hear them for any time. The general chorus lasts about half-an-hour, then all is silent, except broken from time to time by the note of the tui or parson-bird. Later in the day in the bush the bell-bird again can be heard in ones and twos, but the morning is the time; the gladness and freedom of their song in the first half-hour of daylight cannot be described. Will the European birds oust the beautiful native birds? is the question. I am afraid so; as the white man has the natives. Blown by the wind from the mainland, numerous blackbirds, thrushes, goldfinches, sparrows, and quails have taken up their abode on the island, but as they keep to the edges of the bush and flats, they do no harm, and the place will be alive with the pugnacious little quail in a few years—nothing to disturb them. December is the time to see the island, the cliffs one mass of scarlet Polintakawa, or the Christmas-tree of the white people; it is a sort of Rata, only more beautiful; the scarlet against the green, with the dark bush rising to a peak behind, is a picture impossible to paint, or even give the faintest idea of. *Hugh Boscawen. Auckland, N.Z.*

New or Noteworthy Plants.

CYPRIPEDIUM DIBDIN (ARGUS × BOXALLI).

With a somewhat close resemblance to some of the forms of C. vernixium (Argus × villosum) the above variety is sufficiently distinct to be easily recognised, especially noticeable being the purple marking and spotting of the upper sepal extending over its whole surface, with the exception of the narrow blush-white margin. The whole flower has the varnished surface of C. vernixium ×, and the petals have blackish spots on the inner half, similar to those observed in that variety. The upper sepal is green, profusely striped, and spotted with dark purple, and having a narrow blush-white margin; the lower sepal is pale green, with darker green veins, and a few brown stripes; the petals whitish, tinged on the upper halves with rose-colour, and spotted with blackish-brown; the lip is of greenish-white, tinged with rose on the face; the staminode is yellow, with green reticulations in the centre. It was raised by Mr. J. C. Cowley, the raiser of the beautiful C. Cowleyanum ×, in the gardens of F. G. Tautz, Esq., Hanger Hill, Ealing. *James O'Brien.*

Velleia Salmoniana.

To commemorate the tercentenary of Trinity College, Dublin, and in honour of the Provost, the Rev. Dr. George Salmon, Baron von Mueller has named this new Goodeniad.

It was found near the Gascoyne River, and is superficially like Goodenia filiformis, but presents many botanical differences. A full description of the plant is given by the Baron in the *Victorian Naturalist* for December, 1892. We understand that seeds have been sent to the Botanic Garden of Trinity College, so that in due time we hope, by the courtesy of Professor Perceval Wright and Mr. Burbidge, to refer again to the plant *de visu*.

Brugmansia aurea.*

A small tree, with leaves like those of D. arborea, flowering in winter, and producing golden-yellow flowers. Professor Lagerheim says it comes near to D. arborea and to D. cornigera, but is quite distinct from either. It is a native of Ecuador.

Cattleya Alexandræ.†

A species allied to C. Leopoldi, and remarkable amongst other things for the long flower-stalks, which lift the flower-racemes high above the foliage. The sepals and petals are remarkably undulate, some of the colour of Lælia elegans Turneri, others like those of L. grandis tenebrosa. The two plates given in the current number of *Lindenia* of var. tenebrosa and of var. elegans bear out this statement. Mr. Rolfe calls attention to the important results likely to accrue from hybridisation in this case.

Odontoglossum Insleayi var. Imschootiana.‡

A fine variety, with flower-segments self-coloured orange-yellow; the lip paler, canary-yellow, with a double row of brownish blotches within the margin.

Cypripedium Leonæ §

Of this fine hybrid, the standard or dorsal sepal is boldly ovate, white, traversed for about three-fourths of its length with lilac stripes, and marked for half its extent with numerous purple spots on a green ground. The petals are oblong, undulate, broader towards the free end, and purplish except at the tips, which are white; lip of the same colour.

It is dedicated to Mrs. Leon of Bletchley Park, and is figured in the *Lindenia*, t. 360.

Cypripedium murillo, *new hyb.*

This is a hybrid raised by Charles Vuylsteke, nurseryman, Loochristy, near Ghent, from C. Boxalli atratum by the pollen of C. Argus, which it much resembles. The ground-colour of the dorsal sepal is sea-green, much spotted with shining black at the base; the upper part of a dark green colour, with a wide creamy-white border; the inferior sepal is very long, greenish-white, with bands of clear green dotted with sepia. Petals horizontal, gracefully curved, brownish claret-coloured above, much dotted with dark chestnut, with jet-black hairs; the lower part has a ground-colour of greenish-white, streaked with dark green, and spotted with reddish-chestnut; the lip is long, blood-red on the upper surface, olive-green with a rosy-flush below. Staminode flesh coloured, under-surface of the lobes olive, in the centre an excrescence of brilliant green; floral scape about 15 inches high, dark brown; bract green, dotted with black at the base. The foliage is fine, nearly 2 inches wide by 9⅓ inches long, with very serried hieroglyphic markings. It flowered first in December, 1892. It is a sturdy hybrid, and of good habit. *F. Desbois, Ghent.*

Clerodendron hastatum,

A coloured figure of which is given in the last number of the *Revue Horticole*, February 1, is a scandent shrub, with ovate-lanceolate, hastate, somewhat three-lobed leaves, green with a purplish blotch in the centre. The flowers are borne in large terminal clusters; each has a purplish bell-shaped calyx half an inch long of five lanceolate segments, free nearly to the base. The white corolla has a very slender curved tube, 3 to 4 inches long, expanding into an irregularly five-lobed limb, the five segments of which are rolled back. The stamens project beyond the corolla, and are of a purplish

* *Brugmansia aurea*, Lagerheim, in *Gartenflora*, January 15, 1893, p. 33.

† *Cattleya Alexandræ*, Linden and Rolfe, in *Gard. Chron.*, 1892, vol. i., p. 523; var. tenebrosa, *Lindenia*, t. 357; var. elegans, *Lindenia*, t. 358.

‡ *Odontoglossum Insleayi var. Imschootiana*, *Lindenia*, t. 359.

§ *Cypripedium (hybridum) Leonæ*, *Lindenia*, t. 360. Hybridum inter C. insigne var. Chantini et C. callosum arte confectum.

colour. It was originally described by Lindley in the *Botanical Register*, t. 1307, and was subsequently figured by Hooker in the *Botanical Magazine*, t. 3398. In the *Flora of British India*, vol. iv. (1885), p. 596, the plant is described by Mr. C. B. Clarke, and the native country stated to be Silhet and the Khasia Mountains, where it was collected up to an elevation of 3000 feet by Hooker and Thomson. It should be cultivated in the same manner as other stove Clerodendrons.

Two New Begonias.

Begonia Baumanni.—This beautiful tuberous Begonia was introduced by Dr. Sacc from Cochabamba (Bolivia), who sent seed of it to M. E. N. Baumann of Bollwiller. Dr. Sacc, in the *Revue Horticole*, 1886, speaks of finding it in abundance in the damp valleys of the northern Cordilleras. It attains to a great size; the flower is very bright rose-coloured, the leaves are large, fleshy, and dark green. The flowers have a slight and agreeable perfume. The males are the larger, at the top of the stalks, usually in the proportion of two to every female flower. The plant seems eminently suitable for decorative purposes both in and out of doors. It may be mentioned that this Begonia, according to Dr. Sacc, produces in its native habitat tubers as large as a medium-sized Melon, and weighing generally about 13¼ oz. av. (375 grammes). The stems are thick and short, so that the flowers appear to be radical; the blooms are symmetrical, rounded, and kidney-shaped. The floral clusters often number as many as five-and-twenty on one plant at the same time; they are red, thick, rigid, and absolutely vertical; each bears from three to six flowers, which open about 15½ to 19½ inches above the foliage. The male flowers, which appear first, have four spreading petals; the two lateral ones are most developed, and measure from 3½ to 4¼ inches across. They are of a beautiful clear rose colour, and have a perfume like that of a Tea Rose. Begonia Baumanni should be grown in full summer sunshine; under these conditions, its peduncles, though laden with bloom, remain erect, and are not bent down by rough weather.

Begonia fulgens.—This species was found near to B. Baumanni in the mountainous regions of Bolivia, near the Peruvian frontier, not far from where B. Davisi grows plentifully; it is a tuberous species, with small, orbicular-oblique leaves, which are glaucous-green, and in the young state covered with little rosy hairs, which give them a velvety appearance. The stems which bear them are so short as to appear radical, and form a low and close tuft, whence rise a great number of straight flower-stems. These floral peduncles, of a bronze-red colour, bear each from five to ten erect flowers, which open about 7¾ inches above the foliage. The male flowers measure about 2¾ to 3¼ inches, have four rounded, well-expanded petals, brilliant raspberry-red, deeped at the edges; the female flowers are as numerous and beautiful as the male, and formed of five or six petals. They exhale a slight Tea Rose-like perfume in the morning. The species is very free-flowering; the plant as it grows forms broad tufts, from which rise an ever-increasing number of erect flower-stalks. The plant requires exposure to full sun all the summer, and, until the frost, it forms masses of bright red colour, which are most effective.

[Both the above species are catalogued by MM. V. Lemoine et Fils, of Nancy.]

Orchid Notes and Gleanings.

ODONTOGLOSSUM EDWARDII.

Mention should be made of a magnificent example of the above fine species of Odontoglossum at present in bloom at Eastwood Park, near Glasgow, the residence of D. Tod, Esq. It has six handsome, many-branched spikes, carrying in all 1180 flowers, of a warm purplish-mauve; the bulbs are of immense size, measuring 8 inches high and 4 inches across —one pseudobulb having produced three spikes. *D.*

Variability of Hybrid Cypripediums.

Two flowers, obtained from plants raised from seeds contained in the same capsule (Dauthieri × Spicerianum), borne on plants raised by Mr. H. Simpkins in the gardens of R. I. Measures, Esq., Cambridge Lodge, Camberwell, S.E., give singular evidence of the extraordinary range of variety to be obtained, not only from seedling Cypripediums of the same parentage, but from seeds actually contained in the same seed-vessel. The one flower has the white upper sepal with a broad purple band up the middle, and clear purple rays on each side; the staminode is purple, and the whole flower spotted, striped, and tinged with purplish-brown. The other flower is almost entirely of a pale green, except the upper half of the dorsal sepal, and a narrow line half-way up its centre; there is a slight rose tint on the staminode, and on the petals and lip an almost imperceptible tinge of lilac. Both varieties are pretty, and had they been of different parentage, they could hardly have been more distinct. *J. O'B.*

KEW NOTES.

Rosa gigantea.—This plant has succumbed to the severe frosts recently experienced, all the plants grown against walls in the open-air at Kew having been killed outright. Two of these were grafted on seedling Briars, and one, a large plant with a stem nearly 2 inches in diameter, was on its own roots. From this it would appear that this interesting Rose is of little value for English gardens, except perhaps in Cornwall, the Isle of Wight, and the south coast generally. Mr. Hanbury obtained a plant of this species from Kew two years ago for trial in his garden on the Riviera, where most likely it will be more at home than in this country. Rosa berberifolia does not show the least signs of injury this winter, although it has had no more protection than that afforded by the south wall of a plant-house. This is its second winter outside at Kew.

LILY CULTURE IN POTS.

A considerable number of species and varieties of Lilies are well adapted for this kind of culture, and the plants when well grown and flowered have an excellent effect in greenhouse or conservatory. Indeed, those who would see the finer species and varieties of Lilies in full beauty should grow them under glass, not that they require the aid of glass through all the periods of their growth; but they need it when in flower, and immediately afterwards, to perfectly mature the bulbs. Mr. H. J. Elwes, writing on Lily culture in his *Monograph of the Genus Lilium*, recommends the Lily bulbs to be planted in a prepared bed, in a house specially built for them, and the lights made to draw off, or arranged in some way that the plants would be exposed to the weather if it was thought desirable at any time. Mr. Elwes would have a bed of prepared soil, 2 feet deep, over 9 or 10 inches of drainage. Part of the bed would be formed of a compost from which peat is excluded, and the other part of it would be half of peat, and a quarter of leaf-mould; loam and sand, with the addition of charcoal, being used where needed. A part of the house should also be set aside to contain a bed built of brick, in which to plunge Lilies in pots. "All newly-imported bulbs should be planted in small flower-pots," says Mr. Elwes. "However large a bulb may be, and whatever depth of soil it may require when established, it is always good policy to start it in a small pot, and either shift it to a large one, or plant it out when well rooted." I do not intend the following remarks on culture for such growers as Mr. Elwes, Mr. G. F. Wilson, or other famous cultivators, who have had more experience than I have; but questions are frequently asked about Lilies, and failures are so frequently met with, especially when grown in pots, that as I have found no difficulty with them, my successful experience may be helpful to many readers of the *Gardeners' Chronicle*.

The most useful of all Lilies for culture in pots is L. auratum, and perhaps the trade would say this is the only Lily they can deal with at a profit. A successful trade grower would remark upon certain beautiful species or varieties, that they were very pretty, but were of no use, as there was no money in them. L. auratum is sold cheaply enough now, and is within the reach of everybody; but I can well remember when we had to pay a guinea for small bulbs, and three guineas for large ones. Fifty or one hundred bulbs can now be obtained for that money.

Some persons have a fixed belief that L. auratum degenerates when cultivated year after year in pots. It may do so under bad cultivation, but under other conditions it improves year after year. The first year they must not be over-potted; this is a grave error. Small bulbs may be planted in pots 4 or 5 inches in diameter (inside measurement), medium-sized bulbs in 6-inch, and the larger ones in 7-inch. The soil I use is a good yellow loam two parts, with an addition of one part fibrous peat. Leaf-mould is not necessary, but it may be used if peat cannot be obtained. Drain the pots well, and plant the bulb in the centre of each moderately firm, a little clean coarse sand to be placed under and over each bulb. The crown of the bulb should be half-an-inch at least under the soil, and the pots should not be filled up to the top by about 1 inch. I find I have omitted to mention that some decayed manure should be added to the compost, and coarse white sand if necessary. When the plants are potted, plunge them in cocoa-nut fibre refuse in frames well over the rims; if the potting compost was moderately rich at the time of using it, no water will be needed until the plants show through the fibre. If the soil in which they are growing then seems to be very dry, give them a good supply of water. It is before the plants arrive at this stage that much mischief is done by inexperienced cultivators. Instead of plunging the newly-potted plants as I have advised, they are placed on the stage in the greenhouse, where the soil soon gets dry upon the surface, and water is applied freely before any roots are formed, and the result is, that the bulbs rot at the base more or less, and do not start to grow at all, or but very weakly. I have also seen the bulbs after being repotted plunged or placed under the stage of the greenhouse, where some of the poor bulbs become saturated with the constant drip from above, and those not under a drip may even suffer from dryness. The only sure way to success lies in starting the bulbs as I have recommended. The cocoa-nut fibre retains the moisture in the soil without increasing it, and the bulbs are also maintained in a uniform low temperature, so that the roots are formed before any top-growth is made. This is the way in which all bulbs should be started that are intended for greenhouse culture. Encourage the roots to make good healthy growth before the flower-stems show from the crowns.

Another important point is the repotting. The best time to repot bulbs of this kind is just before they begin to make roots. Lilies are different from the bulbs of Hyacinths, Tulips, Crocuses, &c., in that the roots from the base of the bulbs are always in a plump, sound condition; it is only the roots that issue from the base of the stems that die annually with the stems. Referring again to the bulbs which were starting into growth in the frames, as soon as the stem shows through the fibre, this should be removed with the fingers, leaving the rims of the pots exposed. Admit air freely, removing the lights in fine weather, but closing them at night, and when frost obtains. When the plants have grown so much that they come into contact with the glass, remove them to a light part of the greenhouse, where they may get plenty of air. Abundance of air and light is necessary to keep them in sturdy health. After a time, roots will form at the base of the stems very freely, and as I advised, filling the pots only to within 1 inch of the surface, and the soil would subside about half an inch more; this space may now be filled in with some rich dressing. This should consist of about equal portions of decayed manure and

good fibrous yellow loam. The stem-roots push freely into this, and form a perfect mat. When the flowering period is over, and the stems show signs of decay, reduce the water supply considerably, and do not commit the error of putting them out-of-doors to be saturated with the autumn rains. They flower at different periods between June and October, and cannot be all potted at one time. At the time of repotting turn the plant out, and with a gentle twist of the stem screw it out from the crown of the bulb. Repot the bulb again in a larger pot without disturbing the useful roots which have been produced from the base of the bulb. The above treatment applies specially to Lilium auratum, and as this is the season of the year in which the bulbs are being received, the instructions as to culture may be opportune. Nearly all Lilies grown under glass may be treated as I have advised. L. lancifolium is next to L. auratum in usefulness, and the variety amongst them is very charming. The slender-growing L. tenuifolium is easily managed, and for pot culture the best varieties of L. tigrinum are very effective, such as the double-flowered variety spendens and Fortunei. L. Hansonii is also a distinct and stately species. *J. Douglas, Great Gearies, Ilford.*

A SYNOPSIS OF THE SPECIES OF CANNA.

(*Continued from p.* 70.)

Sub-genus I. Eucanna; corolla-lobes and staminodia united in a short tube at the base, two or three of the upper staminodia being developed.

Group 2. *Upper staminodia usually two.*

12. C. compacta, Rosc., *Scit.*, t. 22. Stem stout, green, glabrous. Leaves broad oblong, acute, green, the lower above 1 foot long. Inflorescence a dense many-flowered simple raceme. Sepals lanceolate, ½ inch long. Petals lanceolate, unequal, reddish-yellow, 1½ inch long. Upper staminodia two, oblanceolate, bright crimson, slightly emarginate, 1½ to 2 inches long, ¼ inch broad; lip red-yellow, distinctly emarginate.

Hab.—Tropical America. Introduced into cultivation in 1820.

13. C. lutea, Miller, *Gard. Dict.*, edit. viii. (1768), No. 4; Rosc., *Scit.*, t. 18. Stems slender, green, glabrous, 3 to 4 feet long. Leaves green, oblong, acute, about 1 foot long by 5 to 6 inches broad at the middle. Inflorescence a lax simple or forked raceme; bracts small, oblong, obtuse, green. Sepals oblong, greenish, ⅓ inch long. Petals lanceolate, pale green, 1 to 1¼ inch long. Upper staminodia two, oblanceolate, pale yellow, often emarginate, 1½ to 2 inches long, ¼ inch broad; lip linear, pale yellow, unspotted, distinctly emarginate. Capsule globose, small.

Var. C. pallida, Rosc., *Scit.*, t. 19. Upper staminodia and lip pale yellow, spotted with red.

Var. C. aurantiaca, Rosc., *Scit.*, t. 21. *C. Tinei*, Todaro. Petals tinged with red. Upper staminodia and lip bright reddish-yellow, the latter spotted with red.

Hab.—Tropical America, especially West Indies and Brazil. Here belong *C. lagunensis*, Lindl., *Bot. Reg.*, t. 1301; *C. crocea*, Lag.; *C. maculata*, Link; *C. commutata, leucocarpa, Moritziana*, and *Roscoeana*, Bouché; and *C. macrocarpa, sulphurea* and *vitellina* of Horaninow.

14. C. variabilis, Willd., *Enum. Berol.*, 4. *C. carnea*, Rosc., *Scit.*, t. 15. Stem green, 3 to 4 feet long. Leaves oblong, acute, green, the lower 1 foot long. Inflorescence a lax simple raceme; bracts small, oblong, obtuse. Sepals green, lanceolate, ⅓ inch long. Petals lanceolate, pale green, 1½ inch long. Upper staminodia two, oblanceolate, pale red, entire; lip linear, entire. Capsule globose, small.

Hab.—Sent from Rio Janeiro to Roscoe by Mrs. Harrison.

15. C. lanuginosa, Rosc., *Scit.*, t. 16. *C. achiras*, Gillies; Lindl., in *Bot. Reg.*, t. 1358. Stem green, woolly-pubescent, 4 to 6 feet long. Leaves oblong, acute, green, the lower 1½ foot long. Racemes lax, few-flowered, simple or forked; bracts obtuse, small, green. Sepals lanceolate, green, ⅓ to ½ inch long. Petals lanceolate, tinged with red, 1½ inch long. Upper staminodia two, oblanceolate, entire, red or reddish-yellow; lip the same colour, oblanceolate, emarginate.

Hab.—Introduced into cultivation from Maranham, North Brazil, in 1823 by Mr. R. Hesketh and by Gillies from Mendoza. The only specimen I have seen is one from the Berlin garden in the British Museum.

16. C. Warscewiczii, Dietr., in *Allg. Gartenzeit.*, xix., 290, with figure; Seem., in *Bot. Mag.*, t. 4854. Stem claret-purple, pruinose, glabrous, 3 to 4 feet long. Leaves oblong, acute, more or less tinged with claret-brown, 1 to 1½ foot long. Raceme simple, moderately dense; bracts ovate, claret-brown, very glaucous; lower flowers in pairs. Sepals oblong-lanceolate, glaucous, ½ inch long. Petals lanceolate, tinged with red, glaucous, 2 inches long. Upper staminodia two to three, oblanceolate, bright scarlet, entire, or obscurely emarginate, 2½ to 3 inches long, ½ inch broad; lip oblanceolate, distinctly emarginate, plain bright scarlet. Capsule larger than in *C. indica*.

Hab.—Costa Rica. Introduced into cultivation by Von Warscewicz in 1849. *J. G. Baker.*

(*To be continued.*)

EVERGREENS IN POTS.

We very seldom see these plants used to full advantage, yet there are great numbers of evergreens of dwarf growth, distinct in habit, foliage, and hue, that are well suited for pot-work. At the present season many of the glasshouses are rather dull, and a few of the brightest of our compact-growing Conifers will make the cooler houses look gay and seasonable. Then there are window-boxes, looking very desolate and forlorn; the more so, because most other surroundings are also dull at present. Beds and borders, too, that are used for spring and summer bedding, may be made gay and pleasing all the winter and early spring by a small collection of evergreen and variegated shrubs. The practice of using such beds for bulbs comes very expensive if they are to be filled sufficiently to make a good show; while the beds themselves are void of all beauty for a long period.

If shrubs are used, the first expense is the last. A selection of the grand varieties I name below will afford quite a variety of golden and silver colour, many shades and shapes being found among them. It is also so easy to arrange a bed to your own satisfaction, as the plants may be depended upon to retain their respective heights, &c., whereas no planting of spring-flowering stuff, like Polyanthuses, Forget-me-nots, Wallflowers, &c., nor bulbs, can be relied upon so securely.

An excellent guide for compost most suitable for each kind is to get a mixture as nearly as possible like that the young plants have been growing in when purchased from the nursery, although all shrubs will do well in any ordinary garden soil. When the beds are wanted for spring and summer blooming plants, it only remains to lift the shrubs and replunge them in some convenient corner until required to do duty in the same way again. If properly attended to as regards water, and a very slight use of the knife, most of those I name will last for many years. Window-boxes, too, can be kept gay all the year round by the same means, and there is never a blank, or loss of a slight natural screen, by adopting this plan. Cold will not affect them; nor will dust and draughts injure them when standing in a hall or room. In this respect they are very valuable, and only need a good syringing now and again to keep them healthy and bright. By ringing the changes upon a few plants, they may always have a fresh appearance. If the boxes and beds have a little Cocoa-nut fibre refuse in them, the pots can be plunged easily, and will be secured from excessive drought and frosts.

Thuia aurea, T. Ellwangeriana, T. semper aurescens, T. Vervaeneana, T. ericoides, Chamæcyparis variegata, Cryptomeria elegans, Cupressus Lawsoniana C. L. lutea, C. L. erecta viridis, C. L. Fraseri, C. L. argentea, Juniperus chinensis, J. virginiana, Pinus cembra, Abies Lowii, Retinospora ericoides, R. leptoclada, R. obtusa nana, R. o. filifera, R. plumosa, R. p. aurea, R. p. flavescens, R. squarrosa, Taxus aurea, T. fastigiata (Irish Yew), T. f. aurea, Thuiopsis borealis (syn. Cupressus Nutkænsis), T. dolabrata, Arbutuses, Aucuba japonica, Box in variety, Euonymus in variety, Laurustinus, Hollies of sorts, Osmanthus ilicifolius variegatus, and in short many more shrubs are all worthy of growing in the connection pointed out above. *A. P.*

BEAUDESERT.

Although Beaudesert, the castle of Cannock Chase, is not now inhabited, and the grounds are neglected, yet it still retains a great measure of its former grandeur. This is chiefly owing to its commanding position near the summit of a high ridge, at a place where a deep ravine separates it from a wood of tall trees. The flower gardens are on the side of the castle, facing the slope of a grassy ridge, and consist of three quadrangles, with low balustraded walls round them. In the centre of each is a circular basin of stone, in which a fountain plays, and on the walls are brazen urns for holding flowering plants. The flower beds are in the shape of segments of arcs, and make circuits round the fountain. It is very precise, of course, but, all the same, seems to harmonise with the formal architecture of the house. A wide lawn ascends to thick shrubberies, and on the left a path by a sunken wall conducts to a row of ancient Spanish Chestnuts, which must have been there some time before the castle was built.

The park has many distinguishing characteristics. This, of course, is owing to its being situated in the centre of Cannock Chase. High ridges and deep valleys, Scotice heughs alternate, and large tracts support only Gorse and Heather, and look like a solitary heath. As the hills are covered with woods, and the grass land is abundantly timbered, the views are very picturesque. A walk along the ridge on which the castle is built, leads to the highest point on the Chase, 700 feet, which commands an outlook over all the country-side. The wild rugged beauty of Cannock can here be well studied, while the bracing air has an invigorating effect on the man in city pent. This Castle Hill, as it is called, is a great theme for dispute to antiquarians. Round its circular flattened top, 270 yards in diameter, has been constructed a vast rampart, with a *fossé* at its foot. It has evidently been either a Danish or Roman camp. Pennant even thinks it may have been ancient British, but the proximity of Canke (Canute's) wood seems to favour the theory that it was constructed by the Danes.

Cannock was originally a royal hunting place, and Beaudesert was the site of a famous monastery; at the dissolution it was given to Sir William Paget. Few men, as a glance at Froude will show, have played a more prominent part in English statecraft. He was ambassador at Paris all the time that Francis I. and the Emperor Charles V. were intriguing for Henry VIII.'s support. His pithy letters to his master are published in the "State Papers," and are an epitome not only of the meshes of French diplomacy of that time, but also of social life of the period. They also show his bluff honesty and pertinacity. He with Hertford, afterwards the Protector, were the only two present when Henry VIII. gave his dying injunctions. He supported Somerset loyally, even to the time of his impeachment. Although, as can be seen from his letters to him preserved in the Lansdown MSS., he frequently warned him. For this devotion to his friend, he lost Beaudesert, but it was restored to him by Mary, to whom he was one of the first to attach himself. As he supported her marriage with Philip, he become one of her most trusted advisers. There are but few mementos in the castle of this first Lord Paget of Beaudesert, except a fine portrait by Holbein. This

is not the case, however, with his brave descendant, the first Marquis of Anglesea. Every room contains some relic of this brave soldier, who covered himself with glory at Waterloo. It is a pity that such a fine old historic place should be left untenanted. The old folk of Paget's Bromley remember when a baron of beef was roasted at Christmas, and there was a welcome for all of them. Let us hope there are better times coming; it would not, perhaps, be wise to wish the old times back. *Vagabond.*

THE VIOLA AS A DECORATIVE PLANT.

I am frequently asked the question, "Who was it that brought the Viola into notice for bedding purposes?" A few words in your columns in reply, may not be out of place. It was in the year 1862, when Mr. John Wills, now florist at South Kensington, was head gardener to Sir Philip de Grey Egerton, Bart., Oulton Park, Tarporley, Cheshire, that on the occasion of a visit to the Wellington Road Nurseries, London, he saw six plants in bloom of Viola cornuta amongst Messrs. E. G. Henderson & Sons' collection of herbaceous and alpine plants, and was so much struck with its colour and appearance that he wished to purchase the lot; but as the firm did not wish to part with them, it was after much pressing that Mr. Wills was allowed to have three plants, which he took away. On reaching home, he at once placed the plants in the propagating-house (it was at the latter end of the summer) and continued propagating them through the autumn and winter; and by bedding-out time in May in the following year, he was able to plant several large beds in the flower garden with this variety, besides two long ribbon borders each 1500 feet long. In a letter before me, written some time since, Mr. Wills wrote:—"At the blooming time it was the prettiest sight I ever beheld, and when the shades of evening were closing in, visitors seemed riveted to the spot by the beauty of the scene, and my employer and all his friends were delighted with the display. My dear old friend, Robert Fish, saw it, and seemed transfixed with delight." Viola cornuta is still cultivated, for its soft pale lilac or mauve colour is so delicate and pleasing; but other varieties, such as lilacina, elegans, and Duchess of Sutherland, of somewhat similar shades of colour, have replaced it to a great extent.

Mr. Wills also took Viola lutea in hand in 1864, having obtained it from Mr. Tyerman, then the Curator of the Botanical Gardens, Liverpool, and used it extensively at Huntroyde Park, Burnley, Lancashire, when in charge of Col. Starkey's fine gardens, and by using it freely, this variety also came prominently into notice, and is still cultivated, but other varieties now entirely supersede it. Here also at Huntroyde, V. cornuta was used on an extensive scale, fully a mile in length of the kitchen-garden borders being edged with it, and from these borders Mr. Wills gathered 80 ounces of seed, for which as many guineas were paid by the seed trade who purchased it. To Mr. John Wills, therefore, belongs the honour of being the first to bring the true Viola of the cornuta and lutea sections into notice as bedding plants, and it must be a source of satisfaction to him to know that the Viola is now so popular and generally cultivated, and new varieties are being introduced.

In justice to the memory of the late Mr. Fleming, so well known thirty to forty years since, and subsequently as the head gardener at Cliveden, near Maidenhead, who obtained a considerable reputation for spring bedding, and largely used the Cliveden bedding Pansies, white, blue, yellow, and purple, the latter still much grown, and invaluable for large masses, but these are all really Pansies, and the three former are almost out of cultivation, and not wanted now. Violas Admiration, Perfection, and Sensation followed Mr. Wills's efforts to give the Viola a place amongst our bedding plants, and V. Admiration is still cultivated, probably V. Perfection also. Then, shortly after, Mr. Richard Dean, of Ealing, introduced V. Blue Bell, which soon became very popular, and is still a great favourite in gardens.

It may not be out of place here to refer, very briefly, to the influence in the past that Mr. Wills has brought to bear on horticulture and floriculture.

Fig. 23.—Iris lævigata. (see p. 168)

Whilst at Oulton Park and Huntroyde, he raised some fine seedling Verbenas, Lady de Grey Egerton amongst them; also some excellent bedding Pelargoniums, amongst them that still cultivated variety, Robert Fish, and the little golden Christine. His name will also ever be associated with the bronze-leaved Pelargoniums, of which he was the raiser of many superb varieties, which passed into the hands of Mr. William Bull for distribution. Of his work as a floral decorator, and the refined taste he brought to bear on this work, I need not say more here.

Just a word or two further as to Violas. Their fame as out-door spring and summer decorative plants is now assured, but as pot plants for greenhouse decoration, very little has yet been done. There is a charming beauty about them as early-blooming pot plants, grown in cool frames until early in March, and then removed to the greenhouse, and so many of them are deliciously fragrant. *W. Dean.*

ROUND MANCHESTER.

(*Continued from p.* 141.)

Beech Lawn, Audenshaw. — The garden of William R. Lee, Esq,, which is of small extent, is largely devoted to the cultivation of Orchids, and is a remarkable example of what may be accomplished with these plants, even when they have to be grown in close proximity to a large town. With such surroundings, it would appear that nothing more than much thoughtful attention, which, with a knowledge of the right thing to do, forms the essentials of good culture anywhere, are necessary to bring the plants up to the standard of those grown in more favoured parts of the country, and in these particulars Mr. Lee, and his gardener, T. Bullington, have been diligent, and with the best results.

Specially noteworthy is the remarkable vigour of all the Dendrobiums, and, in particular, D. aureum (heterocarpum) and its varieties, and the hybrids of the D. Ainsworthii× section; D. cambridgeanum, D. albo-sanguineum, D. Lowianum, and some other species, which are not good doers everywhere, but here they are grown suspended beneath the upper ventilators, which are opened in fine weather. The plants are copiously watered when growing, and are in grand health, flowering freely. One of the most beautiful of these is D. splendidissimum grandiflorum, Lee's var., one of the most beautiful of hybrid Dendrobes, the pseudobulbs of which are more than 3 feet in length, the five leading ones promising even a better show of flowers than the plant bore when it was exhibited at the Royal Horticultural Society. Another remarkable example of fine growth is on the Dendrobium Lowianum, which but few growers succeed in getting even to live for any length of time. The growths on Mr. Lee's plants are some of them 2 feet long, and bear evidence of the progress they have made year by year. Dendrobium formosum giganteum, and the other "nigro-hirsute" Dendrobes, also thrive in a very satisfactory manner, their good condition being attributed to their being kept in a position where they get plenty of air at all seasons, although when growing, of course, they get a good warm temperature at the same time.

Glancing through the houses, and at their more striking contents, we note in the first little lean-to warm-house that numerous plants of Miltonia Roezli and Dendrobium Phalænopsis Schroderianum are in fine condition; and in the next small house, in two divisions, Adiantums and Cœlogynes are well grown.

In the fine span-roof Dendrobium-house, where the stages are edged with Panicum variegatum, and the numerous healthy specimens effectively arranged, the fine condition of the varieties of D. nobile is remarkable, so also D. venus ×, D. Cassiope ×, D. Wardianum and its white variety, D. crassinode, and D. crassinode album, &c.

Among other evidences of good culture in Dendrobiums is a thriving plant of Dendrobium senile, its thick pseudobulbs clad with long woolly hairs, and which, considering it is so frequently imported, is one that is rarely to be found in good condition. Beside an entrance in this house was a panful of Pleione maculata, which was said to bear each year about sixty flowers. Most of these instances point to the fact that ventilation is freely afforded, and carefully attended to at Beech Lawn.

Passing through the Cypripedium house with its healthy and rare contents, the Cattleya-house in which is a fine lot of C. aurea, a specimen of the true C. Hardyana, and good examples of most of species of Cattleya and Lælia, we come to the range of lean-to's under the wall, in the first of which we find praiseworthy specimens of most of the Mexican Lælias—Lælia Gouldiana, L. furfuracea, and the varieties of L. anceps being especially good; L. autumnalis atrorubens has eight to nine flowers on a spike; L. anceps Stella has four spikes, and the pretty hybrid, L. Tresederiana ×, is in bloom.

Continuing through the vinery and Peach-house, and finishing at the cool Odontoglossum-house, we found evidence of good culture in every department, the whole place being a capital example of what may be done with Orchids in or near towns.

The Week's Work.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maiden Erlegh, Reading.*

PEACHES AND NECTARINES.—Assuming that the trees of these were partly loosed from the walls early in December, proceed at once with the necessary pruning, which will be but little if the trees were gone over in the autumn, and the bearing wood and old fruit-stalks removed, beyond the shortening back of all immature shoots. In the case of trees that were not so treated, considerably more pruning will be required. Do not in any way crowd the shoots, but leave them from 6 to 9 inches apart.

DRESSING THE TREES.—Having finished the pruning, the trees should all receive an efficient dressing with insecticide, going over each shoot separately with a painter's brush, and in cases where the trees were at all infested with black aphis, work the insecticide well behind the buds, which will not be injured if the work is done at once. Hitherto, we have always used Gishurst compound in the proportion of 6 oz. to 1 gal. of water, but we have lately found the Killmright insecticide equally effective, which we use in the proportion of 4 oz. to 1 gal. of water. The trees may also receive a good syringing with a weak insecticide later on, when it is seen that the buds are beginning to move, which will preserve them over the blooming period from the aphis.

TOP DRESSING.—After the above work is finished, remove any inert soil from the border by first loosening the same with a fork, and replace the same with a compost of sound loam, old mortar-rubbish, and burnt refuse, which may be covered with a surfacing of the latter material, or with a good coating of both.

THE ORCHID HOUSES.

By W. Holmes, *Gardener, Pickering Lodge, Timperley.*

GENERAL REMARKS.—The genial weather that we have had in this part for the last fortnight makes us think almost that we are in the month of April, still it behoves us to be careful, as we shall have doubtless some bad weather during the month. In any case, the plants will be the better for this mildness, a little more top air on most of the houses for a few hours during the day having been permissible, and the few degrees extra warmth from sunheat will do good. The roller-blinds had better be put in order at once, so as to have them in readiness whenever required, which in the case of East Indian Orchids may now be any day. Masdevallia Harryana, and others of that section, are better if re-potted during this month than at any other time. Let the pots be half-filled with clean crocks, over which a layer of sphagnum moss should be put, and the compost may consist of peat of good quality, sphagnum moss, and fibrous loam in small quantities, all of these being mixed together before proceeding to work. Masdevallia Harryana and vars. are strong-rooting plants, and require something more to root in than most other Masdevallias. Spotting on the undersides of the leaves is the greatest evil that has to be avoided, the cause of which is, I think, an old one, and is due to our growing them rather too cold; and the great deal of moisture that is present in our houses. The house best suited to them is one placed on the north aspect. Keep the temperature at 50° to 55° at night, and 60° by day. The only insect which does any harm is a mealy scale, which is to be found on the under-side of the leaves, but which is easily cleaned off with soft-soap and water. The Chimæra section of Masdevallias grow best in baskets of teak-wood, hung close up to the roof. The potting materials should be similar to those used for M. Harryana, but without the loam, finely-broken charcoal or crocks being mixed with the whole, to render it still more porous, and admit of the flowers readily protruding at the bottom and sides of the basket. This set of Masdevallias is as liable to spot as the others, and from the same causes. A night temperature of 55° is suitable, and the plants should be syringed diligently, or red spider will give much trouble in the summer-time. Our Odontoglossum crispum house is furnished at this period with small hanging pans of Sophronitis grandiflora, and intermixed with these are plants of Masdevallia ignea, the whole forming a pretty picture. As fast as plants of Sophronitis go out of flower, topdress them with clean sphagnum moss, putting the plants into a growing temperature; ours go with the plants of Miltonia vexillaria, and are kept in the small pans alluded to, near the roof. Odontoglossum citrosmum, O. grande, and O. Insleayi should be kept dry for a few weeks longer, and as soon as O. citrosmum shows its flower-spikes, afford the plant water. Keep a sharp outlook for small shell-snails and for woodlice, or the flower-spikes that are pushing up from the new growths will disappear. In a few weeks O. grande and O. Insleayi will be commencing to grow, when it will be time to encourage the pseudobulbs after the rest the plants have had since they last flowered.

FRUITS UNDER GLASS.

By Jas. Whitton, *Gardener, Glamis Castle, Glamis, N.B.*

VINES.—Those in pots will now require close attention. Stop the shoots two or three buds beyond the bunches as soon as the latter are fairly developed. Any which are approaching the flowering stage must on no account suffer from want of water. When in bloom go carefully over the bunches with a large camel-hair brush or small bunch of soft feathers to fertilise the flowers. Maintain a pleasant buoyant atmosphere in the house—but avoid over-dryness. Night temperature 60° to 65°, with 15° to 20° higher during daytime in sunny weather. Disbud any of the permanent Vines as required. We allow the buds to be fairly started, and then rub off all on the spurs except the most promising one. On old Vines it may at times be necessary to have two or more to fill any vacancy, or to admit of the main spur being shortened, in which case select those buds which start close to main-stem. Start Muscats and late-keeping sorts, as previously advised, by shutting up house. They will not require much fire-heat for a week or two, if sun-heat is carefully husbanded by closing house early in afternoon. Before starting see that inside borders are thoroughly watered after getting the usual cleaning and necessary top-dressing. Syringe the Vines at least twice a day with tepid water, and damp surfaces regularly.

THE GRAPE-ROOM.—Frequently examine all the bunches, and remove any berries showing signs of decay. Keep a steady temperature in the room of about 50°, and avoid a close damp air, by warming and ventilating the room as may be found necessary.

STRAWBERRIES.— Those plants which have set, and whose fruit is beginning to swell, will require their final thinning, carefully removing with Grape scissors all small and badly-formed berries, leaving only six or seven of the best on a stalk. If not already done, support each stalk with a twig of Birch, to keep the fruits exposed to light, and from getting splashed when watering the plants. Water carefully, and give weak liquid-manure twice a week until the fruit is nearly fully swelled. The temperature during that stage can be increased to 65° or 70° at night, with a corresponding rise during daytime. Whenever the fruits begin to show colour, keep the house airier and somewhat cooler. Bring on succession lots regularly to supply requirements. Those in bloom must be gone over daily, and fertilised to ensure a good set. Do not hurry them in their earlier stages of growth.

TOMATOS.—The autumn-struck cuttings and early sowings will now require potting-on or planting in beds, where such are at command. If pots are used in which to fruit the plants, use such sizes as the system of training demands. Where the plants are pinched, and three stems grown to bear fruit, pots 16 to 18 inches in diameter will be needed. If the single stem method be adopted, pots 12 to 14 inches in diameter will be ample. Use a good friable loam, if attainable, with sufficient sand and a little wood-ashes to keep it porous; heavy soils may have fine lime rubbish, and bone-meal or similar fertiliser added. Pot firmly, and place the plants in a light warm airy house, in which an average temperature of 60° can be kept. Syringe lightly until the flowers appear, and avoid over-watering. Tomatos are not so readily injured by an occasional "dry" as are many other plants. Sow for early autumn crop. This sowing will be ready to plant in pits and frames, once these structures are clear of summer bedding-out plants, where other conveniences are not available to meet the ever-increasing demands for Tomatos. Amongst the many kinds I have tried, I prefer those medium-sized forms of which Early Ruby, Conference, and Ham Green Favourite may be named as types.

THE FLOWER GARDEN.

By T. H. Crasp, *Gardener, Canford Manor, Wimborne.*

THE HOLLYHOCK is an old inhabitant of our gardens, and where it succeeds it is one of the finest decorative plants for a shrubbery or herbaceous border. In recent years, fungus diseases produced by Puccinia malvacearum and others have played havoc amongst the plants, and, as a consequence, the cultivation has become somewhat neglected, although at the same time good collections still exist, and in some places the plants are very successfully cultivated. Propagation is effected in various ways—by seeds, cuttings, division, by eyes obtained from side-shoots, when they are getting firm in July or August, and sometimes by grafting on the roots of a strong-growing variety. Autumn-raised plants are always best, although, if seeds are sown at once in pots or pans containing good friable soil, and then placed in a good heat; after they have grown large enough to be handled, they should be potted off in rich soil; and after the pots become full of roots, afforded another shift, keeping them under glass till the end of May, and then planting them out. Plants thus treated make good useful flowering subjects by the time August has arrived. This is the method usually adopted to obtain new varieties, and for securing a large number of plants for ordinary decoration; but in the case of named varieties, the best mode of propagation is by cuttings taken in the autumn or at the present time, which can be easily obtained by placing the old stools in heat, and when the young shoots are about 3 inches long, they should be placed singly in small pots containing light sandy soil, putting them into a slight bottom heat. After roots are emitted, they should be treated like spring-raised seedlings. In case Hollyhocks are attacked by the disease above-named, all diseased leaves should be burnt as soon as the fungus shows itself. It is a good plan when preparing the places for the plants, to fork in a good amount of soot, and thoroughly mix it with the soil, soot being a good thing to prevent or check to a certain extent the ravages of disease. In parts where the soil is tolerably dry, and the winter not too severe, Hollyhocks may be left in the ground, but in most cases, especially with choice varieties, it is advisable to lift them in the autumn, and store them in frames with seedlings, &c.

LOBELIA CARDINALIS, L. SYPHILITICA, AND VARIETIES.—These fine plants must not be forgotten, as they are so useful for grouping in beds, and for forming masses in the herbaceous borders. They are easily propagated, if the old stools are taken out of the boxes or frames where they may have been stored till the present time, and split up into pieces of two or three buds each; pot these bits in rich light soil, and place them in a cold frame, where they make nice plants by the time the planting-out season arrives.

SPRING FLOWER BEDS.—Now that frost has disappeared from the country, all autumn-planted spring-flowering plants should be looked over, and those which the frost has raised out of the soil pressed down into it, and the soil made firm about them. Where gaps occur in the beds, these should be filled up from the reserves, of which there should always be some in pots in cold pits and frames. These remarks apply to Wallflowers, Polyanthus, Silenes, Myosotis, Hepaticas, Aubrietias, Carnations, Arabis, &c., as also to some bulbous plants, trees, and shrubs; in fact, anything that is planted late in the autumn. If a good look-out be not kept for mice, rabbits, and some kinds of birds, they will work sad havoc with Crocus, Narcissus, Tulips, &c., which are now pushing through the soil. The only means to check them is to place traps for the rabbits and mice, and shoot a few of the birds, leaving them on the beds, this being a warning to the others, which they quite understand.

GENERAL HINTS.—All walks and lawns should be carefully swept and rolled, so as to give them as neat an appearance as possible now that the days begin to lengthen; for at this season of the year nothing, I think, looks worse than badly-kept lawns and walks; in fact, bad keeping is more noticeable now than later, when trees and shrubs are coming into leaf.

PLANTS UNDER GLASS.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

FERNS.—The present is a good time for rearranging the fernery, potting those plants that require it, filling up vacancies, top-dressing and filling baskets. Prepare peat, leaf-mould, loam, sphagnum moss and sand; and where silver-sand is scarce, there need be no hesitation in using sea-sand without washing it. Adiantums, Pterises, and Lycopodiums root in it like weeds, the small amount of salt it contains being beneficial to them. Where Adiantum cuneatum or A. gracillimum are required for cutting during the winter months, the plants should be grown in 5 and 6-inch pots, and every frond cut from each as fronds are wanted. The pots from which the fronds are cut may then be stored away till it is time to start them in the spring. This plan keeps the plants in the fernery tidy. Different species and varieties of Adiantum, Pteris and Lycopodium if grown in 3 and 4-inch pots, are useful for filling baskets and other purposes. In potting these, use clean well-crocked pots, with a small quantity of sphagnum moss above the crocks, and also at the bottom of the basket, but do not overfill the pots with soil, but leave half an inch space at the top of small pots, and 1 to 2 inches in large ones, so that plenty of water can be afforded. Specimen plants of Adiantum Farleyense, Davallia Mooreana, Gymnogramma chrysophylla, G. tartarea, and other strong growers among hot-house Ferns, delight in a large well-drained pot, plenty of sphagnum moss above the crocks, also lumps of turfy loam and peat, and plenty of coarse sand. The greenhouse varieties of Gleichenias are among the most beautiful forms for specimens, and they like a large pan or pot, rough fibrous peat and sand, and to be kept clean from thrips. Tree Ferns, Alsophilas, Cyatheas, and Dicksonias should be potted if they require it, but they will grow for many years in the same pot if care be taken to have good drainage, and to afford them a yearly top-dressing of rich soil, and manure-water at times during growth. The Bird's-nest Ferns, Thamnopteris australica and T. nidus, the former a greenhouse variety, the latter requires stove-heat; the Elk-horn Ferns, of which Platycerium alcicorne is a species that does well in the cool house grown on blocks of wood packed with sphagnum moss; whilst P. grande and other species are at home in a warm house. Woodwardia radicans is a useful Fern for baskets, vases, and for rock-work. The most lovely and interesting Ferns are Todeas, most of which will grow well in a cool temperature if afforded shade and plenty of moisture; Todea superba and T. pellucida are two of the best species.

EUCHARIS AMAZONICA AND E. CANDIDA.—Any of these not in good health should be somewhat dried in a gradual manner, and then shaken out of the soil, thoroughly washed in a solution of lemon-tree oil, or the so-called mite-killer, and potted singly in small pots, making use of rich loam and peat, with a small quantity of rotted manure, with sand in sufficient quantity to make the whole porous. After potting and watering, place them in a temperature of 65° to 70°. When the pots fill with roots, re-pot into 6-inch pots, or make up large specimen pots by putting a lot of bulbs together. When in full growth, an occasional watering with nitrate of soda at the rate of $\frac{1}{4}$ oz to 1 gal. of water is beneficial. The drying-off method of treating these plants is frequently a cause of the bulb-mite attacking them; and they will flower quite satisfactorily without drying-off. Moist heat suits the Eucharis, and a position over a warm-water tank in a stove is the best place for them.

DOUBLE AND SINGLE-FLOWERED PRIMULAS.—If these are no longer required for the decoration of the conservatory, the best place for them will be a vinery from which the Grapes have been removed, keeping the plants cool, fire-heat spoiling the colour of the flowers. Afford plenty of fresh air daily, and the same kind of treatment as Primula obconica requires. The latter is one of our best decorative plants, and I do not think that there is any occasion for the scare got up about it, as being a cause of eczema. I have never seen any ill effects from handling it.

THE FORCING-HOUSE.—Spiræas in variety, Deutzia, Lilac, Lilies, Cytisus fragrans, and Zonal Pelargoniums may be pushed on for Easter decorations. Richardias will now throw up their spathes if afforded a temperature from 50° to 60° and an occasional watering with liquid manure will be good for them, after the pots become full of roots; they like plenty of air in mild weather. Pot clumps of Lent Lilies from the open borders, using 6 and 10-inch pots. They will succeed under the same treatment as Richardias.

THE KITCHEN GARDEN.

By H. C. Prinsep, *Gardener, Buxted Park, Uckfield.*

HORSE-RADISH.—Where the roots were not entirely taken up before the late frost set in, the remainder should now be lifted, and the strongest roots selected and laid-in in a cool place for use. The ground occupied by this crop should then be heavily manured, and deeply dug or trenched. Straight roots of about the thickness of a man's finger should be chosen for the new sets, passing them between the fingers and the thumb to remove the small root fibres. Holes having been made in the newly-dug ground from 12 to 15 inches deep, one set should be put into each, taking care that it goes straight down, and that the top is about level with the surface of the soil; fill up the holes with fine rich soil. Horse-radish should be planted in rows, 2 feet apart, 9 inches being allowed between the sets in the rows. Should the soil be shallow, so that holes of sufficient depth cannot be made perpendicularly, they may be made in a slanting direction, so that the whole length of the root be buried. When grown in this manner, thickness only has to be obtained, as the sets are already of sufficient length. Crown sets may also be used. The strongest of these should be selected, and all crowns but the central one removed; they should then be dropped to the bottom of holes made from 15 to 18 inches deep, which should then be filled up with soil as before. Horse-radish usually occupies some out-of-the-way place, and a good deal of ground is often taken up with a quantity of useless stuff. If one-tenth of the amount were well cultivated, there would be sufficient useful roots for a large establishment. The ground on which this crop is grown cannot be too rich, and if the plants are well looked after, a plot 10 yards square would furnish a large supply of roots.

GARLIC should now be planted in rows 15 inches apart, and 9 inches between the bulbs, giving them the same treatment as Shallots.

SMALL SEEDS.—Where Couve tronchuda, Celeriac Capsicums, or Chillies are grown, a sowing may now be made of these in very mild heat, so as to get plants of good size by planting-out time. Attend to those (if any), sown some time back, and see that they are pricked off when large enough to be handled.

GENERAL WORK.—When the surface has lost its stickiness, let the hoe be used between all crops sown or planted in the autumn, which will not only check the growth of weeds, but allow the sun and wind to act on the soil, drying and warming it. Put stakes to Peas sown in the autumn, after which place some small Spruce twigs alongside the rows to ward off the wind. Finish the digging of all vacant ground. When the digging of land and the wheeling of manure, &c., are finished, the walks should be put in good order, gravelling them where this is necessary. Where there are box-edgings in the kitchen garden, and these have got too high and broad, the plants may be dug up, and pulled in pieces of size suitable for replanting.

EDITORIAL NOTICES.

LETTERS FOR PUBLICATION.—*All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

PLANTS, &c., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be carefully packed and numbered, and not more than six should be sent at one time.*

NEWSPAPERS.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Advertisements should be sent to the PUBLISHER.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY, FEB. 14 { Royal Horticultural Society: Annual General Meeting, at 3 P.M. / National Rose Society. / Horticultural Club: Annual Dinner.

THURSDAY, FEB. 16—Linnean Society.

SHOWS.

TUESDAY, FEB. 14 { Royal Horticultural Society, at the Drill Hall, James Street, Westminster.

SALES.

MONDAY, FEB. 13 { Roses, Begonias, and Plants, at Protheroe & Morris' Rooms.

TUESDAY, FEB. 14 { Lilies, Begonias, and Orchids, at Protheroe & Morris' Rooms.

WEDNESDAY FEB. 15 { Important Sale of Lilies, at Protheroe & Morris' Rooms. / Roses and Other Plants, at Stevens' Rooms.

THURSDAY, FEB. 16 { Continental Plants and Hardy Border Plants at Protheroe & Morris' Rooms.

FRIDAY FEB. 17 { Carnations, Picotees, Hardy Border Plants and Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—39°.1.

Gardeners' Orphan Fund.

ON a day, when if fog-laden atmosphere has the pernicious effects attributed to it, there was abundant prospect of further demands on the Orphan Fund—on such a day [February 3] the annual meeting was held. The assemblage was not large. The fog had something to do with that, perhaps, but there were other causes why a larger gathering cannot be chronicled. One of these is the circumstance that, so far as we know, there was no meeting of any other kind in which horticulturists are interested going on, on the same day, and it is rather exacting to expect gardeners to come from a distance to attend a single meeting. Another reason may be assigned for the small attendance, and that is the perfect satisfaction which we believe is felt on all hands at the way in which the affairs of the Fund are administered. Certainly the energetic committee are entitled to all the praise that can be given them. But the committee want that appreciation shown in a more tangible form. They would rather feel that they were a little less responsible than they are for the welfare of the Society, or rather that the responsibility was a little more widely diffused among the gardeners of the kingdom, and not so much concentrated upon themselves. A "slight falling-off in the annual subscriptions," even if it be but slight, is a misfortune, and one which must be checked at once. There are hundreds and thousands of gardeners in the country who never subscribe a penny to the Fund, and yet the full annual subscription is only 5*s*.—not much more than a penny per week. If ten thousand gardeners would each contribute 5*s*. a year an annual income of £2500 would be at the disposal of the committee, instead of the meagre sum of £460 now received.

We are afraid the munificence of generous friends, and especially the sums collected from outsiders at or in consequence of the annual dinner, have a paralysing effect on the gardeners who do not recognise the need for their pennies. We are not so destitute of worldly wisdom as to deprecate the value of the help afforded by the generous and the well-to-do, but we do say that it would in all ways but one be infinitely more satisfactory if the support of the orphans depended more fully on the pennies of the gardeners, as it might readily do, than on the pounds of strangers and outsiders. The exception to our statement is, of course, the extra work that would be thrown on the Secretary. The local secretaries could, however, greatly lessen that by acting as collectors, and by means of postage-stamps, as is done in the Post-office Savings Banks, small amounts might be accumulated at relatively little cost and trouble. In any case, the facts stare us in the face, that a penny a week from each gardener in the country, assuming there are only 10,000, would cover the present expenditure three or four times over, and consequently allow a proportionately larger number of orphans to secure the advantages of the Fund.

The circumstance that H.R.H. the Princess of WALES lends her name to the charity, and expresses the hope that by so doing she may assist the objects of the charity, is a matter for congratulation. Nothing, we are sure, would give her Royal Highness greater pleasure than to know that her example had stimulated every gardener in the kingdom to contribute a penny a week to the fund!

Incidentally, we learn that two of the children earliest elected are now, by reason of their age, no longer competent to receive the benefit of the Fund. This is, we suppose, the first time in the history of this still young Fund that such an occurrence has happened. It is also noteworthy that, as we are informed, not one child out of all that have received the benefit of the Fund, has died since the inauguration of the Society, in Jubilee year. This is a fact which shows, indirectly, at least, that the children are well looked after. Lastly, as these pages are passing through the Press, we learn that Baron FERDINAND DE ROTHSCHILD has kindly undertaken to preside at the annual dinner on March 22.

Manures.

SHALL we ever be able to dispense with the use of manures? The question seems absurd when we think of the constant drain to which we subject the soil; but there is another way of looking at the subject. What if we leave Nature to restore the balance? If this can be effected, will it not be much better done than we could do it? Doubtless; but the process would be slow, and short-lived mortals are in a hurry. To lie fallow seems a waste of time and opportunity, but the fertility of the soil is nevertheless being restored all the time; whilst, on the other hand, the proceedings of the cultivator are often marked by great and needless waste. Messrs. MUNZ and GIRARD, in the *Annales Agronomiques*, have lately been investigating this subject, and they show how much of the value of manure is lost in stables by the ammoniacal fermentation that ensues. Much of this can be obviated by the use of peat moss or of earth rich in humus. If the loss of nitrogen in manure could be entirely prevented, there would be so much the less necessity to purchase nitrate of soda or sulphate of ammonia. Modern research has proved that some plants (Leguminosæ) can and do appropriate the nitrogen of the atmosphere by the aid of certain microbes of which we hear so much nowadays, as well as of certain mosses and algæ, according to the most recent researches of SCHLOESING and LAURENT. These plants, then, yield the cultivator a constant supply of nitrogen. If the loss of the nitrogen so gained were prevented by fixing the ammonia which escapes from manure-heaps, and if the loss of nitrogen by means of drainage were obviated, the cultivator would be put into possession of ever-increasing stores of nitrogen without going to the expense of purchasing expensive manures.

Basing his recommendations on such facts as these, M. DÉHERAIN counsels the sowing immediately after the removal of the stubble of some quick-growing crop, which will appropriate the nitrogen, and thus prevent its escape in the drainage-water. In the plant, the nitrogen will be stored up or used up in the formation of albuminoids in the plant, so that when the crop is ploughed in, all the nitrogen which otherwise would have been lost in the drainage-water is restored to the soil. In this way the value of the old practice of "green manuring" is explained.

THE JAPANESE IRISES.—Our illustration (fig. 24) represents the mode adopted by the Japanese in their cultivation of these lovely plants. For the photograph whence our cut was taken, we are indebted to Mr. JAMES H. VEITCH, the record of whose wanderings is given from time to time in our columns. He will doubtless in due time, in course of his letters from Japan, allude to these plants, so that we shall confine ourselves to the mere statement that they are cultivated as bog or marsh plants, and leave Mr. VEITCH to narrate his own experiences later on. The proper name of these flat Irises is Iris lævigata, according to Mr. BAKER's *Handbook of the Irideæ*, p. 13, wherein we are told that the plant is a native of Eastern Siberia and Japan. Under the supposition, as we infer, that the plant was of Japanese extraction solely, it was at one time known as I. Kæmpferi. It was, we believe, originally introduced from Japan by VON SIEBOLD, and flowered in Verschaffelt's nursery at Ghent in 1857, a figure being given in the *Illustration Horticole*, t. 157. On July 11, 1874, we gave in these columns a full account of the curious botanical features of the plant, an account of which it was interesting to see the confirmation in the *Botanical Magazine*, t. 6132, published in the following November under the name of I. lævigata, *see* present issue, p. 165, and where the normal form, with recurved sepals or falls, and erect petals or standards, is given. According to Sir JOSEPH HOOKER, Kæmpfer, (*Amœnitates Exoticæ*, p. 873, published in 1712) was the first to call attention to the plant. In the year (1874) M. VAN HOUTTE gave coloured figures of several varieties in his *Flore des Serres*, t. 2073, 2074, stating that they had been in cultivation in his nursery for several years. In the United States, according to an article in that excellent and most interesting journal, *Garden and Forest*, it was introduced by the late THOMAS HOGG in or about 1869, and they were described in the *American Agriculturist* for 1870 by our old friend, Dr. GEORGE THURBER. Mr. GERARD, the author of the article alluded to, says they are cultivated as subaquatics, but they do well in a moderately moist border, or elevated slightly on the margins of water, where their roots easily find abundant moisture. Under similar circumstances, they grow well here, though all growers are not equally successful. At Wisley Mr. GEORGE WILSON grows them well, giving them moisture at the roots, and full exposure to the sun at the tops.

Linnean Society.—At the evening meeting, to be held on Thursday, February 16, at 8 P.M., the following papers will be read:—1. "On the Life History of the Æcidium on Paris quadrifolia," by Dr. Chas. Plowright; 2. "Contributions to the Natural History of the Flower," by J. C. Willis.

University College of Wales.—We are pleased to receive the prospectus of the Agricultural Department of the College. The instruction given is practical as well as explanatory and didactic. The Principal of the College is T. F. Roberts, Esq., the Agricultural Professors being T. Parry, J. Wilson, J. Alan-Murray, J. Dawson Roberts, Dr. Snape, A. W. Warrington, J. R. Ainsworth Davis, and others. The College is at Aberystwith.

Royal Horticultural Society.—The next meeting of the Society will be held on Tuesday, February 14, at the Drill Hall, James Street, Westminster. As the annual general meeting will be held on the same day at 3 P.M. at the Society's offices, 117, Victoria Street, it is expected that there will be an unusually large attendance of Fellows to hear the report of the past year.

Crystal Palace Show Fixtures in the Current Year.—The directors of the Crystal Palace have now fixed the dates of their shows for 1893. The spring exhibition of plants and flowers will be on Saturday, March 25, and the great summer exhibition on Wednesday and Thursday, May 10 and 11. The National Rose Society's exhibition of Roses is fixed for Saturday, July 1, and the National Dahlia Society's show of Dahlias on Friday and Saturday, September 1 and 2. November 3 and 4 are the dates of the grand Chrysanthemum exhibition.

Birmingham and District Amateur Gardeners' Association.—A meeting of this Association was held, on February 1, at the Temperance Institute, Corportion Street, under the presidency of Councillor R. F. Martineau. Mr. A. Roe read a paper upon the advantages and utility of the Society. He expressed the opinion that the members would greatly benefit by their association, inasmuch as they would be able to exchange ideas on the subject of gardening, and would obtain much useful information from the papers that would periodically be read by members. Economy would be practised, because members could exchange seeds and cuttings, and the exhibition of plants by members would, he contended, create a healthy and useful rivalry.

National Rose Society.—A meeting of the committee will be held at the Horticultural Club, Hotel Windsor, Victoria Street, Westminster, on Tuesday, the 14th inst., at 3 30 P.M.

Horticultural Club.—The annual house dinner of the Club will take place on Tuesday, February 14, when the chair will be taken by Sir John T. D. Llewelyn, Bart. (Chairman of the Club).

Green-stuff in London.—A correspondent of some years' standing, whose avocation brings him into very frequent contact with salesmen in the various vegetable markets, insists that for some time past there has been a falling-off in the sale, and therefore consumption, of green-stuff of nearly every description. Of course, during "hard" weather the supply is frequently very short, and prices in sympathy; but in all the open weather of recent days the supplies have been fairly good. The prices are within reach of most people, but the demand is discouraging. Retail vendors do not speak encouragingly

Fig. 24.—A plantation of Iris lævigata (kæmpferi) in Japan. (see p. 168.)

of their prospects—certainly some of the stuff they had on hand was not fresh, and very uninviting; but as all kinds of meat appear to sell well, our correspondent has come to the conclusion that either the taste has become affected, or the price of fuel interferes with the matron's expenditure. Perhaps were there an extension of the market system—a score instead of the few now in existence—the sale of green stuff might be doubled, which means very much to the grower, as its consumption signifies to the consumer.

PROFESSOR WESTWOOD.—We extract the following particulars from the February number of the *Entomologists' Monthly Magazine*, and which may supplement our own remarks in a former issue:—"He was born at Sheffield on December 22, 1805, and so had recently completed his eighty-seventh year. His father was a die sinker at Sheffield, and his early education was at a Friends' School in that town, so presumably he came of a Quaker family; be that as it may, he was himself a staunch churchman. His family removed to Lichfield, and thence he went to London to be articled to a solicitor. A fragment of an early autobiography is to be found in the *Entomologist* of 1842, where he says:—'It was in the autumn of 1821 that I came up to London to be articled to a profession. For the next six months, however, instead of studying *Coke upon Lyttelton*, I greedily devoured all the information to be obtained from SAMOUELLE'S *Compendium*, HAWORTH'S *Lepidoptera Britannica*, SHAW'S *Zoology*, and other similar works.' He was, however, admitted as a solicitor, and for a short time was a partner in a firm. He never really practised, but devoted himself to entomology and archæology, and having some private means, augmented his income by writing and drawing, for it was probably by his rare artistic talent that he acquired much of his justly great reputation. His drawings of insects were masterpieces of accuracy, without the slightest attempt at effect, rapidly executed, and few have equalled him in correct delineation. There certainly never has been an entomologist who left behind him so much evidence, in practical work, of his ability to delineate insects, even to the most minute dissections. But WESTWOOD was much more than an artist in entomology. There probably never has existed, and, in the present state of the science, there can never again exist, one who had so much general knowledge, both from personal investigation and a study of the works of others; one who was less of a specialist in the modern acceptation of the term. It is true he was a specialist, but it was in the way of taking up small groups in all orders, and working them out thoroughly, his artistic talent giving merit and force to those small monographs. Under a somewhat brusque manner was concealed a hearty sympathy for all real workers, and if he offended, it was commonly in the way of pointing out to would-be exhibitors, &c., of supposed novelties, that some one or other had already made similar observations, his vast memory rendering him very dangerous in this respect. In 1833 the Entomological Society of London was founded, and WESTWOOD identified himself with it from the commencement. He was elected Secretary in 1834 (Mr. G. R. GRAY was the first Secretary), and continued such for several years; by his vigour he successfully combated an opposition that threatened to crush the infant society (see Postscript to Introduction to vol. i. of the *Transactions*). The Rev. F. W. HOPE, a wealthy amateur, was then President, and became WESTWOOD'S warm patron. His interest in the welfare of the society never flagged: he was President on three periods of two years each, and on the occasion of the Jubilee of the Society in 1883 was appointed Honorary Life President. But his papers were scattered through innumerable publications; there never was so prolific a writer, there is scarcely a family of insects in any order on which he did not treat, even to the most minute, for he was an adept at microscopic work almost to the last. As to the accuracy of his work there can be no question, and few men have made fewer mistakes. His separate works were many. Even if he had written nothing else, his *Introduction to the Modern Classification of Insects*, is sufficient to stamp him as the foremost entomologist of this or any other age; a monument of original observation and careful compilation. This work gained him the Royal Medal of the Royal Society in 1855, but he persistently then, and on subsequent occasions, refused to be nominated for election as F.R.S., though his success was certain. Perhaps he considered the views of the Society as already too advanced, and soon afterwards the teachings of DARWIN and others revolutionised natural science, and no doubt caused him genuine pain, for he never identified himself with Natural Selection or Evolution, and indeed, it is probable he never fully understood the bearing of the new school of philosophical thought. He was elected into the Linnean Society in 1827, and was on the Honorary List of nearly every entomological and kindred Society of his period. He was on the staff of the *Gardeners' Chronicle* as entomological referee for nearly half a century. We have alluded to his connection with the Rev. F. W. HOPE. This had a vast influence on his career. In 1858 HOPE presented his collections to the University of Oxford, combined with that of WESTWOOD himself, which he purchased, and endowed a professorship, which HOPE intended should be of entomology, but a difficulty was thrown in the way, and a compromise was effected by instituting a Chair of Invertebrate Zoology. WESTWOOD was the first Hope Professor. Hitherto he had resided at Hammersmith, but henceforth he lived at Oxford. He was made Honorary M.A. and Honorary Fellow of Magdalen College. He soon became a striking feature in the University, and under his charge the entomological collection increased vastly, though it is still only partially arranged."

OPEN SPACES IN AND AROUND LONDON.—The Metropolitan Public Gardens Association at their last meeting decided to expend £20 in preparing maps and plans, illustrative of their work, for the exhibition in Chicago. A grant of £100 from the Clothworkers' Company was announced. In accordance with plans and estimates presented, sums of £130 and £308 were voted for the laying-out of an open space in Bermondsey and St. Thomas' Square, Hackney; and £100 towards the acquisition of 5 acres, formerly part of Wandsworth Common. Mr. WILSON NOBLE, M.P., has sent £200 for tree planting in thoroughfares in "London over the border," otherwise Barking, E. The secretary stated that only about £700 was now required to complete the purchase-money of the Hilly Fields, Brockley. It was decided to apply for the occasional opening to the public of the Hon. Artillery Company's drill ground in the City Road; and to write to the First Commissoner of Works respecting the possibly irreparable injury which might be caused to Kensington Gardens by the proposed underground railway unless it was found feasible to insert efficient protective clauses in the bill which is being promoted this session for the construction of the line.

FLORA OF JAPAN.—In the number of *Garden and Forest* for January 18, 1893, we find the first of a series of articles on the "Forest Flora of Japan," by Professor SARGENT, who has just returned to Boston after a visit to Japan. During part of his journey he was accompanied by Mr. H. J. VEITCH, extracts from whose letters are appearing in our columns. Professor SARGENT emphasises the previous statements of ASA GRAY as to the extreme richness of the Japanese Forest Flora. In the Eastern United States, exclusive of Southern Florida, there are 233 species of trees distributed in 133 genera. The Japan-Manchuria region, comprising Eastern Manchuria, Kurile Island, Saghalin, and the four great Japanese Islands (but not the Loochoo group, which is tropical) has 241 species in ninety-nine genera—a proportion of about one in ten of flowering plants. The percentage of woody shrubs is also very large—one to four of the whole flora. Moreover, the number of distinct species growing in limited areas is very great. In Yezzo sixty-two species were found in an area only a few miles square. For the full elucidation of the matter, however, a knowledge is required of the flora of Corea, and this at present is, to a very large extent, lacking.

KNIPHOFIA.—In an article devoted to the fine collection of these magnificent plants in the nursery of M. EDWARD PYNAERT of Ghent, and published in the *Revue de l'Horticulture Belge*, the writer enumerates some varieties which are not much known in this country. Among them are K. (or Tritoma) Pfitzeri ×, with enormous spikes, the deep carmine of which is associated with scarlet flushed with orange. The throat of the perianth is rose-coloured, while the interior of the limb is of a superb golden-colour. A chromatic description indeed! Lemoine has red flowers which produce an excellent effect; H. Cannell has flowers intermediate in colour between minium and cinnabar; Counsellor Späth [Our cultivators will never say Oekonomierath Späth!] has spikes of a reddish-orange colour; Otto Mann is of a shaded red passing to orange; Max Leichtlin, a plant of less stature, has translucent flowers which appear as if lighted from within. This variety produces a succession of flowers. Ober Gaertner Ehmann has coral-red flowers with yellow anthers; T. S. Ware, of a deeper colour than the preceding, has blackish stamens; Hofgaertner Fiesser is at first scarlet, afterwards yellow, and a late bloomer; Auguste Wilhelm produces spikes of a reddish-copper colour, as if it were soaked in blood. Has anyone tried to force these magnificent plants? Perhaps they would come into bloom at a period when flowers are not scarce, but at any rate the experiment might be tried.

"THE BOTANISCHE ZEITUNG."—Professor Count SOLMS-LAUBACH indulges in an historical retrospect on the occasion of the fiftieth year of publication of this well-known and most useful botanical journal. It was founded by Dr. PHILIPP PHŒBUS, and among the many distinguished botanists who have been connected with it are CARL MÜLLER, SCHLECHTENDAL, VON MOHL, HOFMEISTER SACHS, DE BARY, and CASPARY. Count SOLMS is the present Editor, and in his hands it has lost nothing of the celebrity it has long enjoyed.

"THE GARDEN ORACLE."—We are rather late in announcing the publication of this useful little volume, and this makes us the more desirous of commending its merits to our readers. It contains an excellent list of the new plants of the year, articles on injurious insects, lists of the horticultural societies of the United Kingdom, articles on technical education in horticulture, etc., etc.

FORESTRY EXHIBITION.—It is said that a forestry exhibition is contemplated at Earl's Court this summer.

THE WINDSOR, ETON, AND DISTRICT CHRYSANTHEMUM AND HORTICULTURAL SOCIETY.—Mr. H. FINCH, Secretary, states, that the second annual exhibition of the above Society will be held at The Albert Institute, Windsor, on Friday, November 10.

WIDCOMBE HORTICULTURAL SOCIETY.—This flourishing little Society, in the neighbourhood of Bath, is receiving hearty support, and promises to do good service; moreover, it has managed to keep its expenses within its income. On the occasion of the annual meeting, held on Monday, January 30, the Secretary, Mr. MOGEE, was presented with a barometer by the Rev. LA TROBE FOSTER, in the name of the members of the Society, in recognition of his valuable services.

THE FALSE ACACIA FOR FORAGE.—M. GERARD contributes to the *Annales Agronomiques* a valuable paper on the use of leaves of various trees for feeding stock, basing his remarks not only on the absolute chemical composition of the leaves, but also on their digestibility by the animal. The results of feeding an animal on tree leaves show that, weight for weight, tree leaves are as nutritious as the best

leguminous forage to horses, sheep, pigs, cattle, goats. Of all the trees analyzed, the Robinia, or so-called Acacia, is the most valuable from this point of view. Travellers in France will remember how often it is used on railway-banks to keep the slope in position. It is now shown that its leaves are extraordinarily rich in digestible food, so that M. Girard recommends its plantation on railway-banks, waste-lands, and dry places, where it may be grown as pollards or coppice. One objection to its use is the presence of rather formidable spines; but there are spineless varieties which could be employed, and by protecting the hands with stout gloves, no greater difficulty would be encountered than with Gorse. On soils so sterile and poor that it does not pay to cultivate them, and where manure would financially be a useless expenditure, trees may be grown. The leaves from these, used as litter, would eventually yield a supply of nitrogen and phosphoric acid for the cultivated land, so that the forest contributes indirectly to the enrichment of the arable land. The advantage to be derived from the green leaves used as forage is, of course, greater; the nitrogen returned to the soil in the manure is, of course, greater than what is derived from the dead leaves. Of course, the wholesale removal of leaves would be injurious from the point of view of timber-making, but there are trees whose timber is of relatively little importance, but whose foliage would be very valuable as forage. M. Girard's paper is one of great interest, and should be read by all interested in stock and flock matters.

"Les Orchidées de Semis."—Under this title, M. Ernest Bergmann has reprinted from the *Journal of the National Horticultural Society of France* for 1892 a complete list of hybrid Orchids up to 1891. More than 300 hybrids are catalogued, and their origin is indicated. In some cases descriptive notes are added. The list will be very serviceable, and will doubtless be republished, in which event it may be well to correct the statement on p. 75, that Mr. Philbrick was gardener to "M. Sigismund Rucker, Esq."

Carnations.—The number of the *American Florist* for January 19 is almost entirely taken up with matters relating to the Carnation. The votes of five experts in different parts of the States were taken independently, and the results are given in some eleven columns. Commercial interests are alone considered. Numerous illustrations from photographs are given, but the colours of the flowers do not lend themselves to this style of illustration.

Iris alata var. Leichtlinii.—Mr. Ewbank tells us of a new variety, flowers of which he has just received from Herr Max Leichtlin, and which surpasses in beauty anything of the kind he has seen before. The colour is somewhat deeper and the size larger than in any previously seen form. Mr. Ewbank suggests that it be called Iris alata var. speciosissima, it being as much superior to the var. speciosa, as that is to the ordinary type of alata.

Finnochio.—The notice found in our columns recently of this Italian vegetable, has been the means of exciting some interest amongst our readers, resulting in enquiries being made for seeds. Last week we observed that we did not know of any seedsman in this country who sold seeds of the plant, but Messrs. R. Veitch & Son, Exeter, request us to say that they have it in stock under the name of Giant Fennel.

National Footpath Preservation Society.—We are glad to see that this society is progressing, both in the number of its members and its finances. When keepers are allowed to put down wire with a double row of fish-hooks 4 inches apart, it may be hoped that cruelty to animals, as well as obstruction to footpaths, may receive the attention of the society. Jets of steam, and the turning of bulls into fields crossed by a footpath, are, it appears, ingenious devices to deter people from using a footpath, and this sort of thing is done by the same class of people who have the incredible meanness to appropriate to their own use the strips of green turf by the side of public roads when it suits their purpose to do so.

Stock-taking: January.—From the summary of imports for the past month of foreign and colonial produce, we find there is a decrease, as compared with January, 1892, of £5,359,356, figures, we have noted, once or twice before, which would be misleading, if applied to a reduction of the quantities of goods or materials imported. Beyond remarking that there is some decrease in the quantities of sundry imports, which need not be specially noted, we give the following extracts from the summary of imports for January:—

Imports.	1892.	1893.	Difference.
	£.	£.	£.
Total value for month	£38,485,244	£33,125,888	—5,359,356
§II.—(A.) Articles of food and drink—duty free	11,563,380	10,228,593	—1,334,787
(B.) — do., dutiable	2,006,815	1,891,000	—115,815
§VI.—Raw materials for textile manufactures (including Flax, Hemp, and Jute)...	11,887,376	8,844,783	—3,042,593
§VII.—Raw materials for sundry industries and manufactures (including wood and timber, hewn, sawn, split, dressed; vegetable materials, for paper-making, &c.)	2,446,726	2,246,911	—199,815
§IX. — Miscellaneous articles (including Clover, Grass, Flax, Rape, Linseed) ...	1,444,180	1,252,866	—191,314
(B.)—Parcel Post ...	54,430	92,103	+37,673

The extracts respecting fruits and vegetables are interesting: the careful observer will note an intimate connection between market prices and the "difference" column of the following returns for the past month:—

Imports.	1892.	1893.	Difference.
Fruits, raw:—			
Apples ... ... bush.	326,826	209,262	—117,564
Cherries ... ... ,,	...	...	...
Plums ... ... ,,	3	104	+101
Pears ... ... ,,	3 742	2,518	—1,224
Grapes ... ... ,,	334	523	+189
Unenumerated, ,,	16,995	16,852	—143
Onions ... ... ,,	371,925	273,660	—98,265
Potatos ... ... cwt.	65,268	112,650	+46,382
Vegetables, unenumerated, raw, ... value	£55,617	£37,813	—£17,804

So far as regards the importation of grain from southern Russia—that long-time past granary—agriculturists at home have nothing to fear; an enormous extent of the black loam lands of that far-extending district having broken down into what is described as a Sahara-like condition. Far-spreading areas have been thrashed out by the farmer and given back to Nature—the soil dry to a depth of several feet, blown about by easterly gales, enveloping and stifling seed crops, filling up water-courses and lakes—to an extent known only in Africa. The tillers of the soil and their landlords ask for Government help in rejuvenating the land by means of irrigation-works on a gigantic scale, replanting timber in denuded districts, and furnishing manure and seed; but it does not appear such relief is forthcoming.

The Exports

of British and Irish manufactures are valued at £18,026,019 for the past month, against £19,146,704 in the same month of 1892—or a decrease of £1,120,685. We have an idea that in some things stocks must be getting low; and we may just add that the exports of foreign and colonial produce foot up £4,786,274, or an increase of £657,628, as compared with the same period last year. In face of the "history-making" going on all over the world just now, it would be a vain theory to indulge in prognostications; they constitute a class of literary enterprise which does not always pay.

Referring the other day, at the Chamber of Commerce, to the trade of the country, to meeting foreign competition by low prices and good work, helped by low charges for freight, Sir J. Lubbock stated that prices had probably reached their lowest point in some important manufactures, free imports of raw material, of course, backing up low export prices. He drew attention, indirectly, to the necessity for encouraging inventors by suggesting that manufacturers might be aided by improved processes. There is no man more deserving of help than the inventor, and the securing of his rights ought to be made as easy and cheap to him as an investment in seed and manure.

Corbridge and District Gardeners' Society.—A meeting of this Society was held in the Town Hall on Monday night, January 23. Mr. Charlton, Farnley Grange, presided, and Mr. W. J. Watson, Corbridge, read a paper on his experiences as an exhibitor of spring flowers; for which a vote of thanks was given. A discussion followed the reading of the paper.

Tufted Pansies.—We are puzzled to understand the application of the word "tufted" to the bedding Violas. We are told that the term tufted has been used to distinguish plants of a *spreading habit* like Pinks, Aubrietias, &c., from plants with simple erect stems, such as the Stock, &c. To apply the term tufted to plants of a spreading habit, is a complete contradiction of terms, but in the employment of popular names there is no guide but custom and caprice.

Botanic Garden Appointment.—Mr. Robert Harrow, formerly of Cambridge and late of Kew, has been appointed, from the latter establishment, to the foremanship of the houses in the Royal Botanic Gardens of Edinburgh.

Improvements in the Parks.—Some planting alterations in Hyde Park, the Green Park, and Kensington Gardens, which are being carried out just now, though not of an extensive nature, deserve notice by reason of the improvements effected thereby under Mr. W. Browne's superintendence. A corner of Rotten Row, facing Alexandra Gate, which was said to be dangerous for riders, has been formed into a new raised shrubbery, and the railings opposite put back, so that the ride now takes an easy and graceful sweep, where hitherto there has been an awkward turning, and what once presented a bare and unfinished appearance, becomes an ornament in the landscape, and the means of preventing a recurrence of accidents such as took place last season. An improvement of outline and level of the plantations, and replanting the latter, is taking place at the west end of the "Ladies' Mile." What will have the very desirable effect of throwing up the points of view and hiding the masonry, is in course of progress at the south end of the Serpentine Bridge, by re-laying out and raising the level of the plantations here. The footpath also will be reduced, and the eye will be refreshed by resting on a greater breadth of green sward. In what might, not inaptly, be termed the Park of Walks, the Green Park, Mr. Browne is planting bold groups of trees and specimens in desirable positions, of such as Acers, Planes, the Tulip tree, Elms, Birch, Thorns, Mountain Ash, Pyrus, &c., in the formal enclosures, with the praiseworthy object in view of taking off the flatness of aspect hitherto presented, giving greater diversity, and of concealing as much as possible the numerous but necessary footpaths which cross the park in all directions. In St. James's Park the rockery is being replanted with suitable materials, and when finished will doubtless prove an interesting feature in the surroundings. At the south end of the Broad Walk, Kensington Gardens, a great improvement has been effected, in the making of a new footway, plantation, and re-laying out a piece of ground; here will be planted in quantity Vincas and bulbs in variety, such as Narcissi, Crocuses, Wild Hyacinths, &c. The herbaceous borders hereabouts are now receiving careful attention, and it was pleasant to hear, as

showing the popular taste for these desirable and showy subjects, that they will be planted in bold clumps for future effect. The various alterations and improvements as to planting, &c., carried out two years ago in what is known as the north flower walk (although bedding is not carried on here now) are now being seen to advantage, as the trees, shrubs, &c., are getting established in the groups, and the points of effective view opened up made clearly discernible. Let us hope the silly avenue lately planted in Ravenscourt Park, to its great disfigurement, will speedily be removed. It is as well to say that the superintendent is not responsible for this monstrosity.

THE LAW OF COMPENSATION.—High quality in fruits, says Professor L. H. BAILEY in *Agricultural Science*, is supposed to exist at the expense of some other character. The best fruits are thought to be tender, unproductive, and to lack vigour, or to be small and dull in colour. Professor BAILEY discusses the question at some length by the aid of statistics, and sums up as follows:—"It is evident .... that quality and other characters of cultivated fruits appear independently of each other—that there is no true correlation between these characters. There is a general increase in all characters as amelioration progresses, at least in all characters which are particularly sought by horticulturists, and this fact must ever remain the chief inspiration to man in his efforts to ameliorate plants." And yet horticulturists are too well aware of fruits of high quality which are "bad doers" or "bad croppers," and among florists' flowers the tendency to sterility as the flowers improve is often marked. True, the plants in that case are selected for their flowers mainly. Still, the grower is not too well pleased if he only gets half an ounce of seed from a whole houseful of plants, as happens with Cyclamens, Calceolarias, &c.

TESTIMONIAL TO MR. W. YOUNG.—A large gathering of the leading horticulturists in Scotland met together at the Waterloo Hotel, Edinburgh, on the afternoon of February 8, to present a testimonial of £100 and a piece of plate to Mr. WILLIAM YOUNG, the genial treasurer of the Royal Caledonian Horticultural Society, in recognition of his fifty years' service. Mr. D. W. THOMSON, presided. In his opening remarks, he gave a sketch of Mr. YOUNG's career, and called upon Mr. W. THOMSON, of Clovenfords, to present the testimonial to Mr. YOUNG. Mr. THOMSON, before presenting the testimonial, gave an interesting account of the progress of the Royal Caledonian Horticultural Society, and said that its success was attributable in a great measure to Mr. YOUNG. Mr. YOUNG, in his reply, showed plainly how much he had the interest of the Society at heart.

THE LATE MR. BOSCAWEN.—We desire to call the attention of our readers to the article on Barrier Island at p. 161, not only on account of its intrinsic interest, as showing the steps taken by the New Zealand Government to preserve some of the most remarkable features of the flora and of the fauna of the islands, but also because it is written by the son of an ardent horticulturist whose memory is held dear by a large circle of friends and associates—the Hon. J. TOWNSEND BOSCAWEN. We may state by the way, that a Tree Fern, which he was the first to grow out-of-doors in this country, now overshadows his grave in the churchyard at Lamorran. Mr. HUGH BOSCAWEN has already contributed some characteristic drawings to KIRK's excellent *Forest Flora of New Zealand*, and will, we trust, emulate the zeal of his father.

APPLE-SHAPED QUINCE.—M. ANDRÉ has, in the *Revue Horticole*, a coloured illustration, a description of a Quince having the shape of Pearmain Apple. M. ANDRÉ identifies the Quince in question (which he met with in Hungary), with the variety commonly cultivated in the United States, and which is considered superior to the common Quince. As there are several forms of it, of varying quality, it is desirable to choose the best.

FORESTRY

VALUE OF THE CLUSTER PINE IN BRITAIN.

THERE are at least three different lights in which a tree can be accounted as valuable—1, in a purely economic sense; 2, for purposes of ornament, and, 3, for some peculiar value that is attached to it, such as providing shelter, succeeding by the seaside, or other allied purposes, and for which the individual nature of the tree renders it best adapted. The Cluster Pine (Pinus pinaster) is a good example of the latter class of trees, for although highly valued as a maritime tree, and for reclaiming sandy seaside wastes, neither the value of timber nor ornamental appearance can call for any special remark. With regard to the timber of this Pine, I have lately been undertaking some experiments regarding its lasting qualities when subjected to a variety of treatments, but in so far as any value of the wood is concerned, the results of the experiments are hardly worth repeating.

At Holwood in Kent the Cluster Pine grows to a large size, the deep gravelly subsoil evidently being congenial to its growth and perfect development. In one of the woods at Keston there are large numbers of this tree that must have been planted about seventy-five years ago, and the following will show to what size they have attained in that time. The average contents of the trees would, from measurements just taken, appear to be fully 90 feet, but there are not a few specimens containing upwards of 120 feet, the average stem-girth at 5 feet up being about 8½ feet, but in most instances the stem-girth at 30 feet would be little less than that at 5 feet. A goodly specimen that was as straight as an arrow, and containing 99 feet of wood, was partially uprooted during a storm three years ago, and advantage was taken of the opportunity to have the timber converted in various ways, so that its value for estate purposes generally could be determined. Owing to the great quantity of resin present in the timber, the tree was weightier for its bulk than any other species that had come under my notice, with the exception, perhaps, of Abies grandis. A great part of it was sawn into boards of 2 inches in thickness, and as many of these boards were fully 3 feet wide, their value for constructive purposes, had the timber been of good value and worthy of conversion, would have been great. The wood works beautifully and clean, taking a smooth glossy surface under the tools of the carpenter, and several of these 3-feet-wide boards were cut into 6 feet lengths, and planed smoothly for preserving as samples of the wood. To various uses the remaining boards were applied, but one instance of their lasting quality will be sufficient. A number, fully thirty, were placed as boarding for the floor of a dry faggot-shed or barn—a well-built structure, and thoroughly ventilated. On examining these boards a few weeks back, it was found that they were one and all perfectly rotten and falling to pieces, and that after they had not been in position more than about eighteen months. Every board had to be removed, having become permeated with dry-rot to such an extent that when let fall on the ground they fell to pieces. This was all the more strange as the boards had been allowed plenty of air, they being not nailed down or carefully placed side by side, but simply laid down with the double object of seasoning and to form a temporary wooden floor beneath the dry faggots. When we take into consideration the size and age of the tree from which the planks were cut, as well as the great quantity of resin present, and which rendered the log so weighty in transit, the case seems all the more remarkable. But it has long been known that the timber of this Pine is of no great value, and even for firewood purposes it comes in about third-rate.

Regarding the value of the Cluster Pine for seaside planting, we are all familiar with the reclaiming of vast tracts of shifting sand in France by means of this tree, although, curiously enough, in this country a similar amount of success has not crowned the efforts; and one case in Wales, which will be brought prominently to the front, has been a marked failure. *A. D. W.*

CAREX JAPONICA VARIEGATA.

THE fig. 25, p. 173, is that of a pretty decorative species of Carex—a large genus of grass-like perennial herbaceous plants, few of which possess any horticultural value. The one under notice was shown by Messrs. J. Veitch & Sons at a meeting of the Royal Horticultural Society in 1889, and on that occasion it received a First-class Certificate. A correspondent in Gloucestershire, who kindly sent the plant for our inspection, sent also the following particulars of his method of cultivating it:—"Grown in 5-inch pots, it attains a height of 18 inches or 2 feet, and is a capital plant for room-decoration, withstanding a dry atmosphere so well. As a plant for the dinner-table, it is, in my opinion, second to none. The variegated variety is a particular favourite with us, and is as easily managed as the green variety. The plant is readily increased by division."

HOME CORRESPONDENCE.

A SOUTH OF ENGLAND GARDEN IN WINTER.—Although we have had sufficient frost to shrivel our Arums, Pelargoniums, and less hardy Fuchsias, as well as two Musa ensete (Madagascar Banana), which, early in December, were over 4 feet high from seed planted last February, the following list of plants, at present flowering in the open air, shows the exceptional nature of our climate: Acacia dealbata, 20 to 25 feet high; A. species?, from Australia; Coronilla glauca, in great luxuriance, and C. viminalis; Genistas, Diplopappus chrysophylla, Desfontainea spinosa, for past few months; Pimeleas, Pittosporum Tobira, for past two months; Arbutus, Abutilon megapotamicum, for past six months; Abutilon (Crusader), for past six months; Madras Citron, Clematis balearica, Veronica elliptica, V. Andersoni, Fragaria indica, Corchorus japonicus, Pyrus japonica, Cyclamen ibericum, C. Coum, and C. persicum; Erica carnea and E. mediterranea; Iris stylosa, for the past month; Hepatica, Tussilago fragrans, Duchesse d'Angoulême Pear-tree, Yellow Jasmine, Monthly Roses, Crocus Imperati, for past month; Crocuses, yellow, white, purple, &c.; Snowdrops, for past two weeks; Narcissus nana, Primroses, since November; Polyanthus, Violets, Helleborus niger, H. colchicus, and H. hybridus; Primula obconica, Olearia Gunnii, Berberis Darwinii, for some months, and B. aquifolia; Wallflowers, Triteleia uniflora, Iberis Pruiti, Rhododendron Nobleanum, Arabis grandiflora, and A. alpina; Scilla præcox, Aconite (Winter), Eranthis hyemalis, Anemones, Periwinkle, Senecio petasites, and Tritoma uvaria. The Benthamia fragifera is laden with its masses of Strawberry fruit, and Aralia Sieboldi is 6 feet high in seed. In Lord Kimberley's garden, opposite the manor office, the following are in flower: Azara microphylla, Prunus Pissardi, Saxifraga crassifolia, Yucca gloriosa, Tritoma Burchelli, Aucuba himalayica. The Madras Citron and Abutilons are the only plants on a wall. *Howard Fox, Rosehill, Falmouth, February* 1, 1893.

CAUSE OF GOOD FLAVOUR IN GROS COLMAR.—During the years from 1881 to 1889 experiments in the way of inarching different varieties of Vines on to others, in order to test the influence of the stock, were carried out at the Gardens, Warwick Castle. Gros Colmar was worked on the Muscat of Alexandria, and grown under the usual treatment for Muscat Grapes. The fruit produced by this Vine was pronounced by Lord Warwick and others who partook of it to be greatly improved, the flavour much better than the same variety when it is grown in early or late vineries. The same opinion was expressed by several gardeners and by two Fellows of the Royal Horticultural Society, both members of committees, who used to visit the gardens at the Castle several times a year, and who were interested in these experiments, and had tasted the Grapes for at least three years in succession. I cannot say that the

finish of the bunches or the depth of bloom was so good as when Gros Colmar is grown in a late vinery and on its own roots, but in the size of the berries, firmness of pulp, and in good keeping qualities, it exceeded the produce from own root Vines. My own experience is, that to bring this Grape to perfection it must have a long season of growth, and be treated like a Muscat. *C. D. A.*

—— Your correspondent, "Vagabond," on p. 111 of the *Gardeners' Chronicle*, asks for other gardeners' opinions on the cause of good flavour in Gros Colmar. My experience in the culture of the Gros Colmar Vine is, that if good flavour is desired it should be grown in a Muscat-house, or in a house where Muscat temperature is maintained. Grown by me in a garden in Monmouthshire, in a span-roofed Muscat vinery, the flavour of Gros Colmar was rich and excellent, in fact, not like the flavour of Gros Colmar at all when grown in a cooler temperature, which flavour, I consider, is then hardly second-rate before March, unless grown in a higher temperature than 65° at night. In span-roofed or Muscat vineries, I recommend a slight shade for Gros Colmar during very hot weather, which helps to prolong the freshness of the leaves, the shade being by preference of thin tiffany, which can be put on and taken off as occasion requires. This is better than a permanent shade. When I say that my then employers would eat only Madresfield Court, Muscat of Alexandria, Mrs. Pince, and Lady Downes' in a general way, the flavour of Gros Colmar grown in a Muscat-house (with a temperature never below 70° until ripe) was so good that they would not refuse to partake of this variety. *John Chinnery.*

—— Very interesting must this subject be to gardeners, yet the bearings of the case are of great importance to those who have to place fine Grapes on their employer's table. The fact of this variety being produced, and also exhibited in such large quantities in the leading fruiterers' shops, is the cause of an increased inquiry for it, and this will cause much difficulty to the gardener who must grow it in the ordinary mixed vinery, and prudently takes but a light crop from the canes of this variety; better err on the side of a short weight of fruit than over-crop. Last year was an exceptional year for flavour in this, the best of all market Grapes, and admitting the fact that we have to ignore the question of flavour as growers for the market, but only let the grower have a few dozen shops to supply direct with Grapes, he will find then that the matter of flavour will be of great importance. I am going to consider flavour apart from colour, the two being quite distinct. The chief factor in obtaining high flavour in Grapes is high cultivation, which too often is carried on at the expense of colour in the fruit, and there is no denying the fact that the best finished—i.e., sloe-black berries—are those that cannot be enjoyed when eaten. Then, by way of contrast, the paler bunches, equalling those in size of berries, are of superior quality as regards flavour, and this, too early in the season. There is much that perplexes me in the distinct characteristics of bunches of Grapes — the blacker the berries, and superior in appearance, the lighter the crop, and usually lacking in rich flavour. On the other hand, the paler-coloured fruits, borne in great numbers on the Vines, are very luscious, providing they are sound, and not shanking. The Gros Colmar Grape grown at a comparatively low temperature, cropped lightly, will be all that is desired in appearance, but when tasted it will be objectionable, and the flavour that of the Ivy. High cultivation, as I have said, being required to produce this variety, excellent in appearance and flavour, warmth must constitute an important factor

Fig. 25.—Carex japonica variegata. (see p. 172.)

in its cultivation. Root nutriment will also be another, and here it is that the high value of chemical manures is soon discovered. Whilst not despising the good qualities of farmyard manure, I should be sorry to depend on it alone, in fact, I could not produce the greatest weight of crop in the time allowed. Calling to mind Vines just cleared of their crop, some single roots planted at 3 feet apart, and carrying crops up to half-hundredweight each this season, yet with laterals and main rod wood stronger than that of the preceding years, is sufficient proof to me that heavy as was the crop, the Vines will bear a repetition of it. Grafting, inarching, or any form of uniting one variety on another is to be commended, as, without doubt, the flavour of Gros Colmar can be improved by the good quality of the stock on which it is worked. The large market growers of Grapes do not work so much in this line as they might do. The pressure of labour, large quantities that have to be grown, and the easy means of clearing off a crop, that is, selling it as soon as ready, do not offer great inducement for trying experiments. Let me say that any variety of Vine, however old, if it be worked with other varieties, will have new life imparted to it. The Muscat of Alexandria is a most promising stock for Gros Colmar, the flavour acquired being a decided advantage. Moreover, it increases the vigour and the cropping powers of the scion. Black Hamburgh is another good and trustworthy stock. Lady Downes' seedling, while adding to the flavour of a variety, when used as the stock, is lacking in size of bunch and berry, especially after a few years. Barbarossa (Gros Guillaume) is a fine stock, and bunches of Gros Colmar come very large upon it, yet at times the berry is wanting in size. Madresfield Court never yet afforded me such good results as a stock that I expected from it. So far as my experience goes, I am inclined to suppose that most varieties of the Vine used as a stock would improve Gros Colmar. But the operator should look further than mere slight improvements, he should strive for higher flavour, and the Muscat alone will give that. This year I shall work about twenty Muscat of Alexandria, which are planted alternately with canes of Gros Colmar: this presenting a ready mode of inarching when the laterals are of sufficient length to touch each other, and large enough to be properly manipulated. Inarching will not affect the crop carried by the Vines; and if it should be expedient to retain the old Vines, this can be done; although in this case, the young canes will not become quite so strong as would otherwise be the case, yet strong enough to make a good rod. Another and certain method is, to have a Vine in a pot of the desired variety, and if lateral, can be left long enough at pruning time. The union of the two may be made in February or March. Then there are other methods of Vine-grafting or inarching, each and all of which have their merits, but whichever is employed, it must be decided upon before the winter-pruning is done, on account of leaving laterals to be worked. *Stephen Castle, Fordingbridge.*

FREESIAS.—These beautiful winter and spring flowering bulbous plants are not grown so extensively as they deserve to be, seeing that they are of easy culture, and that the spikes of white and primrose-coloured flowers, which they produce with great freedom are deliciously scented. I grow about 1000 corms in 3-inch pots, placing seven of the small corms in each pot, filled with a compost consisting of about three-parts light sandy loam, and one of sweet leaf-mould; a few small crocks and a handful of half-rotted leaves being placed in the bottom for drainage. The pots are then placed on sifted coal-ashes in a dry situation, and, like those containing Hyacinths, Tulips, &c., they are covered with ashes to the thickness of about 3 inches. As soon as the plants have made about half an inch of growth, they are removed to a cool frame and shaded heavily at first, afterwards gradually inuring them to light and a little air. After this, small batches are introduced to a heated pit, placing the plants near to the glass to insure a sturdy growth; and to assist in this and the consequent production of stout flower-spikes, waterings of tepid diluted liquid-manure are given alternately with clear water. Plants thus treated have been doing us good service since Christmas, and are admirably adapted for furnishing purposes; the arching spikes of from nine to thirteen flowers hanging gracefully over the edge of stands, tables, and baskets, having a very pretty effect. The individual flowers are also very suitable for making button-holes, sprays, and bouquets, as they wire well, are the right colour, and are very fragrant. The variety, F. Leightlini major, is a new seedling of robust and branching habit, and the primrose-coloured flowers are larger and sweeter than those of F. refracta alba. The majority of my plants of this variety have nine good spikes to each 3-inch pot. As the odour of liquid manure is objectionable in a conservatory or greenhouse frequented by one's employers, occasional surface-dressings of Bull's Plant Food should be given to the plants immediately before applying clear water at the roots, as some stimulating and sustaining food is necessary in order to obtain the best possible results from plants at a time when the strain on them is so very great. *H. W. Ward.*

EARLY POTATOS.—It is a great advantage to have the use of an early warm south border under a wall, which can be utilised for an early crop of Potatos. Gardeners who utilise their borders at the foot of the south walls in this way, and without harming the trees in any way, raise early crops of Potatos. The old Ashleaf, and selections from it, or such early new varieties as Ringleader, Guardian, and the like, may be planted as soon as it is safe to do so in February. The ground should be well forked over, and rendered light; a notch may be dug out 6 inches in depth, and the Potatos, uncut, placed at the bottom, about 1 foot apart in the line. On the Potatos should be put a layer of short dung, and the soil placed on the top of that. The dung placed upon the top of the tubers serves not only the purpose of protection from frost, but acts as a fertiliser also. It is by utilising their warm, sloping, sunny borders in this way, that the inhabitants of the village of Erlstoke, near to Devizes, are able to send the earliest of home-grown Potatos into the Bristol market. *R. D.*

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—I hope Mr. Thomas' urgent appeal on behalf of the above Institution in the *Gardeners' Chronicle* (see p. 112), will meet the eye of most fellow gardeners in these islands, and that all those who have not yet subscribed to this most deserving Institution will at once resolve to do so. Mr. Thomas' appeal is so clearly explained that I think little more need be added; but as I have taken an interest in the society for some years, I cannot let the occasion pass without noticing it. It is stated there are 30,000 gardeners, nurserymen, and others engaged in horticultural pursuits, and when we find from the account of the recent general meeting that the subscriptions only amount to £1397 13*s.* 6*d.*, one is struck with the smallness of the amount. I know that it is not every gardener who is able to spare a guinea a year—in fact, I have experienced the difficulty of so doing myself—but I feel sure there are many more who might become subscribers. To all of such I would say—join it at once. I hope the new clause in the rules will be the means of inducing many to become members who have hitherto kept aloof. I venture to suggest that if in after years, should they never need its assistance, they will not regret having contributed their share to benefit others less fortunate. The late respected secretary, in his oft-repeated appeals for support; also Mr. Thomas, in his urgent appeal, clearly showed that there is no existing society which gives so much in return for so little contributed; and the gardeners of the present day are under a debt of gratitude to all those who still work, and have worked so earnestly and contributed so liberally to build up the noble Institution for the sole benefit of gardeners. *Thos. Jones, Elvetham Gardens, Winchfield, Hants.*

GRAPE BARBAROSSA (Gros Guillaume, so-called).—This very fine-looking late Grape was, I believe, raised by Mr. Butcher, father of Mr. Butcher, nurseryman, Stratford-on-Avon, [Mr. Barron, in *Vines and Vine Culture*, says that it was "brought under notice" by Messrs. Butcher about thirty-five years ago. Ed.], but whether I am right or wrong as to the raiser, matters little, as my chief aim in writing this note is to ask your many practical readers who are growers of the true Barbarossa Grape if they think the, to my mind, so-called Gros Guillaume Grape is anything else but the true old Barbarossa under a new name. [The true variety has red or grizzled berries. Ed.] For my part I could never see any difference, but I see in the *Garden Annual for* 1893 that the late Mr. Roberts, of Charleville Forest Gardens is acknowledged as the raiser of an improved variety of Gros Guillaume. All who ever saw the above Grape as grown by the late Mr. Roberts must admit that they were noble examples of the true Barbarossa, and for size, finish, and weight, not often seen; but as to its being a new variety, I could never see any difference except in name, but if any of my fellow readers of the *Gardeners' Chronicle* are able to inform me as to what Grape Barbarossa was raised from, also from what Grape the late Mr. Roberts raised his "improved variety," I shall be much obliged. Of all varieties of Grapes, Barbarossa is the most variable and fastidious on certain soils, and under some methods of cultivation; and many persons have asked me to describe the difference between Barbarossa and Gros Guillaume, and my only answer is that there is no difference so far as I can make out. Then say they, why is it called by two names? *W. C. Leach, Albury Park Gardens, Guildford.*

RED-SPIDER AND ITS REMEDIES.—The remedies recommended in your columns from time to time must prove interesting to all gardeners. For my own part, I should like to see some correspondence on that dreaded pest, red-spider, as affecting Peach trees in houses. I am well aware that in gardens where Peaches are done well, red-spider is not to be found, whilst Peach-houses in some gardens are greatly infested with it, in spite of winter dressings, copious syringings, and, in my case, even after coating the leaves with sulphur. Here, red-spider increases and multiplies to an alarming extent, and my experience goes to prove that severe winter-dressing is a risky proceeding, and as in many cases the forcing-house is used for other purposes, it seems to point to the fact that a good syringing solution is the thing really wanted. Will some of the readers of this journal give their experience? *C. W. C.*

ARUM PALÆSTINUM.—It may not be amiss to point out to your readers that this plant, referred to in a recent issue with a wood engraving, is offered by some continental firms under the name of A. sanctum. At any rate, roots purchased two years since under that name have proved to be the same as that figured by you. *Verbum sap. Senex.*

CHELTENHAM GREEN-TOPPED BEETROOT.—This is a most excellent variety to sow in the beginning of the month of May for main crop or other. In flavour and goodness of colour it leaves nothing to be desired. *H. Markham.*

BRITISH APPLES. — Reading your article on American and British Apples in the *Gardeners' Chronicle* of February 4, I offer the suggestion that growers of English Apples would do well to advertise the fruits they have for sale, as by this means private consumers would learn, and would be glad to know, where bushels of such Apples could be bought. Dealers in plants and flowers do advertise, why should not growers of fruit do likewise, and so get in contact with the producers? *H. W. Langston, M.D.*

DAFFODILS AT THE ANTIPODES. — Most of these, according to the *Rural Australian*, are now "down," that is to say, the grass has died back; it is therefore the time to lift the bulbs where desirable. We say this advisedly, as it is not always desirable. Where the ground is fairly well drained, and the bulbs have not been so long planted as to have increased, so as to impoverish one another, they may fairly stand for two or even three years; but where the contrary is the case, or where there are signs of disease, then the bulbs had better be lifted. To me this statement seems to be strange reading, as the bloom on my buds is a month earlier than last year, and more forward than many former years, so far as my recollection goes; Ard-Righ, Henry Irving, and many others having been in full bloom and beauty out-of-doors since February 1. *Wm. Baylor Hartland, Ard-Cairn, Cork.*

TREATMENT OF GOLD-FISH. — Referring to "D.'s" note on the above subject, in this week's issue, it may interest many of your readers to know that so far from running water, or even frequent change being necessary, the fish will thrive without practically any change of water at all. I have had two fish in an inverted bell-glass of about 14-inch diameter for some years, and my motto is to leave the water severely alone, the only change being made annually, when the spring cleaning involves temporary shifting. Once the water was not changed for five years, though, of course, in so long a period the loss by evaporation had occasionally to be made up. The glass stands on a sideboard away from the light; a couple of inches of clean sand and well-washed gravel occupy the bottom, and in this is inserted a few projecting branches of coral, bearing a large oyster or clam shell. Occa-

sionally a few pieces of the common water-weeds, including Watercress, are planted, but these usually are gradually nibbled away by the fish. Owing to the absence of strong light, the confervoid growth on the glass is small, and is occasionally removed by means of a small sponge attached to a stick. A circular sheet of glass raised a quarter of an inch from edge of bell, by means of leaden clips, prevents the dust from entering, without excluding the air entirely. The fish are fed several times a week with small shreds of cooked meat, and frequently evince their knowledge of dinner-time by their restlessness when the cloth is laid. The water is generally beautifully bright and clear, but now and then epidemics of animalcular life invade its purity, and form at once food for the fishes, and splendid material for microscopic investigation. To sum up, my experience in this direction teaches me that any arrangements for water-circulation or frequent changes are simply trouble thrown away, the latter especially doing more harm than good by disturbing and frightening the fish to their frequent damage. *Chas. T. Druery.*

THE FOG LINE.—Will Mr. D. T. Fish be so good as to follow up his interesting article on p. 100 by telling us how the dreaded fog line may be determined in any given site? Is there any more expeditious method than that of watching the fogs? *Will Tayler.*

THE ORPHAN FUND ELECTION.—A few interesting facts concerning the recent election of orphans on to this fund are worthy of notice. Because of the considerable efforts put forth in various directions on behalf of candidates, a heavy poll was looked for. That anticipation was fully realised, for the aggregate doubled the return of last year. The total votes, not necessarily papers, were 2787, and it is worthy of note the heaviest vote was cast for the new candidates; these, six in number, secured 1479 votes, and the nine second-year applicants 1308. No wonder, therefore, that five out of the six new applicants were elected, whilst of votes recorded on the 3rd inst., the sixth ran the three of the latter list elected very hard for place, and should easily secure election next year. It is, however, very probable that the old added votes to candidates of the second year's application proved to them a source somewhat of weakness, as it inspired too much confidence on the part of their supporters, especially when it is remembered that 90 votes or thereabouts sufficed to secure an election last year. It has now become very obvious that in this matter, not only may numbers of votes recorded be expected to increase yearly, but also that only very considerable exertions on the part of candidates' friends will win elections. There are still several non-elected orphans with whom it is not possible to feel other than sympathy, and it would not be any discredit to the fund if the committee were enabled to offer them some small assistance during the year, as five out of the seven unplaced seem to be deserving cases. Did, as Mr. Marshall remarked at the meeting, the gardeners of the kingdom but do their duty towards the fund, the whole of the applicants might have been elected. It was a matter for regret that the only child nominated from Scotland wanted only eleven more votes to have won. It would be very unfortunate did our northern friends assume that in regard to this annual election it is a case of "kissing going by favour," as one who succeeded in securing an election for a very deserving case, that of the child Stevens. I can say that only hard work and constant pegging away wins. Messrs. Crump, Bates, Tegg, and others who also scored successes, can tell the same tale. If the Scottish nominators are weak in votes, let them strengthen their position by getting many new ones from the north; and then they may always count on having a stout backing when occasion demands. In many cases no promises will be made by subscribers, and it is only when the votes are counted that results are ascertained. I know that even Mr. Crump, although his nominee was so far ahead, was to the last moment full of uncertainty. That fact will show that until the votes are counted no one can tell what the result will be. Generally, I think it will be admitted that the most distressing cases have been benefited, and others should be made absolutely safe next year. In the meantime let gardeners, especially, see that before the next election, they very much more largely have a voice in it. If everyone who exhibits for prizes would resolve annually to set apart for the Orphan Fund but 5 per cent. of his gains, the result would be a magnificent addition to the fund, and would give relief to the aching hearts of many poor gardeners' widows and orphans. *A. D.* [We believe the present voting system to be cumbersome and often unjust, in that the friendless ones, who ought to have the better chance, are placed in a worse position than those who have many friends. Subject to the approval of the subscribers, the committee should select the most deserving cases, and save much of the trouble and expense of voting as at present practised. Ed.]

SOCIETIES.

THE GARDENERS' ORPHAN FUND.

February 3.—The annual meeting of subscribers, and the election of children to the benefits of the Fund, took place at the Cannon Street Hotel on the above date, Dr. Maxwell T. Masters, F.R.S., one of the Vice-Presidents, in the chair; but the attendance of others than the committee was very small; probably the hour of meeting (2 p.m.) is somewhat inconvenient to many. The notice convening the meeting, and the minutes of the last annual gathering being read and signed, the report of the committee was submitted as follows:—

The executive committee have great pleasure in presenting their fifth report, and in congratulating the subscribers to the Gardeners' Orphan Fund on the closing of another successful financial year, and the continued prosperity of the charity.

The claims of the Fund having been brought under the notice of Her Royal Highness the Princess of Wales, the committee have the honour to announce that Her Royal Highness has been graciously pleased to become patroness of the Fund, and has expressed the hope that "the fact of her name appearing as patroness may assist the objects of the charity." Such exalted patronage being extended to the Fund is most gratifying to the committee, and will be of the greatest value and importance in the promotion and furtherance of the cause.

The munificent donation of £500 from Mr. and Mrs. Harry J. Veitch, as a thankoffering on the celebration of their silver wedding, was an act of generosity unexampled in the history of gardening charities, and the warmest thanks of all concerned in the welfare of the Fund are due to them.

The committee are under deep obligation to Sir James Whitehead, Bart., M.P., for his great kindness in presiding at the annual dinner at the Hôtel Métropole (which was a new departure in the management of the Fund), and whose eloquent appeal for support resulted in the sum of nearly £1000 being received on that occasion. The committee hereby tender him a most cordial vote of thanks.

During the past year, fifty children have been receiving the benefits of the Fund, and the committee recommend that eight be elected this day, bringing the roll up to fifty-eight. Two of the orphans on the list, viz., Victor Spyers and Ralph Joseph Gardiner, having attained the age of fourteen years, are no longer chargeable to the Fund. See Rule XIII.

The committee again take advantage of the presentation of their annual report to tender their most sincere thanks to the many kind friends throughout the country for efficient help rendered in many ways, but whose names it would be invidious to mention.

A slight falling off occurs in the annual subscriptions, which is to be regretted, as this should form the chief source of income. The committee appeal strongly for increased efforts in obtaining new subscribers and more earnest support from the gardening community generally, in whose interests the Fund was established and is maintained.

The committee have to lament the death during the year of Mr. C. H. Sharman, one of their most zealous and active colleagues, who took a very warm interest in the Fund from its commencement. The committee have elected Mr. Robert Ballantyne, as a member of their body, in the place rendered vacant by the death of Mr. Sharman.

The members of the committee who retire by rotation are Messrs. Head, Laing, Nicholson, Pourotation are Messrs. Head, Laing, Nicholson, Pourpart, Smith, Walker, and Turner, who, being eligible, offer themselves for re-election. The retiring auditor, Mr. John Fraser; the treasurer, Mr. T. B. Haywood; and the hon. secretary, Mr. A. F. Barron, are nominated by the committee for re-election.

Cash Statement for the Year ending December 31, 1892.

Receipts.			£	s.	d.
To Balance from last Account ...	£622 19 1				
On Deposit with Bankers ...	600 0 0				
		1,229	19	1	
Subscriptions, General ...	347 6 0				
Ditto Collected by Local Secs.	112 19 0				
		460	5	0	
Donations, General ...	174 5 3				
Ditto Collected by Local Secs.	120 4 0				
		294	9	3	
Silver Wedding Thank-offering from Mr. and Mrs. Harry J. Veitch ...		500	0	0	
Annual Dinner		998	4	10	
General Card Collection		134	3	1	
Advertisements in List of Subscribers		31	16	0	
Collections in Boxes (General)		17	17	6	
Dividends on Stock and Interest on Deposit		143	17	7	
		£3,810	12	4	

NOTE:—INVESTMENTS, &c.

2¾ per Cent. Consols ...	£6,070 6 10	
3 per Cent. Canadian Stock ...	500 0 0	
	£6,570 6 10	
On Deposit with Bankers... ...	300 0 0	
	£6,870 6 10	

Expenditure.			£	s.	d.
By allowances to Orphans			625	17	6
General Card Collection			43	5	8
Annual Dinner			167	10	2
Printing, &c., Lists of Subscribers			26	13	0
Secretary's Clerk	52 10 0				
Printing and Stationery	21 1 8				
Annual, General, and Committee Meetings	6 19 0				
Postages	18 9 0				
Bank Charges...	2 15 9				
Sundry Expenses (Petty Cash)	32 14 3				
		134	9	8	
Purchase of £1000 2¾ per Cent. Stock	960 0 6				
Ditto £500 2¾ per Cent. Stock	485 13 0				
Ditto £514 2s. 3d. 2¾ per Cent. Stock	500 0 0				
		1945	13	6	
On Deposit with Bankers		300	0	0	
Balance at Bank		567	2	10	
		£3810	12	4	

We have examined the Securities, and examined the Books and Vouchers supplied to us, and we certify the above account to be correct.

(Signed) John Fraser, Leyton,
Wm. Sharp, Chartered Accountant, 60, Gresham Steet, E.C. } Auditors.

Dated, January 13, 1893.

In proposing the adoption of the report and financial statement, the chairman apologised in the first place for the unavoidable absence of Sir Julian Goldsmid, the president, and said that there were one or two points calling for comment. The first was the small attendance on that occasion, which might perhaps be taken as indicating the subscribers at large were perfectly satisfied with the way the business of the Fund is conducted. Another point is the importance to be attached to the announcement that H.R.H. the Princess of Wales had consented to become the patroness of the Fund. That the association of Her Royal Highness's name with the Fund will be the means of greatly benefiting it there can be no doubt. Then there is the special donation made by Mr. and Mrs. H. J. Veitch, which was a subject for great congratulation. There were fifty children enjoying the benefits of the Fund, but he (the chairman) thought that were the Fund supported by the gardening community as it deserved to be, the number would be 250. He regretted to notice a slight falling off in the amount of the annual subscriptions, but he had no doubt the committee would take steps to cover that deficiency; but he could not help saying it was not creditable to the gardeners of the country that such a paragraph should appear in the report. In supporting the motion, Mr. William Marshall said the financial statement was decidedly congratulatory, and the only weak point was that of the falling away of the annual subscriptions; and it was a matter of surprise to him that the general body of gardeners did not take more interest in a fund intended for their special benefit. If each gardener could be induced to subscribe weekly a few pennies, the gain to the Fund would be immense. The annual dinner proved a great success, and fully justified the outlay. The committee had during the past year invested just over £2000, and they had now considerably over £6000 value of Stock, which he thought highly satisfactory. The motion was then put and carried. Mr. Harry Turner proposed, and Mr. John Wills seconded, the

re-election of the treasurer, Mr. T. B. Haywood: carried. Mr. A. W. G. Weeks proposed, and Mr. B. Wynne seconded, the re-election of Mr. John Fraser as auditor: Mr. A. Outram proposed the re-election of the retiring members of the committee, Messrs. Head, Laing, Nicholson, Poupart, Smith, Walker, and Turner, which was seconded by Mr. A. J. Brown, of Chertsey, who complained that though many gardeners took large sums of money from exhibitions, yet they did not subscribe to the Fund, and he regretted to state that only one or two in his district supported it. If they would take the trouble to inquire into the cases of children receiving allowances, and candidates for it, they would then understand what a good work is being done by means of the Fund, and be led to support it. The motion was carried.

The Chairman proposed the re-election of Mr. A. F. Barron as Secretary, remarking that he commanded the confidence of the gardening community, and was pre-eminently the man to fill the office of secretary. Mr. Marshall, in seconding the motion, said that, as Chairman of the committee, he had been associated with Mr. Barron for two years, and he felt he could not say too much in praise of the manner in which he discharged his duties as Secretary; he was necessary to the Fund, and it would be very difficult indeed to replace him. On the motion of Mr. John Wright, seconded by Mr. G. W. Cummins, the names of Sir James Whitehead, Bart, M.P., and Sir Edwin Saunders, President of the National Chrysanthemum Society, were added to the list of Vice-Presidents. On the motion of Mr. William Marshall, seconded by Mr. H. Turner, Messrs. R. Dean, W. Poupart, A. W. G. Weeks, and B. Wynne were appointed scrutineers of the ballot. The meeting was adjourned until 4 P.M., when Mr. William Marshall was Chairman, and the scrutineers reported the result of the election, as follows:—

	Votes.
FREDERICK PRICE	445
NELLIE EDGE	254
ADA BEDDOES	228
JOHN MITCHELL	227
EMILY KATE NEVE	220
OTTO KOSBAB	217
PHILIP ARTHUR STEVENS	216
MINNIE ROPLEY	195
ROBERT HOUSTON	185
R. C. BLAKE	154
ROSA E. K. WARD	143
JOHN TITLEY	114
ALICE M. MILNE...	81
WINIFRED H. DOHERTY	59
JOHN KEATES	52

The chairman declared the first eight named duly elected upon the Fund. Votes of thanks were passed to the scrutineers, and to Dr. Masters and Mr. William Marshall for presiding, which votes brought the proceedings to a close.

FLORISTS' FLOWERS.

HOLLYHOCKS.

IF stock plants have been properly treated, cuttings should be attainable from now onwards. If these plants are put into a forcing-house at rest, merely protecting them from frosts, they do very well. Formerly I used to recommend root-grafting as a means of rapid propagation, and the method has advantages, the plants seeming to be a little more forward than those raised from cuttings; but as roots cannot always be obtained, and cuttings when well-cared for, seldom fail to make good plants, I now prefer the cuttings. Hollyhock cuttings want a rather brisk bottom-heat, say 85°, within one foot of the top, or in the plunging material, and it should be more rather than less. For the cutting-pots, I like to use what we term "long Toms," and these are filled with loam, leaf-mould, and sand in about an equal ratio, and in moderately moist condition; many of the cuttings being destroyed before roots form, if it became necessary to water them. The bed may consist of loam or leaves and stable-dung, with a layer of a few inches of cocoa-fibre refuse placed on the top in which to plunge the cutting-pots. A small frame should be placed over them. The cuttings, with heels attached, form roots in two or three weeks after insertion.

TREE CARNATIONS.

These are still in flower, and most of the plants are throwing out side-growths freely. These must be slipped off from the axils of the leaves, at least, as many of them as are required for cuttings. A dozen of them may be planted in a 5-inch flower-pot. Our cuttings are taken in the first three months of the year. They require identical treatment with the Hollyhocks, but the rooting process is more rapid. As soon as Carnation-cuttings are well rooted, place them on a shelf near the roof for a few days, potting them off singly in about ten days. See that the leaves are clean, as greenfly is sure to have attacked them whilst in the hot-bed. They must not be kept long in the warm house, but should be gradually inured to a light and airy position in the greenhouse.

AURICULAS.

Our plants were put into the Auricula-house towards the end of last month, and although few specimens of green-fly, which were on the plants, must have been exposed to 24° of frost for some time previously, the insects began to move very soon after the plants were put in the house. The wood-work and glass of the Auricula-house were washed before the plants were put into it. The latter will now not be exposed to frost, and as most of them were dust dry at the roots, they had to be watered two or three times before the whole of the soil was moistened. They are now started to grow, slowly at first, but steadily, and without check. The glass must not be allowed to sink below 40° after growth commences, for should the yet unexpanded flower-buds be exposed to a sharp frost, they ofttimes become what the fanciers term "set," and do not open out quite flat, as they should do. Avoid also the exposure of them to cold draughts, and if a keen frost-wind is blowing, admit the air on that side of the house that faces the opposite direction. It is well in fine weather to expose the plants freely to light and air. The small seedling Auriculas are now being pricked off; they are so very small, when the first leaf is formed, that a dozen of them can be pricked off into a 60-pot. The alpines in pots, are hardier than show Auriculas, and are not injured when merely protected by a glass roof, which should be screened from frosts at night by means of mats put over the glass, if the flower trusses are grown near it. Alpine varieties should not be freely watered at the present time, for if sharp frost sets in, and the soil should become frozen, much harm may occur. The alpine varieties succeed admirably when planted in good soil, that is kept rather moist in the summer, and when well placed in masses, they have a pleasing effect in the borders. *J. Douglas.*

THE WEATHER.

[BY the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees — a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending February 4.	Accumulated. Above 42°, for the Week.	Accumulated. Below 42°, for the Week.	Accumulated. Above 42°, difference from Mean since January 1, 1893.	Accumulated. Below 42°, difference from Mean since January 1, 1893.	Rainfall. More (+) or less (—) than Mean for the Week.	Rainfall. No. of Rainy Days since Jan. 1, 1893.	Rainfall. Total Fall since Jan. 1, 1893.	Bright Sun. Percentage of possible Duration for the Week.	Bright Sun. Percentage of possible Duration since Jan. 1, 1893.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	4 +	20	11	— 1	+ 56	3 —	28	5·1	14	14
1	4 +	13	23	— 13	+ 44	3 —	24	2·2	23	15
2	3 +	11	19	— 12	+ 35	1 +	20	1·7	20	15
3	3 +	13	21	— 17	+ 73	2 +	25	2·3	12	15
4	6 +	26	8	— 8	+ 49	3 +	22	2·2	18	17
5	5 +	24	4	— 23	+ 78	0 aver	21	2·3	20	14
6	4 +	21	6	+ 2	+ 30	3 —	23	2·8	20	19
7	5 +	23	5	0 aver	+ 31	3 +	22	2·0	18	13
8	5 +	32	0	— 15	+ 47	1 —	20	3·1	25	24
9	4 +	26	4	— 3	— 3	2 +	26	3·2	20	15
10	4 +	36	0	— 12	+ 2	3 +	22	4·3	22	17
*	4 +	43	0	— 6	+ 22	3 —	24	3·1	22	18

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E. 4, Midland Counties; 5, England, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; (* Channel Islands.)

THE PAST WEEK.

THE following summary record of the weather for the week ending February 4, is furnished from the Meteorological Office:—

"The *weather* continued mild in all parts of the kingdom, with generally cloudy skies, and frequent, but not heavy, falls of rain.

"The *temperature* exceeded the mean in all districts, the excess ranging from 3° in 'England, E. and N.E.,' to 4° or 5° in most other districts; and to 6° in the 'Midland Counties.' The highest of the maxima were recorded on somewhat irregular dates, and ranged from 55° in the more southern and western parts of England, to 53° in some of the northern and north-eastern districts, and the Channel Islands. The lowest of the minima were registered on January 29 at most of the English stations, and on later dates in Ireland and Scotland; they ranged from 27° in the 'Midland Counties,' to 35° in 'England, S.W.,' and to 40° in the 'Channel Islands.'

"The *rainfall* was rather more than the mean in 'Ireland,' 'England, E. and N.E.,' the 'Midland Counties,' and 'England, N.W.,' and just equal to it in 'England, S.;' elsewhere the fall was a little less than the normal amount.

"The *bright sunshine* did not differ materially from the mean, being slightly in excess in some districts, and a little deficient in others. The percentage of the possible duration ranged from 25 in 'England, S.W.,' to 12 in 'England, E.'"

TRADE NOTICE.

"PEARSON'S GARDENERS' DIRECTORY."

MR. THOMAS PEARSON, of Manchester, states, in a letter before us, that his firm does not publish any such book, and that no one is authorised by them to receive subscriptions. Gardeners are therefore cautioned not to listen to the solicitations of self-appointed canvassers nor to part with their shillings for any such prospective directory.

MARKETS.

COVENT GARDEN, February 9.

[We cannot accept any editorial responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. ED.]

STEADY trade doing. Prices as last week. *James Webber, Wholesale Apple Market.*

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Azalea, per doz.	24 0-42 0	Ficus elastica, each	1 6- 7 6
Adiantum, per doz.	6 0-12 0	Genista, per doz.	10 0-15 0
Aspidistra, per doz.	15 0-30 0	Hyacinth, doz. pots	8 0-12 0
— specimen, each	7 6-21 0	Lily of the Valley, 12 pots	12-18 0
Cineraria, per doz.	8 0-12 0	Marguerite, per doz.	6 0-12 0
Cyclamen, doz.	9 0-18 0	Mignonette, doz. pots	6 0-12 0
Cyperus, per dozen	4 0-10 0	Palms, various, each	2 0-10 0
Dracæna, each	1 0- 5 0	— specimens, each	10 6-84 0
Erica, various, doz.	9 0-18 0	Solanum, per doz.	9 0-12 0
Ferns, various, doz.	4 0- 9 0	Tulip, per doz. pots	6 0- 9 0
Ferns, small, per 100	5 0- 8 0		

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, p. half-sieve	0- 3 6	Lemons, per case	12 0- 20 0
— Nova Scotia, per barrel	10 0- 17 6	Pine-apples, St. Michael	4 0- 6 0
Cobs, per 100 lb.	120 0 125 0	Oranges, Florida, per case	10 0-16 0
Grapes, per lb.	0 6- 3 3		

VEGETABLES. — AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Beans, French, lb.	1 6- 2 0	Mushrooms, punnet	2 0-
Beet, red, per dozen	2 0- 3 0	Mustard and Cress, punnet	0 4-
Carrots, per bunch	0 4- 0 6	Parsley per bunch	0 3- 0 6
Cauliflowers, each	0 3- 0 6	Seakale, per basket	2 6-
Cucumbers, each	0 9- 1 6	Shallots, per lb.	0 6-
Endive, per dozen	2 0- 3 0	Tomatos, per lb.	0 6- 1 0
Herbs, per bunch	0 9- 1 0	Turnips, per bunch	0 4- 0 6
Lettuces, per doz.	1 6- 2 0		

POTATOS.

Stocks have been gradually increasing at our Depôts, and prices for ordinary kinds have ruled less firm. Small parcels of the NEW CROP from the Grand Canaries are arriving, and prices varied, according to sample, from 12*s.* to 24*s.* per cwt. *J. B. Thomas.*

Out Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Arum, per doz. bl.	2 0	4 0	Mimosa, French, bun.	1 0	1 6
Bouvardias, per bun.	0 6	1 0	Narcissus, various,		
Carnations, 12 blms.	2 0	4 0	French, doz. bun.	2 0	6 0
Chrysanthemums, p.			Orchids:—		
doz. bunches	6 0	12 0	Cattleya, 12 blms.	6 0	12 0
Cyclamen, doz. blms.	0 6	0 9	Odontoglossum		
Daffodils, dble., doz.			crispum, 12 blms.	2 0	6 0
blooms	0 9	1 0	Pelargoniums, scar-		
— single do.	1 0	1 6	let, p. 12 bun.	6 0	9 0
Eucharis, per dozen	4 0	6 0	12 sprays	1 0	1 6
Gardenias, per dozen	12 0	24 0	Primulas, double	0 6	1 0
Heliotropes, per doz.			Roses, Tea, per dozen	2 0	4 0
sprays	0 6	0 9	— coloured, dozen	3 0	6 0
Hyacinths, Roman,			— yellow (Maré-		
doz. sprays	0 6	1 0	chals), per doz.	4 0	9 0
— dozen spikes	3 0	6 0	— red, per dozen	6 0	12 0
— French, 12 bun.	0 6	1 0	— (French) p. doz.	1 6	4 0
Lilac, white French,			Tuberoses, 12 blms.	1 0	1 6
per bunch	4 0	5 0	Tulips, red, doz. bm.	0 6	0 9
Lilium Harrisii, doz.	8 0	10 0	— white, doz. blm.	1 6	2 0
Lily of the Valley,			— yellow, doz. blm.	1 0	1 6
doz. sprays	0 6	1 0	Violets, Parme French		
Maiden Hair Fern,			per bunch	3 0	5 0
12 bunches	6 0	9 0	— Czar, French,		
Marguerites, p. doz.			per bunch	2 6	3 6
bunches	4 0	6 0	— small French,		
Mignonette, 12 bun.	3 0	6 0	p. doz. bunches	2 0	3 0

Orchid-bloom in variety not in quantity.

SEEDS.

London: *Feb.* 8.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that a good wholesale business in seeds is now in progress. The comparatively small supplies of American Clover seed held in England and in Europe generally are being further reduced by reshipments to the United States. Unless the Sound soon opens, and allows the Baltic seed (which is aboard several steamers still frozen up) to reach this country, London will very soon be extremely short of Clover seed. Alsike, White, and Trefoil are steady. French and Italian Rye-grasses are firm. Spring Tares on the spot, being very scarce, are dearer. For Peas the demand continues slow. Haricot Beans show an improving tendency. Canary seed is strong. Rapeseed points upwards. Linseed keeps steady. Windsor Beans are much inquired for.

FRUITS AND VEGETABLES.

Spitalfields: *Feb.* 7.—There was no change recorded in the prices of last week.

Borough, *Feb.* 7.—Quotations:—Savoys, 3*s.* to 5*s.* per tally; Brussels Sprouts, 1*s.* 6*d.* to 1*s.* 9*d.* per half-sieve; Turnip-tops, 3*s.* to 4*s.* per bag; Broccoli, 1*s.* 9*d.* per bushel; Greens, 1*s.* to 1*s.* 3*d.*; Parsley, 3*s.*; Carrots, 1*s.* 9*d.*; Turnips, 1*s.* 6*d.* per dozen bunches; English Onions, 8*s.* per cwt.; Dutch do., 6*s.* per bag; Horseradish, 2*s.* per bundle; Apples, 4*s.* 6*d.* to 6*s.* per bushel.

Stratford, *Feb.* 8.—There has been an excellent supply of all kinds of produce at this market during the past week, and a brisk trade has been done as under:—Savoys, 2*s.* to 6*s.* per tally; Greens, 1*s.* to 2*s.* 6*d.* per bag; do., 2*s.* to 3*s.* per dozen bunches; Cauliflowers, 1*s.* 6*d.* to 2*s.* 6*d.* per dozen; do., 7*s.* to 10*s.* tally; Turnips, 35*s.* to 50*s.* per ton; Carrots, household, 40*s.* to 50*s.* per ton; do., cattle-feeding, 20*s.* to 34*s.* per ton; Parsnips, 6*d.* to 1*s.* per score; Mangels, 17*s.* to 20*s.* per ton; Swedes, 20*s.* to 22*s.* per ton; Onions, English, 190*s.* to 200*s.* per ton; do., Dutch, 7*s.* to 7*s.* 6*d.* per bag; Bordeaux, 7*s.* to 7*s.* 6*d.* per case; Apples, English, 2*s.* to 6*s.* per bushel; do., American, 12*s.* to 20*s.* per barrel; Sprouts, 1*s.* to 1*s.* 3*d.* per half-sieve; do., 2*s.* to 3*s.* 6*d.* flat; Scotch Kale, 9*d.* to 1*s.* 3*d.* per sieve; Turnip-tops, 3*s.* to 4*s.* per bag.

Farringdon: *Feb.* 9.—Quotations:—English Onions, £9 to £10 per ton; Belgian, do., 7*s.* 6*d.* per cwt.; Carrots, 50*s.* to 60*s.* per ton; Turnips, 45*s.* to 50*s.* do.; Sprouts, 1*s.* to 1*s.* 3*d.* per half-sieve; Seakale, 1*s.* 6*d.* per bushel; Horseradish, 2*s.* 6*d.* per bunch; Apples, American Baldwins, 14*s.* to 17*s.* 6*d.* per barrel; Pine-apples, 2*s.* 6*d.* to 3*s.* 6*d.* each; Spanish Onions, 7*s.* 6*d.* per case; Valencia do., 1*s.* 6*d.* do.

POTATOS.

Spitalfields: *Feb.* 7.—There are no changes to record in the prices obtained last week.

Borough: *Feb.* 7.—Quotations:—English Magnums, 50*s.* to 60*s.*; Hebrons, 60*s.*; Snowdrops, 60*s.* to 70*s.* per ton.

Stratford: *Feb.* 8.—Quotations:—Magnums, 50*s.* to 65*s.*; Bruce, do, 55*s.* to 75*s.*; Imperators, 50*s.* to 70*s.*; Scotch Magnums, 60*s.* to 70*s.*; Main Crop, 80*s.* to 105*s.* per ton.

Farringdon, *Feb.* 9.—Quotations:—Main Crop, 90*s.* to 100*s.*; Magnums, 65*s.* to 75*s.*; Bruces, do., 70*s.* to 80*s.* per ton.

London Averages: *Feb.* 8.—Quotations:—Magnums, 50*s.* to 70*s.*; Hebrons, 60*s.* to 75*s.*; Snowdrops, 60*s.* to 80*s.*; Imperators, 60*s.* to 70*s.*; Belgians, 55*s.* to 65*s.* per ton.

HAY.

Averages.—The following is the average of the prices at the principal metropolitan markets during the past week:—Clover, prime, 80*s.* to 114*s.*; do., inferior, 70*s.* to 75*s.*; hay, best, 75*s.* to 112*s.*; do., inferior, 65*s.* to 75*s.*; and straw, 28*s.* to 44*s.* per load.

CORN.

Averages.—Official statement of the average prices of British corn, imperial measure (quarter) for the week ending February 4, and for the corresponding period last year:—1893: Wheat, 26*s.* 5*d.*; Barley, 25*s.* 4*d.*; Oats, 17*s.* 5*d.* 1892: Wheat, 33*s.* 1*d.*; Barley, 28*s.* 7*d.*; Oats, 20*s.* 2*d.*

Answers to Correspondents

To our Readers.—*The Editor begs leave to solicit from the readers and contributors to the Gardeners' Chronicle:—*

Short Practical Notes on Cultural Matters;

Early Intelligence of Local News likely to be of general interest;

Notes and Memoranda useful to the Trade;

Specimens of New or Interesting Plants, Fruits, &c.;

Drawings or Photographs of Gardens, Trees, Flowers, &c., and which if suitable for reproduction will be utilised so far as possible.

Black Currants and Honeydew: *D. T. F.* The honeydew is a sweet sticky fluid voided by Aphis ribis, which lives on the undersides of the leaves, puncturing them, and causing them to assume a crippled appearance, with reddish pustules on the upper surface. The affected leaves should be plucked and burnt as soon as observed. Early washings with a mixture of tobacco-water or Quassia-water and soft soap would be a defence against this insect, and their use, even after bushes have become infested, would have good results.

Cocos Weddeliana Flowering: *G. W. R.* Very unusual in this country.

Cuttings: *Thirty Years' Reader.* The cuttings sent are those, apparently, of an Erica, of which the herbaceous species will strike now. The hard-wooded ones striking best in summer.

Diseased Apple and Pear: *R. N.* The "canker" in Apple is the result of the attack of a fungus the (Nectria ditissima), which is apparent in one place in the shape of small crimson knobs. For a full account, see *Gardeners' Chronicle*, April 19, 1884. The Pear seems to have been injured by frost or by particles of ice collecting in the angles of the branches, and then thawing by direct sun-heat. Fuller examination might reveal other causes.

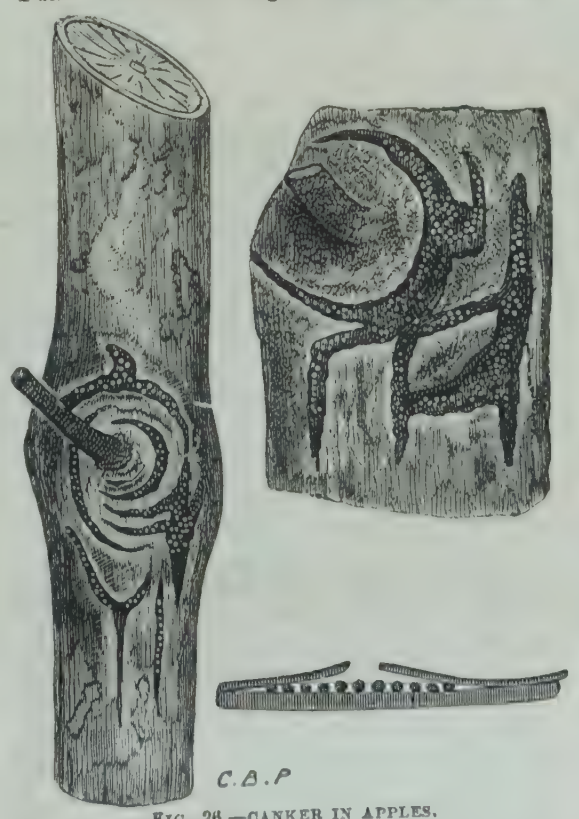

Fig. 26.—Canker in Apples.

Flow of Sap, &c.: *S. A. T.* In the bark the pith forms a store-house of food whilst the stem or shoot is young, but when these become woody, the pith has no further use.

Indoor Mushroom Culture on a Large Scale: *An American Lady.* The best, and largest probably, in these islands, is that carried on in the disused railway tunnel in Edinburgh.

Insects: *C. W.* The eggs are those of the winter moth (Cheimatobia brumata). Scrub the places where they are deposited with a hard brush and a solution of soft-soap or petroleum emulsion. If grease bandages had been applied to the trees near the earth at the end of autumn, they would have averted the progress of the female moths, and averted the deposition of eggs. *R. McL.*

Fig. 27.—Cheimatobia brumata: winter moth. Winged male, and wingless female.

"Kew" Thermometer Screen: *W. S. Tillett.* We do not know what the exact cost is, but it would probably be less than a pound.

Names of Fruits: *E. Roberts.* You should have sent earlier in the season, they are too far past for identification.

Names of Plants: *G. T. Shaw.* Narcissus Telamonius plenus. Common double Daffodil.—*C. W.* Omitted in our last issue. Probably a variety of Cytisus proliferus. *L.—J. B.* It is impossible to name with certainty small twigs of Conifers without their cones. If the trees grew in Wellington Street with their names attached, we could compare the specimens; as it is, we fall back on dried specimens, which are not satisfactory. This is the best we can do:—1, perhaps Picea ajanensis; 2, ?; 3, looks like Picea excelsa var. finedonensis; 4, possibly Picea rubra; 5, ?; 6, looks like a form of Picea excelsa; 7, Pinus strobus (Weymouth); 8, P. silvestris var., Scotch Pine; 9, P. silvestris var.; 10, perhaps Pinus contorta; 11, P. Laricio var. pyrenaica.—*D. T. F.* Sea Buckthorn, Hippophae Rhamnoides.—*M. I.* 1, Apparently the common Silver Fir, Abies pectinata; 2, the Fulham Oak; 3, Thuya orientalis var.; 4, Smilax aspera; 5, Gaultheria Shallon; 6, Probably some Juniper, not wild in Australia; 7, Vanda Strangeana.—*S. G.* 1, Asplenium bulbiferum; 2, A. biforme; 3, Pteris tremula; 4, Adiantum capillus-veneris var.; 5, Polygala Dalmaisiana; 6, Manettia bicolor.—*G. S.* Probably Anthericum lineare variegata. Send flowers with fresh leaves. —*G. Sayers.* Cattleya Walkeriana.—*T. W.* 1, Crassula Cotyledon; 2, not found; 3, Pteris serrulata; 4, Selaginella Kraussiana; 5, Sedum rupestre.

New Code for Government Schools: *Constant Reader.* Queen's Printers, Messrs. Eyre & Spottiswood.

Red-spider on Gooseberry and Currant Bushes: *D. T. F.* Spraying or syringing with flowers-of-sulphur intimately mixed with water, and daily syringing of the bushes in the evening during the early summer months, would keep them clean. We should suppose that the ground on which the bushes are growing is dry and light, therefore copious root-waterings would aid in checking the multiplication of the insects.

Stockbridge Celery Fertiliser: *J. A.* The article, being of American manufacture, may not be obtainable in this country. You might apply to the Rural Publishing Co., New York, U.S.A.

Weed in Lawn: *C. C.* Afford dressings of nitrate of soda, sulphate of ammonia, or stable dung, to cause the Grass to grow quickly and strongly, and thus smother the weed, Cerastium sps.

Weed-killers: *Prunella.* Mostly liquid, and of poisonous nature. They would injure any living tissue. Weed-killer may be used at any season—using a pointed piece of wood and merely letting a drop of the liquid fall on the heart of the plant.

Communications Received.—F. N.—J. K.—T. D. A. C., Jamaica.—M. C. C.—W. K., Bogota (there are so many better varieties, that this one will, we fear, not attract attention)—R. H. S.—E. W.—Sir J. L.—H. T. W.—W. G.—A. C. M.—S. & Co.—C. C.—J. B.—H. E., Ryde.—M. Lemoine, Nancy.—F. D., Ghent.—R. McL.—E. P., Ghent.—J. B. T. (next week).—T. Townsend (please send photograph of plant).—G. W. R.—J. B.—J. C.—J. Whitton (thanks for communication and photo).—J. B. T.—J. P.—G. W. S.—H. R.—Pomum.—M. C. C.—Scott Elliot—W. A. C.—W. W.—T. O. N.—R. A. R.—W. K—J. B. W.—W. E.—J. C.—A. E.—City Press Agency.—K., Laeken.—R. M.—F. K.—J. R.

Photographs, Drawings, &c., Received with Thanks—J. K.—H. J. V.—W. K., Bogota.—M. C.

Specimens Received.—Frank Lowe.

BOULTON & PAUL, Manufacturers, NORWICH.

WROUGHT-IRON ASHES or OFFAL BARROW, Garden Barrow & Cinder Sifter combined.

CASH PRICE.

Painted 30/-
Body galvanised ... extra 7/6
If fitted with registered Cinder Sifter 5/-

Portable Sanitary Dust-Bins and Swing Barrows.

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Most Efficient and Cheapest in Existence.

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Beware of inefficient incomplete Apparatus, which will not last all night.

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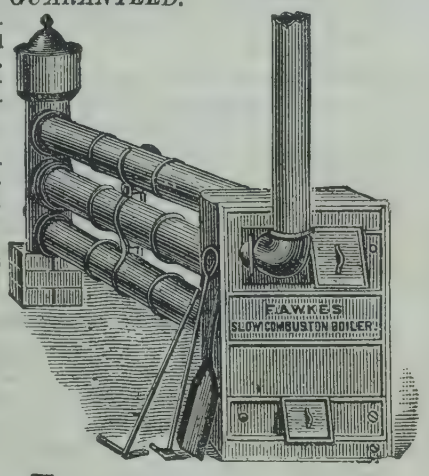

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BY USING

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THE CHEAPEST MADE

AND THOROUGHLY STRONG.
2 feet wide, 1*s.* 10*d.* per foot run.
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Carriage paid for Orders over £5.
PRICE LISTS of WALL-TREE PROTECTORS, GLASSHOUSES, HEATING APPARATUS, &c., free.

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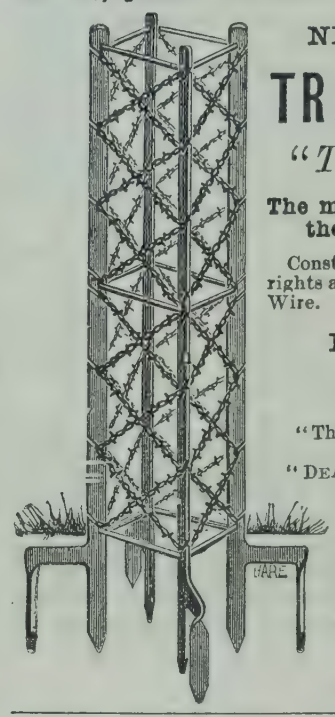

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Yours truly,
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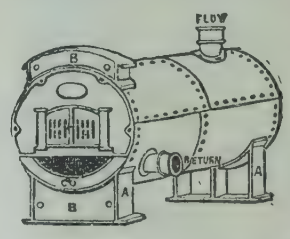

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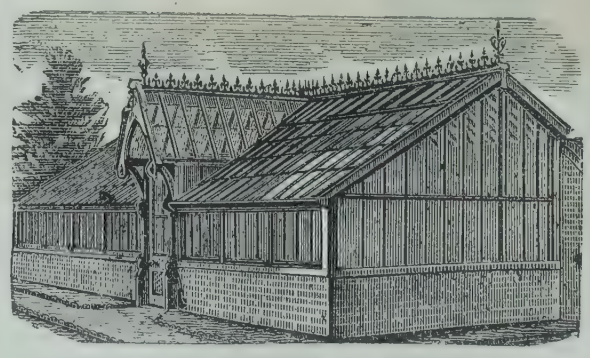

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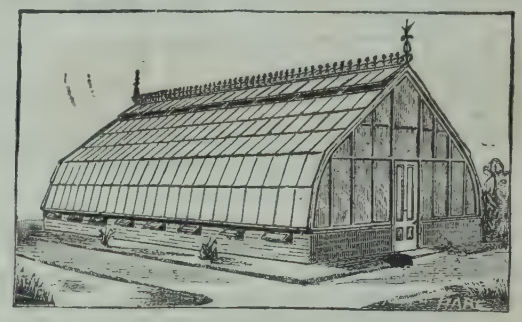

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"Shirburn Castle, January 5, 1890.

"SIR,—As you requested my opinion of the houses which you erected for me some 4 years ago, I beg to inform you that I consider them a perfect success, and I have recommended them to many of my neighbours.—Yours truly (signed) MACCLESFIELD."

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"Major FOSTER has much pleasure in stating that the vineries and forcing-houses which were erected by Mr. Helliwell in 1884, continue to give perfect satisfaction, both to himself and his gardener."

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STOCK — Inches.	SIZES — Inches.
14×12	20×15
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Selected Square Turves, close fibre for HARDWOOD and STOVE PLANTS. RICH BROWN, for general use. Delivered Carriage Paid, by Steamer or Rail, to any part of the United Kingdom. SAMPLE and PRICES per Return.

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LE FRUITIER *The* Specialty *for* Vine Culture.

Again the MOST SUCCESSFUL ON RECORD.

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WHAT "LE FRUITIER" CAN DO.

Read this, one out of Hundreds of UNSOLICITED TESTIMONIALS :—

39

PRIZES OBTAINED

BY

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BEING FIRSTS;

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FIRST PRIZE of the NATIONAL CHRYSANTHEMUM SOCIETY, Open to all England;

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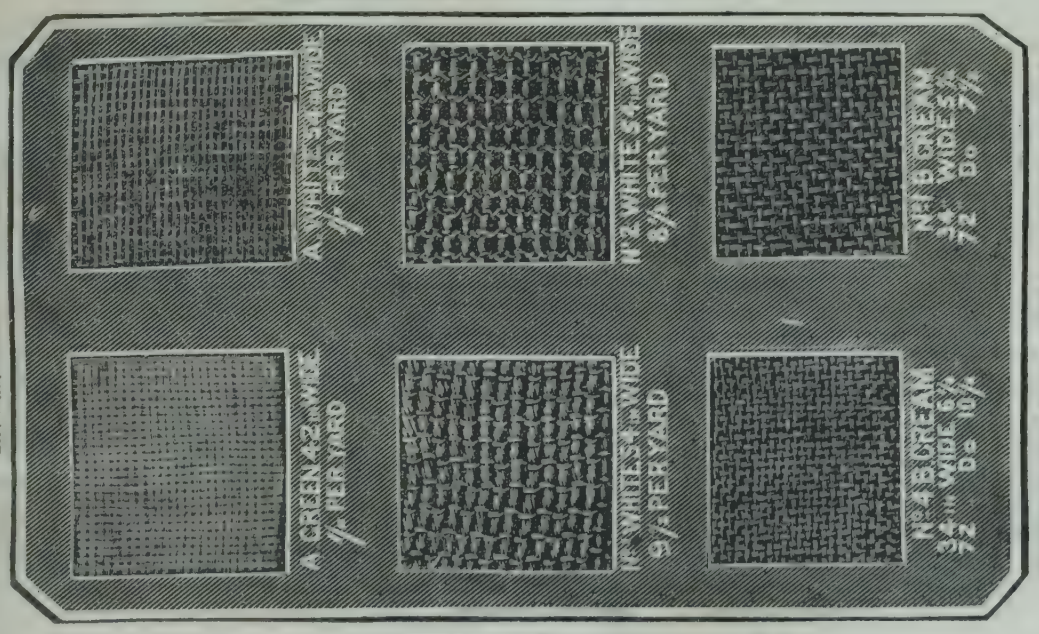
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FRESH GREEN SPHAGNUM,

Thick Bunchy Heads (always in Stock), 2s. 6d. per bush.

SEND FOR NEW YEAR'S CATALOGUE OF SPECIALTIES.

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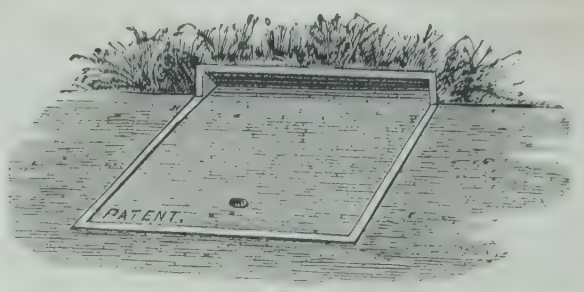

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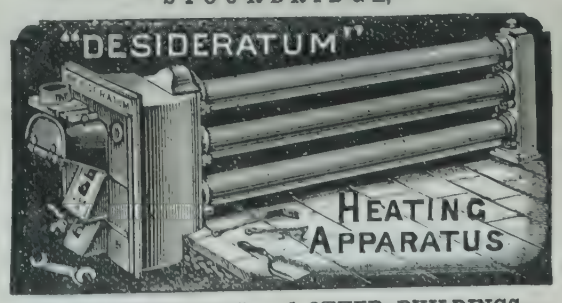

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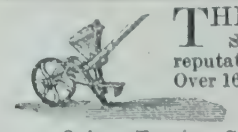

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"(Signed) GEO. BUNYARD & CO."

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SOLUBLE INSECTICIDE.

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For Destruction of all Insect Pests and Mildew.
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SAVE HALF THE COST.

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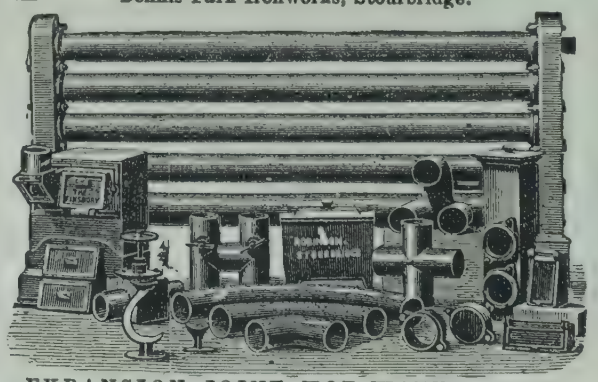

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ORCHID BASKETS,
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SEND FOR A
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H. G. SMYTH,
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ORCHID PEAT; Best Quality; BROWN FIBROUS PEAT for Stove and Greenhouse use. RHODODENDRON and AZALEA PEAT. Samples and Prices of WALKER AND CO., Farnborough, Hants.

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Specially selected and prepared for **ORCHIDS**, and all other plants. **ARTIFICIAL MANURES**, and **GARDEN SUNDRIES** of every description. Please write for a free PRICE LIST. Special quotations given for any goods, carriage paid, in large or small quantities.

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ORCHID PEAT.

PREPARED, ready for use, all fibre, 10*s.* per sack; 5 for 47*s.* 6*d.*
SELECTED, in blocks, very fibrous, 8*s.* per sack; 5 for 37*s.* 6*d.* SECOND QUALITY, 5*s.* per sack; 5 for 22*s.* 6*d.*
BROWN FIBROUS PEAT, for Azaleas, Rhododendrons, and Ferns, 4*s.* per sack, 5 for 18*s.*; and 3*s.* per sack, 5 for 12*s.* 6*d.*
PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM, each 2*s.* 6*d.* per sack; 5 for 10*s.* PREPARED POTTING COMPOST, 4*s.* per sack; 5 for 18*s.* All sacks included.
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MR. P. HALLEY, late Foreman at Udny Castle Gardens, Aberdeen, as Head Gardener to Lady STEWART, Grantully Castle, Perthshire.

Mr. W. BUTTON, as Gardener to Sir H. PETO, Bart., Fleet House, Weymouth.

Mr. J. LINGWOOD, for two and a half years Garden Foreman at The Cedars, Harrow Weald, N., as Gardener to H. N. GODDHART, Esq., Manor House, Tooting, Surrey.

CATALOGUES RECEIVED.

W. W. JOHNSON & SON, Boston, Lincolnshire—Vegetable, Flower, and Farm Seeds.

W. FROMOW & SONS, Chiswick, London, W.—Seeds.

THOS. KENNEDY & CO., 106 and 108, High Street, Dumfries—Vegetable and Flower Seeds.

EDMONDSON BROS., 10, Dame Street, Dublin—Seeds and Garden Requisites.

JNO. JEFFRIES & SON, Market Place, Cirencester—Bulbs, Seeds, &c.

DOBIE & MASON, 22, Oak Street, Manchester—Seeds for Farm and Garden.

WM. CLIBRAN & SON, 10 and 12, Market Street, Manchester—Vegetable and Flower Seeds, &c.

HARRISON & SONS, Seed Growers, Leicester—Flower and Vegetable Seeds, Fruit Trees, &c.

WM. REID & LEYS, 8, Hadden Street, Aberdeen—Seeds and Garden Implements.

W. P. LAIRD & SINCLAIR, Dundee—Seeds and Garden Requisites.

THOMAS IMRIE & SONS, 137, High Street, Ayr—Vegetable and Flower Seeds.

THOMAS WALMESLEY, Jun., 47, Bore Street, Lichfield—Seeds, &c.

GEO. BRUCE & Co, 35, Market Street, Aberdeen—Seeds and Garden Sundries.

CARTER & Co., 237 and 238, High Holborn, London—Seeds, Tubers, Roots, &c.

GEO. PHIPPEN, Broad Street, Reading—Garden Seeds.

WILLIAM WATT, Cupar and Perth, N.B.—Vegetable and Flower Seeds, Bulbs, &c.

WM. BAYLOR HARTLAND, 24, Patrick Street, Cork—Year-book of Seeds, &c.

J. LAMBERT & SÖHNE—Samenhandlung, Trier, Rheinpreussen—Seeds, &c.

ARTHUR ROBINSON, 8, Leadenhall Street, London—Garden Seeds, &c.

RICHARD DEAN, Ranelagh Road, Ealing, London, W.—Primroses, Polyanthus, Hardy Plants, Seeds, Potatos, &c.

VAN MEERBECK & Co., Hillegom, near Haarlem, Holland—Bulbs, Plants, and Seeds.

W. PROFITT & Co., Hockley Hill, Birmingham—Seeds, &c.

Sussex County Asylum, Hayward's Heath.

WANTED, a HEAD GARDENER. Wages, £1 per week, with cottage, coals (limited), vegetables, and milk.—Apply to Medical Superintendent as above, stating age, previous experience, and references.

WANTED, at ONCE, an ORCHID GROWER, to take charge of a good Collection in London. Must be experienced, energetic, accustomed to deal with men, strictly sober habits, and Manage small Kitchen and Flower Garden. Apply by letter in first instance. State wages required, where previously engaged, age, &c., to R. J. M., Mr. E. Cole, Hop Exchange, Southwark Street.

WANTED, a competent Seedsman and Nurseryman, as MANAGER of an excellent Business, in N.W.P., India. A young Man of good Business ability would find this a promising opening. Three years' engagement, with prospect of an interest in the business.—Address DELHI, Hurst & Son, 152, Houndsditch, London, E.C.

WANTED, a good WORKING GARDENER, married, for a small place.—Letters only.—Address, Mr. WEAVER, Oakley Hall Gardens, Basingstoke.

WANTED, a KITCHEN GARDENER (thorough SINGLE-HANDED).—Married, no incumbrance; wages, 20s. weekly, with apartments.—Apply, 3 till 6, Rev. CHAPMAN, School, St. Mary's Road, Ealing, London, W.

WANTED, as WORKING GARDENER, early in April, a man to manage 4 acres of Land planted with Fruit Trees (near Retford).—Must have a practical knowledge of Planting, Pruning, and Marketing Fruit. Wife to take charge of House and Poultry. State wages required.—Send applications and testimonials to J. S., 38, Ashgrove, Bradford.

WANTED, at ONCE, a practical JOBBING GARDENER, who well understands the Keeping in Order of Flower and Kitchen Gardens and Tennis Lawns.—Apply, stating wages, age, and references, to J. LION, Park Nursery, Stanmore, Middlesex.

WANTED, an UNDER GARDENER, with a special knowledge of Hardy Herbaceous and Alpine Plants; a Knowledge of Botany desirable.—By letter, to J. WHITEHEAD, Esq., Southwood, Bickley, Kent.

WANTED, an energetic, pushing young married MAN, as FOREMAN.—Must have filled a similar post, be a good Propagator and Grower of Soft-wooded Stuff and Palms, and have a good general knowledge of Forcing Cut Flowers in quantity. One with a knowledge of Tomato Growing preferred.—Apply, stating age and wages required, in first instance, to EMPLOYER, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a good FOREMAN, who must be well up in Fruit Forcing, especially Vines and Peaches, with a knowledge of Plant and Flower Culture. Single. Wages 23s. per week, no bothy.—State age and experience to A. SMITH, Warren Hill House, Loughton, Essex.

WANTED, a thoroughly experienced FOREMAN, for the Furnishing Department of a high-class London Nursery. A middle-aged man, of good address, to wait upon Ladies and Gentlemen at their houses, and competent to give Estimates, and to suggest improved ideas in the art of Floral Displays. To the right man this will prove a permanent and lucrative situation.—Apply, in first instance by letter only, to KENTIA, care of Messrs. Osman & Co., 132, Commercial Street, London, E.

WANTED, a competent MAN, to undertake extensive Apple Growing and large Gardens. Must thoroughly understand Grafting, Pruning, &c.—Apply, J. T. HEBDITCH, New Cross, near Ilminster, Somerset.

WANTED, a MAN accustomed to Cucumbers, Tomatos (Carnations a specialty), Raspails, Tea Roses, Chrysanthemums, and General Market Work. Must be active, intelligent, and able to superintend in absence of proprietor. Good references.—W. GOARING, Hayward's Heath.

WANTED, for a Small Nursery in Ireland (nice Protestant locality), an active, intelligent young MAN (single).—Able to Propagate and Grow Roses, and Herbaceous Stuff, and to take charge of two houses. Help given; several men kept. A man able to raise Begonias from seed and cuttings preferred. Only Englishmen need apply.—State age, wages expected, enclosing testimonials. To a good man every encouragement given. Could be boarded if desired.—Apply, FRANK JEEVES, Geashill, King's County.

WANTED, a young MAN, experienced in Growing Bulbs, Tomatos, Chrysanthemums, and General Market Stuff, to take charge of a few Houses.—W. POUPART, Isleworth Road, Twickenham.

WANTED, a young MAN for Market Nursery where Cucumbers, Tomatos, Grapes, and Flowers are grown. Must be quick at Tying and Potting.—PRATT, Roseneath, Madeira Avenue, Worthing.

WANTED, a MAN, about 30, to Grow Chrysanthemums, Geraniums, Tomatos, Grapes, and Cucumbers. Only those who are thoroughly competent need apply to C. C. C., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, for a large Fruit Tree Nursery, TWO KNIFEMEN, quick at Budding and Grafting.—Apply, stating experience and wages expected, to MANAGER, 1, Orchard Villas, West Drayton, Middlesex.

WANTED, a single MAN, about 25, for Pleasure Grounds. Must be able to use a scythe well, and had experience with Horse Machine. Wages 17s.—Apply to J. DIBBIN, Telgate Gardens, Crawley, Sussex.

WANTED, for INDIA, a thoroughly trustworthy MAN, well acquainted with Gardening, and the Wife able to make up Bouquets in various and latest style. Must be strong and healthy. Passage paid.—In the first instance, write, and send particulars to H. CANNELL, Swanley, Kent.

WANTED, a young MAN (single), for a small Nursery, able to Grow Cucumbers, Tomatos, Chrysanthemums, and general stock of flowers; must be a good worker, well recommended. A total abstainer preferred.—Apply, with particulars of capabilities, wages expected, &c., to J. BUTLER, Station Nursery, Sittingbourne.

WANTED IMMEDIATELY, by a West End London Florist working a small Private Nursery, an active young MAN, with experience in Growing for Market, Roses, Carnations, Violets, and Hardy Herbaceous Stuff. Wages £1 weekly, and after the first year a commission on results.—Address, BOWERS, Fernville, Hemel Hempstead, Herts.

WANTED, TWO young MEN for a Market Nursery, where Cucumbers, Tomatos, Bedding, and all sorts of Stuff for Market are grown. Must be good hands, and quick at Potting and Watering. State age, experience, salary required, and send by letter, copies of testimonials, to J. J. WILSON, Home Farm Nurseries, Enfield Highway. None but good hands from a Market Nursery need apply.

WANTED, about a DOZEN strong active MEN for General Work in a Market Nursery, where Grapes, Tomatos, and Cucumbers are Grown.—Apply, stating age, where last employed, &c. — JOSEPH ROCHFORD, Turnford Nurseries, near Broxbourne, Herts.

WANTED, a MAN, with knowledge of Bouvardias, Roses, and General Market Stuff; must be quick at Potting and Tying, also a good Waterer. Wages £1 per week.—Apply, LEWIS AND WILLIAMS, The Ember Nurseries, Thames Ditton.

WANTED, a MAN, for the Kitchen Garden, married or single—if married, state how many in family.—Apply, HEAD GARDENER, Kenward, Yalding, Maidstone.

WANTED, AT ONCE, an experienced WALL MAN, who thoroughly understands the Pruning and Training of Hardy Fruit Trees. Wages, 20s. per week, with Lodgings.—Apply to J. WHILLANS, Blenheim Gardens, Woodstock.

WANTED, GARDEN LABOURER for Pleasure Ground.—Married, without family, or with one son. Wife to take charge of house, with three young Gardeners.—Apply, HEAD GARDENER, Glanbrydan Park, Manordilo, Carmarthenshire.

WANTED, a respectable young MAN, as SALESMAN in the Plant Department. Salary 25s. per week to commence with.—Apply by letter, stating age, qualification and experience, to WILLS AND SEGAR, Royal Exotic Nursery, Onslow Crescent, South Kensington, W.

WANTED, in a small Market Nursery, a young MAN, quick at Potting and Watering; good reference. Wages, 18s. per week.—J. SPINK, Summit Road Nursery, Walthamstow.

WANTED at ONCE, SEVERAL active young MEN for the Glass Department; also good JOBBING HANDS.—Apply to G. B. FISCHER, High Street, Clapham, S.W.

WANTED, AN IMPROVER.

Must have personal character, and be well recommended.
Required:—Intelligence, desire to learn, good beginner's knowledge of General Nursery Work.
May prove a good opening for a Youth.
Apply, stating age, experience, and small wages to start,
To the CHAIRMAN,
Albert Nurseries,
Peckham Rye, London, S.E.

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ALBERT NURSERIES,
PECKHAM RYE, LONDON, S.E.; and FLEET, HANTS.
Also COVENT GARDEN FLOWER MARKET.

Nursery Clerk.

WANTED, a good CORRESPONDENT, able to take charge of a large Nursery office. Shorthand would be an advantage. Must be strictly sober, honest, and attentive to his work. None but thoroughly reliable men need apply.—LITTLE AND BALLANTYNE, Carlisle.

WANTED, a good WREATH-MAKER—Sprays, Button-holes, &c.—Apply, with full particulars, to HEWITT AND CO., Nurseries, Solihull.

WANTED, a steady young Man for Market Nursery, to Grow Tomatos, Chrysanthemums, and Pot Strawberries. Wages, 20s. per week; progressive to a suitable man. State age and experience to B. WEBB, Hale, Liverpool.

WANTED, TWO young MEN AT ONCE, for Kitchen Garden and Pleasure Grounds; they both must be able to Mow with Scythe.—Apply to Mr. WILLATTS, The Gardens, Minstead Manor, Lyndhurst, Hants.

Florist.

WANTED, a young LADY, for a first-class trade.—Only those with good experience please apply, after 6 P.M.—Mrs. BUTCHER, Florist, South Norwood, S.E.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. on Wednesday will, in all probability, be held over to the next week.

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. All particulars on application.
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GARDENERS.—Our complete and extensive register of GARDENERS OPEN FOR ENGAGEMENT is at the service of any Lady or Gentleman wishing to secure the services of trustworthy reliable men.—DICKSONS AND CO., 1, Waterloo Place, Edinburgh. Established over a Century.

B. S. WILLIAMS AND SON beg to intimate that they have at present in their Nursery and upon their Register some excellent Men, competent either to fill the situation of HEAD GARDENER, BAILIFF, FOREMAN, or JOURNEYMAN. Ladies and Gentlemen requiring any of the above will please send full particulars, when the best selections for the different capacities will be made.—Victoria and Paradise Nurseries, Upper Holloway, N.

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character, and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—
F. SANDER AND CO., St. Albans.

THOMAS BUTCHER can recommend several HEAD and UNDER GARDENERS of first-rate character and proved ability. Gentlemen seeking such may have particulars free.—Apply to THOMAS BUTCHER, Seed Merchant and Nurseryman, Croydon.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

GARDENER (HEAD); age 30.—J. DUMBLE, Gardener to Sir Charles Philipps, Bart., Picton Castle, Haverfordwest, is desirous of recommending his General Foreman, H. Butcher, to any Lady or Gentleman requiring a thoroughly competent man. He has a good knowledge of the different branches of Gardening, is well acquainted with the Cultivation of Fruit (Indoor and Out), Flowers and Vegetables, is also a good hand at Table Decorations.

GARDENER (HEAD); age 30.—Mr. BEARD, Steward, Champney, Tring, is desirous of recommending an experienced man to any Nobleman or Gentleman requiring the services of a good Head Gardener, and one who can undertake the Management of Land and Stock if required. Excellent testimonials.—Address as above.

GARDENER (HEAD).—W. B. FISHER, Gardener to the Earl Cawdor, Stackpole Court, Pembroke, will be pleased to recommend Charles Davis to any Lady or Gentleman who is in want of a first-class man.

GARDENER (HEAD); middle age, married, one boy.—Advertiser is open to an engagement where the services of a good all-round practical Man are required. Excellent testimonials, and reference to high garden authorities.—W. S., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

£5 given for information leading to Advertiser securing a FOREMAN'S Place where not less than three in the Houses. Age 27. Twelve years' experience in good gardens. Good character.—L. O., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

GARDENER (HEAD); age 28, married when suited.—H. SAWYER, Head Gardener, Loseley Park Gardens, Guildford, can confidently recommend his Foreman George Cheal, who has been with him three years, to any Lady or Gentleman requiring a steady, industrious, all-round man.

GARDENER (HEAD).—Age 30; sixteen years' practical experience both Inside and Out, in large establishments. First-class references.—J. LEWIS, Sand's Cottage, Derry Hill, Calne, Wilts.

GARDENER (HEAD).—J. BEESLEY, Gardener to Lord Ashcombe, Denbies, can recommend his Foreman as a good practical Man. Good testimonials.—F. WELLS, 29, Hampstead Road, Dorking.

GARDENER (HEAD).—Age 37, married; eight years' testimonial as Head from last place. Successful in Forced Fruits, Vegetables, and Flowers. Good Grower of Orchids and Chrysanthemums. Willing to take place at home or abroad. Fluent French and Italian.—G., E. Archer, Boleyn Nursery, Upton Park, Forest Gate, E.

GARDENER (HEAD), where several are kept.—Age 44, married; long practical experience in good establishments. Highest references, and ten years' character from last employer.—H. COOK, Box Hill, Dorking.

GARDENER (HEAD), where more are kept.—First-class testimonials in all branches, including Orchids.—B. RANDLE, 6, Bedford Street, Watford, Herts.

GARDENER (HEAD WORKING).—Age 35, married; abstainer. Thoroughly experienced in the cultivation of Grapes, Peaches, Melons, Cucumbers, Kitchen Garden, &c. Wife not object to Dairy or Poultry. Highly recommended from present and previous employers.— W. STACEY, Westcroft Road, Carshalton, Surrey.

GARDENER (HEAD WORKING), where two are kept, or SINGLE-HANDED, where help is given; age 34, married, two children.—A GENTLEMAN wishes strongly to recommend a thoroughly efficient Gardener as above. Eleven years' experience.—W. WILKINSON, Colonel Alexander, Rowbarns Manor, Horsley, Leatherhead.

GARDENER (HEAD WORKING). — Middle age, no family. Wife useful, active, energetic. Thoroughly up in all branches. Excellent character.—ROBERTS, The Garden, Clock House, Beckenham, Kent.

GARDENER (HEAD WORKING).—Age 32, married; twenty years' experience in all branches of Gardening; two and a half years as Head; good references.—L. SILVER, Buckland Bridge, Dover.

GARDENER (HEAD WORKING), two or more under.—Age 30, married, no family; life experience in good all-round Gardening, Flowers, Fruits, and Vegetables in all departments; Pleasure Grounds, &c. Good testimonials and recommendations. Reference kindly permitted by late employer, E. F. Studd, Esq., Oxton House, Exeter.—H. MORRIS, 19, Bramber Road, West Kensington.

GARDENER (HEAD WORKING). — Age 27; thoroughly experienced in all branches. Can be highly recommended by present and previous employer. Clergyman desires to find situation for the above.—Rev. ROBERTS, Blackwater, Hants.

GARDENER (HEAD WORKING).—Age 30; sixteen years' good all-round experience; over eleven years' excellent character from present employer.—C. HARRISON, Meriden, Coventry.

GARDENER (HEAD WORKING).—Age 38, married; twenty-two years' practical all-round experience, Inside and Out. Thirteen years' good references.—J. W., 1, Archway Street, Barnes, S.W.

GARDENER (HEAD WORKING).—Age 38, married; good character. Abstainer. Twenty years' experience in Growing Grapes, Peaches, Melons, Cucumbers, Tomatos, Stove and Greenhouse Plants, Flower and Kitchen Gardens.—WHITE, Furzedown Cottages, Mitcham Lane, Streatham, S.W.

GARDENER (HEAD WORKING).—Age 32; six years Head, with Management of General Stock. Well versed in the routine of good Gardening, both Inside and Out. Early and Late Forcing.—A. B., Mr. J. Hill, Florist, New Malden, Surrey.

GARDENER (HEAD WORKING), where two or three are kept.—Middle-aged, married man, two children at home, ages 7 and 11; thoroughly understands Vines, Melons, Stove and Greenhouse Plants, Flower and Kitchen Garden. Eight years' good character, fourteen previous. — GEO. TURNER, Cranmore Lodge, Elmstead, Chislehurst.

GARDENER (HEAD WORKING), where one more is kept.—Age 31, married when suited; ten years' experience in large establishments in all branches. Good character and testimonials.— T. B., 79, Addison Road, Bromley, Kent.

GARDENER (HEAD WORKING).—A GENTLEMAN wishes to recommend his late Head Gardener for seven years. Life experience in good places. Successful Grower of Orchids, Plants, Fruits, Flowers and Vegetables, Early and Late Forcing.—J. B., 4, Lydyard Road, Upper Holloway.

GARDENER (HEAD WORKING); age 26.—Mr. NORTH, The Gardens, Buskett, Fletchwood, Lyndhurstroad, Hants, wishes to recommend his Foreman, V. Dallimore, who is an excellent Grower of Fruits, Flowers, and Vegetables. Highest testimonials from previous employers. Nine years' experience.

GARDENER (HEAD WORKING).—Age 40, married; thorough good practical and competent Gardener. Twenty-five years' experience in Growing Grapes, Peaches, Figs, Melons, Cucumbers, Tomatos, Mushrooms, Stove and Greenhouse Plants, Orchids, and Flower and Kitchen Gardening. Abstainer. Highest references.—GARDENER, Compton, Stockbridge, Hants.

GARDENER (HEAD WORKING).— Age 44, married. Thoroughly practical in all branches, with knowledge of Land and Stock if required. Twenty-one years' first-class character from present employer. Midland counties preferred.—M. WILLIAMS, Duffield Road, Derby.

GARDENER (HEAD WORKING).—Age 32; eighteen years' experience in Vines, Peaches, Cucumbers, Melons, Flower and Kitchen Gardens. Highly recommended from last and previous employers.—A. CHEESEMAN, 107, Queen's Road, East Grinstead.

GARDENER (HEAD WORKING).—Age 27, married when suited. G. JACKSON, Claydon, Winslow, Bucks, is open to re-engage with any Lady or Gentleman requiring the services of a trustworthy practical man. Excellent characters.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 25, married when suited. Eleven years' experience in all branches. Good character.—H. WHATLING, Chapel Street, Ely, Cambs.

GARDENER (SINGLE-HANDED, or SECOND).—Age 22; twelve years' experience Inside and Out. Excellent references. Total abstainer.—S. ORAM, 5, Hope Cottages, Burnt Oak, Edgware, Middlesex.

GARDENER (SINGLE-HANDED, or where two or three are kept).—Age 27, married, one child; thoroughly experienced in the Growing of Vines, Peaches, Cucumbers and Melons, Stove and Greenhouse Plants, Flower and Kitchen Garden. Twelve years' good personal character.—C. BOWYER, 1, Leicester Villas, New Barnet, Herts.

GARDENER (SINGLE-HANDED or SECOND).—Age 32, single; has lived in a Gentleman's House; four years' reference.—F. FAIRWEATHER, 25, William Street, Ipswich, Suffolk.

GARDENER (SINGLE-HANDED), or where help is given.—Age 24, married; nine years' experience in Fruit and Plant Houses, and Flower and Kitchen Garden. First-class references from past and present employers. Abstainer.—P. DOIG, Asfordby, Melton Mowbray.

GARDENER (SINGLE-HANDED, or UNDER).—Age 25, single; ten years' experience Inside and Out. Abstainer. Eight years' character.—H., Weston Cottage, Weston Green, Thames Ditton, Surrey.

GARDENER (SINGLE-HANDED, or where help is given).—Age 24; abstainer. Three years' good character.—G. H. PATTINSON, Pen Moel, near Chepstow, Glos.

GARDENER (SINGLE-HANDED, or UNDER), where two are kept.—Age 23; well up in all Inside and Out.—A. N., 5, Belmont Grove, Chislehurst, Kent.

GARDENER (SINGLE-HANDED), or where help is given. Six years' good character.—J. GRIFFITHS, Burcher Court, Titley, R.S.O., Herefordshire.

GARDENER (SINGLE-HANDED).— Age 29, single; good knowledge of Vines, Peaches, Strawberries, Cucumbers, Plants, &c. Good character.—A. N., 2, Salisbury Road, Thorpe, Norwich.

GARDENER (SINGLE-HANDED), or otherwise.—Age 27, married, no family. Nine years' practical experience Inside and Out. Highly recommended. Excellent testimonials.—GARDENER, Penlee House, Tregony, Cornwall.

GARDENER (SINGLE-HANDED), or as Outside Man in Large Establishment.—Age 24; well experienced in the general profession. Abstainer. Excellent character.—C. HURTON, Fiskerton, near Lincoln.

GARDENER (SINGLE-HANDED, or SECOND).—A GENTLEMAN wishes to recommend his Gardener as above. Can give excellent character.—GEORGE FREDERICK WATTS, R.A., Limnerslease, Guildford.

GARDENER (good SINGLE-HANDED).—Age 26, married when suited. Twelve years' experience Inside and Out. Excellent character. Disengaged.—A. W., 12, Tower Hamlets Road, Forest Gate.

GARDENER (SECOND, or SINGLE-HANDED), where help is given.—Age 25, single; good experience in Glass, Flower and Kitchen Garden. Good character.—A. D., Prospect, Pewsey, Wilts.

GARDENER.— Good single-handed Place. Age 27, single. Eight years' good experience Inside and Out; good characters.—F. COOK, Chessington, Surrey.

GARDENER (WORKING), where help is given. —Age 25. Eleven years' general experience; three years in present situation.—A. TRUSSLER, Cranmore Hall Gardens, Shepton Mallet.

GARDENER (SECOND), where three or four are kept.—Age 28; single. Four years in last place Inside and Out. Good character.—A. CHAPMAN, 3, Lewis Road East, Loughborough Junction, S.E.

GARDENER (SECOND), Inside and Out; age 24.—Mr. WICKSON, Compton Gardens, Stockbridge, Hants, can with every confidence recommend A. Hewett as above to any Gardener requiring a steady, respectable, industrious, and painstaking young man.

GARDENER (SECOND), Inside and Out.—Age 23; good references.—E. LETHBRIDGE, Stoke Park Gardens, Slough, Bucks.

GARDENER (SECOND), on a Gentleman's Estate, Inside preferred.—Age 23; seven years in last situation.—E. A. H., 8, West Pembroke Place, Kensington, W.

GARDENER (SECOND).—Age 27; twelve years' good experience in all branches; three years good character. Disengaged.—A. B., 103, Lordship Lane, S.E.

GARDENER (SECOND), Inside.—Age 22; used to Forcing. Good character.—A. GRAY, The Gardens, Down End, Fareham, Hants.

GARDENER (SECOND, or good THIRD), Inside preferred.—Age 22, single; eight years' experience. Four and a half years' good character. Disengaged.—G. L., Elmfield Cottage, Bickley, Kent.

GARDENER (experienced), Indoors and Out. —Age 34, married, no family. Abstainer. Good Chrysanthemum Grower; Manage Home Farm, if required. Good character.—SHERGOLD, Emerson Road, Poole, Dorset.

GARDENER (UNDER).—Age 22; five years' experience Inside and Out. Good character.— C. WESTON, The Gardens, Hackwood Park, Basingstoke.

GARDENER (UNDER).—Age 22. Six years' experience in general Routine; three and a-half years in present situation. Can be highly recommended.— F. KITLEY, 58, Romany Road, West Norwood.

GARDENER (SECOND).—Age 25; good knowledge of work, Inside and Out. Excellent character. —A. P., The Gardens, Ulcombe Place, Staplehurst, Kent.

GARDENER (UNDER), Inside and Out.— Age 24; good character. Abstainer.—G. BALL, 99, Church Road, Upper Norwood, S.E.

GARDENER (UNDER), Inside and Out.— Age 20; five years at present situation. Good character. C. MAXWELL, The Gardens, Priory, Hitchin.

GARDENER (UNDER), or IMPROVER.— Age 20; five years in Gentleman's Garden. Good character. Bothy or otherwise.—FRANK HARRIS, Whitstow Head, Holsworthy, North Devon.

GARDENER (UNDER), Inside.—Age 20; two years in present situation. Can be well recommended. Total abstainer. Bothy preferred. State particulars. —H. TIDY, Field Place, Horsham, Sussex.

MANAGER.—ADVERTISER is open to treat with a Gentleman contemplating growing largely for Market Grapes, Peaches, Mushrooms, Cucumbers, Tomatos, Roses, Carnations, Chrysanthemums, Palms, Ferns, Cut Flowers, &c. Well up in Horticultural Building. First-class Trade connection. Highest references.— ALICANTE, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

PROPAGATOR and GROWER.—Age 25. —Well up in Ferns, Ficus, Dracænas, Palms, Eucharis, Poinsettias, Cyclamen, Genistas, Double Primulas, and General Market Soft-wooded, and other Pot Stuff. Ten years' experience. Good references.—H. C., 40, Maxted Road, Peckham, S.E.

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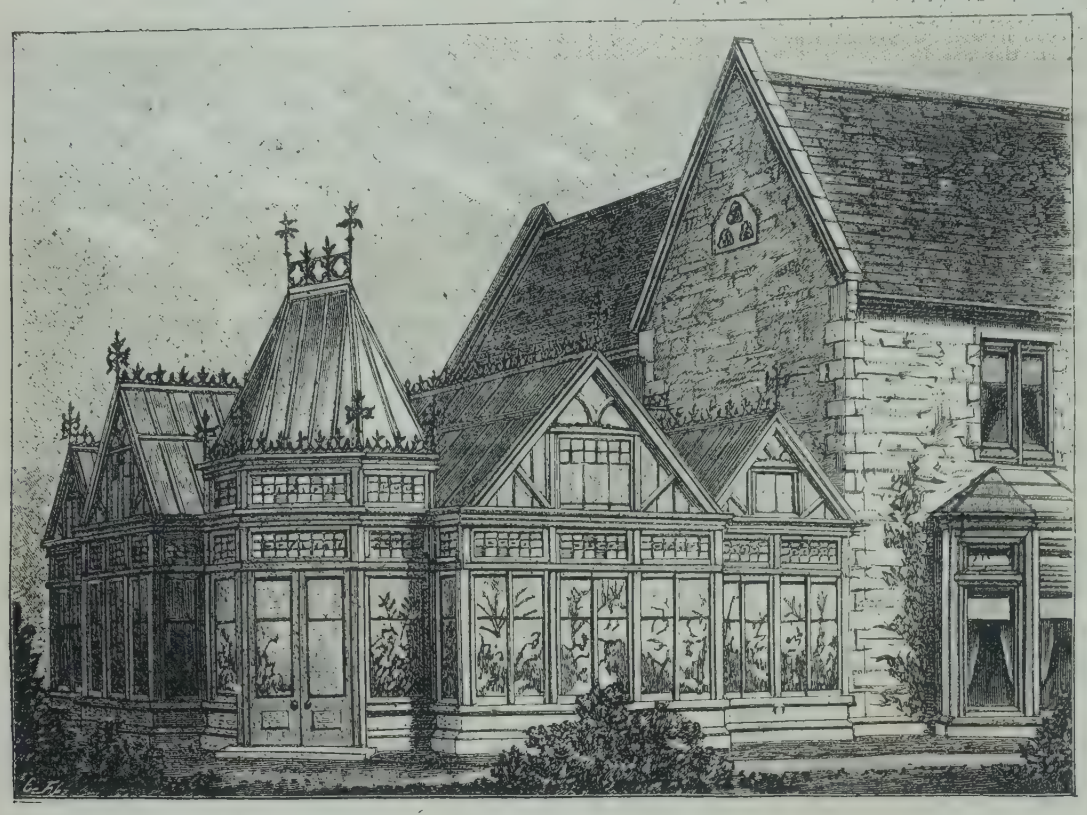

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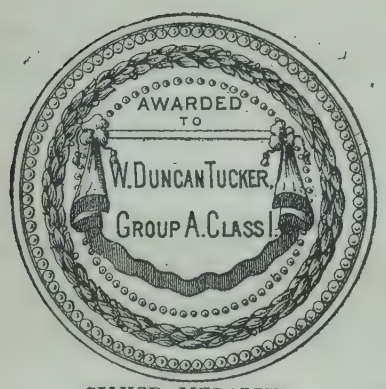

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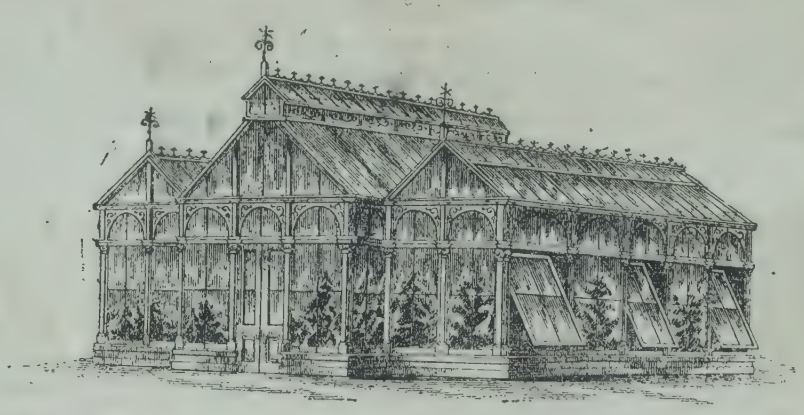

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CONTENTS.

Apple Bismarck 194
Apple Hormead Pearmain 203
Apples, American and British 203
Arum palæstinum ... 204
Benefit and Provident Society, United Horticultural 202
Benevolent Institution, Gardeners' Royal ... 202
Birmingham Botanical gardens 208
Books, notices of—
American Pomological Society, Journal of... 201
Boletim da Sociedade Broteriana 201
Botanical Magazine ... 200
Dictionnaire Pratique d'Horticulture ... 201
Les Plantes Potagères et les Culture Maraichère 201
Orchid Review, the ... 201
The Field Club ... 201
Canna, a synopsis of the species of 196
Colonial Notes:—
African nursery, a South 207
Gardening in Sierra Leone 207
Eucalyptus, hardiness of 207
Cynorchis, the genus ... 197
Earl's Court Exhibition, 1893 202
Foreign correspondence:—
Orchids at North Easton, Mass. ... 196
Forestry 197
Fuchsias as roof-climbers 200
Ghent quinquennial, the 203
Gold fish, treatment of... 204
Grape, Barbarossa ... 204
Grape, Gros Colmar ... 205
Horticultural Club ... 203
Irises, Japanese 204
Orphan Fund Dinner ... 202
Orphan Fund, election to 204
Orchid notes and gleanings—
Cypripedium Eucharis 195
Cypripedium villosum violaceum 195
Odontoglossum crispum, a new 194
Oncidium Saintlegerianum 194
Pansies, tufted 204
Pear, Josephine de Malines 203
Picture gallery, a botanist's 202
Plants, new or noteworthy—
Lælia Finckeniana ... 194
Odontoglossum crispum... 194
Potato disease 201
Potatos, experiments in manuring 195
Railway rates, the new 202, 204
Rosa gigantea 201
Rose, Maréchal Niel ... 197
Sarracenia flava, Manda's variety 201
Scotland—
Orchids at Osborne House, Edinburgh ... 207
Societies—
Edinburgh Botanical .. 206
Linnean... 200
National Chrysanthemum 201
Royal Horticultural. 200, 201, 205
Soil, moisture of, and its effect on plants ... 193
Vine-dressing and petroleum 204
Week's Work, the ... 198
Apiary, the 199
Flower garden, the ... 199
Fruits under glass ... 198
Hardy fruit garden ... 193
Kitchen garden, the ... 199
Orchid-houses, the ... 198
Plants under glass ... 199

ILLUSTRATIONS.

Apple Bismarck 195
Cynorchis grandiflora 197
Fuchsia-house at the nursery of Messrs. Jas. Veitch & Sons. (Supplement).
Ghent, exhibition buildings at 204, 205

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HOW TO GROW THE POTATO.—A Practical Pamphlet, by E. S. WILES. Post-free, 4½*d*. from the Author, 2, Western Road, Grandpont, Oxford Invaluable to those wishing to Grow for Exhibition.

LOVEL'S YORKSHIRE STRAWBERRIES. Stocky Plants, Autumn Transplanted. THURY, NOBLE, PRESIDENT, ELTON, and Others. Carriage paid for cash—25, 1*s*.; 100, 3*s*.; 500, 12*s*. 6*d*. List free. W. LOVEL AND SON, Strawberry Growers, Driffield.

RASPBERRY CANES. — Carter's Prolific, Norwich Wonder, also Fastolf, strong and well rooted. Not less than 1000 canes supplied. ALBERT BATH, Vine Court, Sevenoaks, Kent.

20,000 PRIZE COB FILBERT TREES in full bearing. Apply to— Mr. COOPER, F.R.H.S., Western Elms (late of Calcot Gardens), Reading.

ASPARAGUS.—This delicious Vegetable does not require half the expense usually incurred. For Simple Instructions, see SEED LIST, free on application. Strong roots, 2*s*. 6*d*. and 4*s*. per 100. RICHARD SMITH AND CO., Nurserymen and Seed Merchants, Worcester.

KELWAYS' MANUAL NOW READY.—The finest Catalogue and Guide. New for 1893. Seeds, Plants, and Bulbs. Illustrated, 146 pages. Gratis to customers; 1*s*. post-free to others. KELWAY AND SON, Langport, Somerset.

FORMICACIDE Patent ANT EXTERMINATOR.—An infallible destroyer of Ants, often so troublesome in Greenhouses. In bottles, 1*s*., 1*s*. 6*d*., 2*s*. 6*d*. and 4*s*., with directions. May be obtained through the Seed and Nursery Trade throughout the Kingdom.—Manufacturers: CORRY AND CO., Limited, London.

HORTICULTURAL SHADINGS, NETTINGS, TIFFANY, WADDINGS, COTTON WOOL for Packing Flowers, CANVAS, TWINES, &c., manufactured and supplied wholesale by JOSEPH COOKSON, 21, New Cannon Street, Manchester.

"KILLMRIGHT," For Destruction of all Insect Pests and Mildew. THE STOTT DISTRIBUTOR CO. (Lmtd.), Barton House, Manchester.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings. Patentees of the Duplex Upright Tubular Boilers. King's Road, Chelsea, S.W.

THOMSON'S MANURE.—The sale of this Manure is steadily increasing, and it can be had as formerly of all the leading Nursery and Seedsmen in the United Kingdom.

London Agent, Mr. JAS. GEORGE, 14 Redgrave Road, Putney. Agent for Channel Islands, Mr. J. H. PARSONS, Guernsey.

Sole Makers, WILLIAM THOMSON AND SONS, Limited, Tweed Vineyard, Clovenfords.

FORTHCOMING SALES BY MESSRS. PROTHEROE & MORRIS,

Horticultural Auctioneers and Valuers,

CENTRAL AUCTION ROOMS and ESTATE OFFICES, 67 and 68, CHEAPSIDE, E.C. CATALOGUES FOR ALL AUCTIONS SENT FREE BY POST ON APPLICATION.

Highly Important Sale of Established Orchids.

The Duplicates of nearly all the choicest things in the Celebrated

PICKERING LODGE COLLECTION,

ABSOLUTELY WITHOUT RESERVE.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions from George Hardy, Esq., to SELL by AUCTION, on the premises, Pickering Lodge, Timperley, near Manchester, on WEDNESDAY and THURSDAY, March 8 and 9, at half-past 12 o'Clock, each day, a PORTION of this FAMOUS COLLECTION of ORCHIDS, the whole being in a high state of cultivation. Amongst the varieties to be offered will be found the following :—

8 Cattleya Skinneri alba
,, Hardyana, large plant, 2 leads, original plant
2 ,, calystoglossa
2 ,, Lawrenceana, 2 specimens
6 ,, Mossiæ Hardyana, offered for the first time
,, Mendelii, grand specimens, several varieties
,, Massiana
,, Bowringiana, specimen plants, and fine varieties
,, Phillbrickiana
,, Schilleriana, with 20 bulbs
,, Trianæ Hardyana
,, Mendelii bella
Cypripedium selligerum majus, fine specimens
,, Roth-childianum
,, Elliottianum
,, candidulum, fine specimen
,, Wallisii, do.
,, Spicerianum, grand plants
,, Dominianum, do.
,, calurum, fine variety, and specimen plant
Cymbidium Hookerianum
Calanthe textorum, fine specimen
,, veratrifolia, large plant
1 Lælia Arnoldiana, specimen plant, 2 leads with spikes
1 ,, elegans alba, with 15 bulbs
1 ,, Blenheimense, magnificent plant, with 16 bulbs
1 ,, Schilleriana, grand piece
2 ,, Tressideriana
1 ,, anceps Schroderæ
1 ,, ,, Schroderiana, finest of all the white varieties
1 ,, Harpophyllum giganteum, wonderful specimen
,, purpurata aurora
Dendrobium Cooksonii
,, nobile nobilius
,, Tollianum
,, Leechianum [flora
,, splendidissimum grandi-
,, Ainsworthii
,, Dominianum
Lycaste Skinneri alba
Cœlogyne cristata alba, fine pieces
,, cristata maxima, Trentham and Chatsworth varieties, grand pieces

6 Odontoglossum vexillarium superbum, strong pieces.

Catalogues are now ready, and may be obtained on the premises, of Mr. Holmes, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Monday Next.

Dwarf-Trained and Pyramidal FRUIT TREES, RHODODENDRONS, finest sorts; CUPRESSUS LAWSONII, RETINOSPORA PLUMOSA, Dwarf ROSES, DAHLIAS, English-grown LILIES, LILY OF THE VALLEY, PÆONIES, Hardy Border PLANTS, &c.

MESSRS. PROTHEROE and MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, February 20, at 12 o'clock.

On view morning of Sale, and Catalogues had.

Tuesday Next.

IMPORTANT SALE of JAPANESE LILIES in great variety, including auratums, albums, and others; choice GLOXINIAS, LILIUM HARRISII, TIGER LILIES, CALADIUMS, GLADIOLI, French Hybrids; a splendid assortment of single and double BEGONIAS, VALLOTAS, RAFFIA FIBRE, 60 lots of STOVE and GREENHOUSE FERNS and PLANTS, named RHODODENDRONS, dwarf-trained FRUIT TREES, SHRUBS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, February 21, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Tuesday Next.

MESSRS. PROTHEROE and MORRIS have received instructions from Messrs. Charlesworth, Shuttleworth & Co., to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, February 21, at half-past 12 o'Clock, a choice selection of Established and semi-Established ORCHIDS, comprising, amongst others, some exceedingly well-grown Plants of—

MAXILLARIA SANDERIANA,

in Bud and Flower, Oncidium globuliferum, Miltonia Blunti, Lubbersiana, Cypripedium Eyermanianum, C. grande, C. Schroderæ, C. Sedeni candidulum, C. leucorrhodum, C. Arthurianum, Odontoglossum polyxanthum in spike, O. Phalænopsis, O. Uro-Skinneri, and many others too numerous to mention. The plants are in a high state of culture.

On view morning of Sale, and Catalogues had.

Thursday Next.

200 dwarf ROSES, CARNATIONS, LILY OF THE VALLEY, CUPRESSUS LAWSONII, RHODODENDRONS, RETINOSPORA PLUMOSA, GLADIOLUS LEMOINEI, French PÆONIES, DAHLIAS, CANNAS, choice PERENNIALS, BEGONIAS and GLOXINIAS, MONTBRETIAS, double PYRETHRUMS, DELPHINIUMS, and other Hardy Plants.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, February 23, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

The Celebrated Fernside Collection of Orchids.

SECOND PORTION.

ABSOLUTELY WITHOUT RESERVE.

PRELIMINARY NOTICE.

MESSRS. PROTHEROE AND MORRIS are favoured with Instructions, from H. M. Pollett, Esq., to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY, March 15, at half-past 12 o'Clock precisely, the SECOND PORTION of this CELEBRATED COLLECTION of ESTABLISHED ORCHIDS. Amongst the many fine things which are to be sold may be mentioned—

Cattleya Warneri, in variety
,, Gaskelliana, in variety.
,, ,, alba
,, Dowiana aurea
,, Bowringiana
,, Lawrenceana
,, Trianæ, in variety
,, ,, alba
,, Schroderæ
,, Mendelii, in variety
,, ,, Wallisii
,, Rex, supposed to be the finest in the country, F.C.C.
,, gigas
,, ,, Sanderiana
,, labiata (autumn flowering)
,, ,, Warocqueana
,, Percivalliana
,, ,, Fernside variety
,, Wagnerii, specimen
,, ,, three smaller plants
Cœlogyne Lowii
,, cristata alba, specimen
,, ,, ,, several smaller plants
Cypripedium Arthurianum
,, bellatulum
,, cardinale, finest variety
,, Crossianum
,, Harrisianum
,, Leeanum superbum
,, leucorrhodum
,, marmorophyllum
,, Morganiæ
,, œnanthum superbum
,, orphanum
,, roseum
,, Schlimii, very fine
,, Spicerianum
,, Schroderæ
Cypripedium Sedeni candidulum
Dendrobium Schroderæ
,, Phalænopsis
Lælia anceps alba
,, ,, Dawsonii, true
,, ,, Williamsii
,, ,, Stella
,, ,, Sanderiana
,, ,, Hillii
,, ,, Percivaliana
,, elegans alba
,, ,, Schilleriana
Masdevallia Harryana
,, ,, versicolor
Miltonia vexillaria, in variety
Odontoglossum crispum (Alexandræ)
,, ,, Bickleyense
,, crispum aureum
,, Edwardii
,, Pollettianum, F.C.C.
,, mulus, Bockett's variety
,, elegans, F.C.C.
,, Chestertoni, Lee's grand variety
,, Ruckerianum insigne
,, Wilckeanum
,, Andersonianum (fine varieties
,, Pescatorei, Tompsoniana, F.C.C.
,, blandum
,, citrosmum roseum grandiflorum
,, polyxanthum
Oncidium macranthum
Trichpilia lepida
,, crispa splendens
Vanda cœrulea, specimen, and fine variety
,, suavis Veitchii

Catalogues, with thirty-five Coloured Plates of some of the principal Odontoglossums, will be ready shortly, and can be had, price 2s. 6d. each, of Messrs. Protheroe & Morris, Horticultural Auctioneers and Valuers, Central Auction Rooms, 67 and 68, Cheapside, London, E.C.

Lea Bridge Road Nurseries, Leyton, E.

Near Hoe Street and Lea Bridge Stations, G.E.R.

GREAT UNRESERVED SALE of superior NURSERY STOCK and 10,000 FRUIT TREES, the land being sold for building.

THREE DAYS SALE.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, as above, on WEDNESDAY next, February 22, and TWO FOLLOWING DAYS, at 12 o'Clock each day, without reserve, by order of Mr. John Fraser, who is transferring the business to South Woodford, a large quantity of unusually well-grown NURSERY STOCK, all carefully prepared for removal, comprising 2000 Rhododendrons, best named sorts, a special feature at this Nursery; 2500 Hollies, including Golden Queen; 3000 Laurels, 1000 Pinus austriaca, 2000 Limes, 1000 Mountain Ash, 1000 Ivies, best sort; 750 Sweet-scented Clematis, hard climbers, in pots; 6000 Pyramid Pears, fruiting trees; 2500 Standard and Pyramid Apples and Pears, 1500 Plums and Cherries, 2000 Clove and other Carnations, in pots; 500 Herbaceous Calceolarias, strong fruiting and planting Vine Canes, Maréchal Niel Roses, for training; Tea-scented Roses, Hollyhocks, and other useful stock.

May be viewed any day prior to Sale. Catalogues had on Premises; and of the Auctioneers and Valuers, 67 and 68, Cheapside, E.C., and Leytonstone.

Wednesday Next.—

4000 JAPANESE LILIES, including 1600 auratums, many of them of large bulbs; 1300 speciosum rubrum and album; 200 auratum platyphyllum, also rubro vittatum, Melpomene, and others; 1000 Single and Double BEGONIAS and GLOXINIAS; 860 BEGONIA SEEDLINGS, from best named sorts. TIGRIDIAS, GLADIOLI,; PÆONIES, ANEMONES, CANNAS, AZALEA INDICA, PALMS, FERNS, and DRACÆNAS, from Belgium; Dwarf-trained FRUIT TREES, EUCHARIS AMAZONICA, fine plants; 200 Clumps of LILY OF THE VALLEY, 71,000 SEEDS of COCOS WEDDELLIANA, and 500 SEEDS of MARTINISIA DISTICHA, received direct from Brazil.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, February 22, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

The Quorn House Collection of Orchids.

LOUGHBOROUGH.

Highly important CLEARANCE SALE, by order of W. E. J. B. Farnham, Esq. Without the slightest Reserve.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION, on the Premises, Quorn House, Loughborough, on TUESDAY, April 11, and following days, at 12 o'Clock precisely each day, the whole of this far-famed COLLECTION of ESTABLISHED ORCHIDS, splendidly grown, and containing many rarities. Amongst the principal items may be mentioned—

Dendrobium splendidissimum grandiflorum, 13 matchless specimens
,, Cooksonii, several plants
Phalænopsis Portei, in spike
,, leucorrhoda
Sobralia xantholeuca, dwarf-growing variety
,, ,, alba
Cypripedium insigne, yellow variety, no spots
,, Saundersianum
Lycaste Skinneri alba, 12 plants, grand varieties
Cattleya Mendeli alba, Quorn House variety, F.C.C.
,, Brymeriana
,, Phœnicoptera
Dendrobium seedlings
Cypripedium do.
Calanthe Stevensii and Williamsii
Cattleya gigas varieties and imperialis, one with seed-pods crossed with the Quorn House variety of the white Mendeli
,, Trianæ alba, 5 plants of the true white variety
,, aurea, many fine varieties
Cœlogynes received from the East, probably different from known varieties
,, cristata alba, specimens
Cymbidium Parishii
Dendrobium Leechianum
,, nobile nobilius
,, endocharis
,, Ainsworthii
,, Wardianum and nobile, selected for the past 15 years—perfect marvels of culture
Masdevallia Harryana, the red variety
Aërides Fieldingii, wonderful plant, and special variety
Dendrobium Phalænopsis Schroderæ, 200 plants, the finest lot in the country, comprising many splendid varieties
Cattleya Schroderæ, a grand lot of plants
Lælia anceps Dawsoni, and other fine white varieties
Cattleya Skinneri alba, selected varieties
,, aurea polychroma
Odontoglossum elegans
,, crispum guttatum
,, Ruckerianum magnificum
Cypripedium Wallisii
Lælia purpurata ponderosa
Dendrochilum glumaceum, a grand mass
,, Wardianum album
Cypripedium Morganiæ, big specimen
Lælia anceps Amesiana
,, Gouldiana
Dendrobium Robinsonianum
,, Venus hybrid
,, hybrid, a batch of plants, Juno was raised from similar parents.
Cattleya Mendeli, special varieties
,, labiata, with nearly 100 bulbs
Odontoglossum cuspidatum
,, Wilkeanum (Cook's var.)
Cattleya Mossiæ, with 100 bulbs
,, Warneri, with 100 bulbs
,, Mossiæ Reineckiana
Dendrobium nobile Sanderianum
Cypripedium Doris, specimen
,, macrochilum
Odontoglossum mulus splendens
Vanda suavis maxima
Disa grandiflora, 200 plants, including several special varieties, all being remarkably well-grown

Catalogues are being prepared, and may be had in a few days.

Friday Next.—Special Sale.

10,000 CARNATIONS, PICOTEES, PHLOX, DELPHINIUMS, PYRETHRUMS, PÆONIES, GAILLARDIAS, HOLLYHOCKS, MEGASEAS, SUNFLOWERS, and others.

THOUSANDS of ENGLISH-GROWN LILIES,

including beautiful Bulbs of the rare L. Wallichianum superbum, Bloomerianum magnificum, Hansoni, Humboldtii, Washingtonianum, platyphyllum, speciosum in many varieties, and others.

GLADIOLI IN VARIETY.

10,000 Berlin Crowns LILY OF THE VALLEY.

NEW CARNATIONS. NEW CALLAS.

NEW CANNAS. NEW PINKS.

A very fine lot of MONTBRETIAS, DAHLIAS, New PERENNIALS and GLOXINIAS, together with a SPLENDID COLLECTION of double BEGONIAS, choice named Tubers, 160 Standard, Half-Standard, and 200 Dwarf ROSES.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, February 24, at 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

The Quorn House Collection of

PITCHER PLANTS,

PROBABLY THE FINEST LOT IN EUROPE.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions from W. E. J. B. Farnham, Esq., to SELL by AUCTION on the Premises, Quorn House, near Loughborough, on TUESDAY, April 11, and FOLLOWING DAYS, without the slightest reserve, the whole of the unrivalled collection of PITCHER and CARNIVEROUS PLANTS, containing the finest varieties raised by Messrs. J. Veitch & Son, and all the best species hitherto introduced.

Wednesday Next.

71,000 SEEDS COCOS WEDDELLIANA,
500 ,, MARTINESIA DISTICHA,
received direct from Brazil.

MESSRS. PROTHEROE AND MORRIS beg to draw attention to the above, included in their LILY SALE on WEDNESDAY NEXT, February 22.

Friday Next.

GRAND IMPORTATIONS.

The rare and handsome free-blooming, easily-grown

ONCIDIUM JONESIANUM.

CATTLEYA SP. (?) or SCHRODERÆ TYPE,

With Onion-like pseudobulbs, quite unlike any other species of Cattleya; it looks like a hybrid between a round-bulbed species and C. labiata; spikes are of enormous thickness, with numerous flower-seats. It comes from the Kayman River Territory, interior of U.S. Colombia, towards Bolivia, and if it is not a form of C. Schroderæ, then it is certainly a new Cattleya. We had not the least thought of finding this Cattleya in the neighbourhood where Cattleya Rex grows, and which we hope soon to offer. One plant opened in the case, and the sepals and petals were snow-white, the lip also, and the centre of the flower deep chrome-yellow; the flower is of perfect form and shape, and it reminded us of Cattleya Schroderæ, and it may be a form of this, the finest of all spring-flowering Cattleyas. The plants are simply marvellous, and we guarantee it is a grand Cattleya.

MESSRS. PROTHEROE AND MORRIS have received instructions from Mr. F. SANDER, St. Albans, to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, February 24, at half-past 12 o'Clock precisely—

A MAGNIFICENT IMPORTATION OF

ONCIDIUM JONESIANUM.

ONCIDIUM JONESIANUM is, without doubt, one of the most valuable introductions. Its large and elegant white crimson-spotted and golden-yellow blossoms are borne in profusion on many branched spikes, each inflorescence frequently carrying as many as twenty-four to thirty flowers. As hardly two varieties are alike, nothing can be more beautiful and attractive than a group of these lovely plants. When grown on blocks near the glass, they thrive and blossom freely.

ONCIDIUM JONESIANUM IS NOW VERY RARE.

ONCIDIUM JONESIANUM has not been imported for many years, and Buyers should seize the present opportunity to acquire a stock of plants of this most exquisite Oncidium, which will grow freely, and flower abundantly.

A superb importation of

CATTLEYA SP. (?), OR SCHRODERÆ TYPE,

With bulbs of enormous size, and curiously striking and distinct appearance. Found by one of our oldest and most experienced collectors in a quite untrodden region, and gathered under exceptional difficulties and dangers, as well as at great cost. The whole importation is offered, and we guarantee it is a grand Cattleya.

PLANTS ARE IN SPLENDID ORDER.

ODONTOGLOSSUM PESCATOREI.

A splendid importation; bulbs sound and healthy, diverse and distinct in appearance, and doubtless rich in exceptional varieties.

CYPRIPEDIUM INSIGNE VAR. MONTANUM.

A small but healthy importation of OUR WELL-KNOWN and justly renowned type.

DENDROBIUM NOBILE, from the Chinese Frontier.

The grandest and most beautiful varieties ever seen have appeared from this source. Some imported plants, now flowering, were shown at the ROYAL HORTICULTURAL SOCIETY'S meeting on Tuesday last, and the distinct features in the varieties exhibited were the admiration of all present.

LÆLIA WENDLANDIANA (?), or probably a variety of

L. AUTUMNALIS ATRORUBENS.

Bulbs very exceptional; leaves broad, short and thick. Our man found it growing on the high mountains of Western Mexico with Schomburgkia Sanderiana.

CYPRIPEDIUM LINDLEYANUM.

An extremely rare and valuable species; strong, healthy plants.

Also a fine lot of PHAIUS, from the same country that produced Sanderianus.

ADA AURANTIACA, ODONTOGLOSSUM PHALÆNOPSIS,
ANGULOA CLOWESII " SP., like NEBULOSUM,
CALANTHE OCULATA GIGANTEA, &c.

On view morning of Sale, and Catalogues had.

Wednesday Next.

500 Choice named Standard, Dwarf, and Climbing ROSES, from one of the first English Growers, including many of the newest sorts; 300 lots of BORDER PLANTS, collection of FRUIT TREES, HARDY ORNAMENTAL FLOWERING TREES and SHRUBS, EVERGREENS, LILIUMS from Japan, Chinese and European PÆONIES, Choice NARCISSUS, DAHLIAS, BEGONIAS, GLADIOLI, DUTCH BULBS, ANEMONES, 1000 SPIRÆA JAPONICA, LILY OF THE VALLEY, GARDEN BARROWS, NETTING, &c.

MR. J. C. STEVENS will SELL the above by AUCTION at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, February 22, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

Thursday Next.

A fine Importation of LILIUMS from Japan, comprising 5000 LILIUM AURATUM and Others from Japan, choice Home-grown LILIUMS, 10,000 LILY OF THE VALLEY Crowns, &c.

MR. J. C. STEVENS' will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, February 23.

On view morning of Sale, and Catalogues had.

Thursday Next.

VALUABLE IMPORTED AND ESTABLISHED ORCHIDS.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, February 23, at half-past 12 o'Clock precisely, a good COLLECTION of ESTABLISHED ORCHIDS, chiefly in Flower and Bud, including some fine specimens and varieties, to which will be added an importation of ORCHIDS from Messrs. F. Horsman & Co., comprising Odontoglossums, Cattleyas, Lælia purpurata, &c., in splendid order, &c.

On view morning of Sale, and Catalogues had.

Edgbaston, Birmingham.

MR. THOMAS B. JAMES will SELL by AUCTION, without reserve, by order of Messrs. Hewitt & Co., on WEDNESDAY, March 1, at 11 o'Clock A.M., the whole of their COLLECTION of PALMS and DECORATIVE PLANTS at the Royal Nurseries, Harborne Road, Birmingham, including 600 Palms in variety, several grand specimens 12 feet high; 300 Dracænas, 300 Aralias, 3000 Isolepis, large numbers of Aspidistras, Myrtles, Agaves, Ferns, Epiphyllums, Hoyas, Ophiopogons, Amaryllis, Pernettias, Thyrsocanthus, Streptocarpus, Camellias, Maréchal Niel and other pot Roses, Clematis, Ivies, Cyclamen, Pelargoniums, and various other things.

Catalogues of Messrs. HEWITT AND CO., Solihull and Birmingham; and of the Auctioneer, 12, Bull Ring, Birmingham.

WANTED to RENT or PURCHASE, a Detached COTTAGE, with Large GARDEN; or Small NURSERY, within easy distance of a town, on main road.
Mr. McGREGOR, Paganhill, Stroud, Gloucester.

TO LET, a Small NURSERY.—Apply to E. BLAND, Primrose Nursery, Fordham, Cambs.

TO LET IMMEDIATELY, for MARKET GARDENING, about ¾ Acre, Glasshouses, &c. Richmond, 9 miles from London.—For particulars, apply to—
HARVEY, 44, Ararat Road, Richmond.

Priory Nursery, Acton Lane, Middlesex.

TO BE LET, part of remaining Grounds, in portions, or as a whole (nearly 3 acres), having about Eighteen large Greenhouses, in good working order, near to four railway stations, and London Markets. An uncommon opportunity to Tomato and Cucumber Growers, &c.

Apply, on the Premises, or of Mr. HORSNAIL, 96, Newgate Street, City, London.

EXCELLENT SITE for NURSERY!!—Eight-roomed House, Coach-house, Stable, and Shed, with about 3½ acres of rich Garden Land (Freehold), in the favourite neighbourhood of Hampton, for Sale, on exceedingly favourable terms; or would be Leased.

Apply Mr. F. G. HUGHES, The Estate Office, Hampton-on-Thames.

TO LET, Immediately, through ill health, a genuine SEED, PLANT, and FLORIST'S BUSINESS, in growing market town, near London, main thoroughfare. Thorough investigation. Good opportunity for pushing man.—H. A., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

Cheltenham.

To MARKET GARDENERS, FRUIT GROWERS, and OTHERS.

TO LET, from March 25 next, an important MARKET GARDEN, extending over 11 Acres, of the soil of which is some of the richest in the County, and is well stocked with choice Fruit Trees. A good House goes with the Property, together with Vineries, Greenhouses, Peach-house, Store-rooms, Stabling, Piggeries, &c., all conveniently placed. The whole may be acquired at a valuation, or a PARTNERSHIP with the present occupier arranged.

Further information of S. B. VARDER, Estate Agent, Valuer, and Auctioneer, Albion Chambers, Clarence Parade, Cheltenham.

To Nurserymen, Fruit Growers, and Florists.

TO BE LET, The BULSTRODE LOWER GARDENS, situate near Gerrard's Cross, 5 miles from Slough, and 20 miles by excellent road to London, consisting of 12½ acres of good Garden Land, walled all round, and well stocked with choice Fruit Trees, various Glass-houses, with good Furnaces, Vinery, Peach-house, Mushroom-house, &c. Extensive Plantation of Nut Trees. Excellent Water Supply. Capital 9-roomed Dwelling House, useful Outbuildings; also 4-roomed Cottage, &c. Maximum rental (covering rates, tithe, &c.), £95 per annum.

Apply to Messrs. PROTHEROE AND MORRIS, Auctioneers, 67 and 68, Cheapside, E.C.; or to Mr. W. C. HERON, Auctioneer, Uxbridge, Middlesex.

BATH.—TO BE SOLD, Seven MODERN GREENHOUSES, Heated by Hot-Water Piping, either in One or Separate Lots.

Particulars, price, and orders to View of Messrs. PROTHEROE AND MORRIS, 67 and 68, Cheapside, London, E.C.

TO BE SOLD, by Private Treaty, the WHITTINGTON ROAD MARKET GARDEN PROPERTY, with excellent Greenhouses, all in good working order, and good Dwelling House.—For particulars, apply to—
WILLIAMS AND NICHOLSON, Salop House, Oswestry.

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12 Packets, 10/6.
LAXTON'S STRAWBERRIES.
Sensation, Scarlet Queen, Competitor, and Latest of All.
The Best New and 150 Choicest Varieties, 1 dozen of each of 10 finest sorts, £1. Prizes offered at York and Shrewsbury.
LISTS of all the Best Vegetables, Flower Seeds, and Strawberries, free.
THOMAS LAXTON, Seed Grower, **BEDFORD.**

CINERARIA, DIXON'S SUPERB GIANT
The Choicest Strain in the Country.
In Sealed Packets, 1s. 6d., 2s. 6d., and 5s. each.
Price to the Trade on application.
E. P. DIXON & SONS, HULL.

DICKSONS CHESTER NURSERIES.
450 ACRES IN EXTENT.
Stocks of Finest Quality in all Departments.
CATALOGUES Gratis and Post Free.
DICKSONS NURSERIES, CHESTER.

FEBRUARY 14, 1893.

TO MESSRS. SUTTON AND SONS,
SEEDSMEN, READING.

GENTLEMEN,—We regret that we have INFRINGED YOUR COPYRIGHT in a certain Illustration of a Residence, Tennis Lawn, and Garden, and beg to offer you our APOLOGY for having done so. We desire to state that the infringement was quite unintentional on our part, as we obtained the electro from a firm who had, we believed, the right to supply it, and we used this electro in perfect ignorance that the illustration was your Copyright. We thank you for your consideration in not taking legal proceedings against us, and we undertake not to repeat the infringement of this or any other illustration of yours. We further authorise you to publish this letter, and shall be pleased to pay any reasonable expense you have been put to in the matter.—Yours truly,

ARMITAGE AND IBBETSON,

Bradford, Yorks.

To Gardeners, Nurserymen, &c.

THE CORPORATION of LEEDS invite TENDERS for Four or Five Thousand FOREST TREES, SHRUBS, &c. For particulars apply at City Engineer's Office. Tenders to be in by 9 o'clock, A.M., on February 22.

London County Council.

TO FLOWER-POT MANUFACTURERS and OTHERS.

TENDERS are invited for the SUPPLY of FLOWER-POTS, SEED-PANS, &c., required at the Parks and Gardens under the control of the Council for one year from the date of acceptance of tender. Persons desirous of submitting tenders may obtain a copy of the specification, form of tender, and instructions for tendering on application to the Chief Officer, Parks Sub-Department, at the County Hall, Spring Gardens, S.W.

The contractor will be bound by the contract to pay to all workmen employed by him the rates of wages and to observe the hours of labour recognised at the date of the tender as fair by the several Trades Unions of the district in which the work is to be done, and such rates of wages and hours of labour will be inserted in and form part of the contract by way of schedule.

The tenders, which must be on the form supplied by the Council, are to be addressed to "The Clerk of the Council," and endorsed "Tender for Flower-pots," and must be delivered at this Office before 10 o'clock, A.M., on February 24, 1893, and no tender will be received after that hour. Any tender which is not in accordance with the instructions for tendering will be rejected.

The Council does not bind itself to accept the lowest or any tender.

H. DE LA HOOKE, Clerk of the Council.

Spring Gardens, S.W., February 10, 1893.

ORCHID FOR SALE.—DENDROBIUM NOBILE, very healthy, contains 36 Bulbs and 11 New Growths. Apply or write to THE GARDENER, Merrowhouse, near Guildford, Surrey.

DOUBLE PINK IVY GERANIUM Madam Crousse, good strong cuttings, 5*s.* per 100, post-free for cash with order.
W. H. DIVERS, Ketton Hall Gardens, Stamford.

FOR SALE, at a great Reduction, a number of good well-ripened GRAPE VINES, Hambro' and other leading kinds. Address—
B., Rose Bank, Caterham Valley.

FOR SALE, strong Malmaison CARNATION PLANTS, in 4-inch pots; price, 50*s.* per 100. Also Ten grand Specimen Pots of EUCHARIS LILIES.
J. LITTON, Grosvenor Cottage, Bath.

CLEARANCE SALE.—Boiler Pipes, with Connections and Valves, of all sizes; Supply and Water-Tanks, Slate and Iron; Span Vinery, 30 by 12, 30 Lights, with Pipes; Lean-to ditto, 80 by 12, 38 Lights; Two Market Vans, &c.; all cheap.—J. LANCASTER, Barnett Cottage, Esther Road, Leytonstone, E.

VEITCH'S FLYING DUTCHMAN TOMATO is the quickest to set and ripen of any variety in cultivation. An abundant bearer, of splendid scarlet colour, solid, and of grand quality. Per Packet, 1*s.* 6*d.*
ROBERT VEITCH AND SON, Exeter.

CARNATIONS.—A Specialty.—Maggie Roy, Audley, Englebert, Willis, Bride, Rattler, Queen of Whites, Mrs. R. Hole, Dearlove's Favourite, Huntsman, 6 for 2*s.* 9*d.*; 12 for 5*s.* 6*d.* Strong layers. Carriage paid.
SODEN, Stanground, Peterboro.

MYATT'S PROLIFIC, for Sale.—Grown on high land, and true; 50*s.* per ton up to 2 tons; less for larger quantity.
G. F. YOUNG, Swineshead Abbey, Boston.

LILIUM AURATUM, 30*s.* per 100, 5*s.* per dozen: SPECIOSUM ALBUM, 7*s.* 6*d.* per dozen; S. RUBRUM, 7*s.* 6*d.* per dozen; S. LONGIFLORUM, 7*s.* per dozen.—WALSHAW AND SON, Nurserymen, Scarborough.

LOBELIA, Emperor William, good rooted Cuttings for potting off, 2*s.* 4*d.* per 100, P.P.; Cuttings, half price; and a quantity of CABBAGE PLANTS.—M. AUSTEN, Seedsman & Florist, Market Heath, Brenchley, Kent.

RASPAIL CUTTINGS, 25*s.* per 1000, or 3*s.* per 100. PTERIS TREMULA, in 48's, fit for immediate sale, 4*s.* per doz. Cash with order.
P. BOULTON, Beechenlea Nursery, Swanley.

YELLOW MARGUERITE.—Feu d'Or. This grand single Yellow, splendid habit, wonderfully free bloomer, for either Pots or Bedding, and for Cutting, is not to be equalled for its beautiful Colour. Can now be supplied at 2*s.* per dozen, strong Plants; or 12*s.* per 100, strong rooted Cuttings.—T. WORKMAN, Florist, Manor Park Nursery, East Finchley, London.

PLANTING SEASON.

TO GENTLEMEN AND OTHERS ENGAGED IN PLANTING.

ARBOR-VITÆ, American, 3 to 4 feet, fine for hedges, 6*s.* per dozen, 30*s.* per 100.
BEECH, Common, 2 to 3 feet, 3*s.* per 100, 25*s.* per 1000.
" " 3 to 4 feet, 5*s.* per 100, 40*s.* per 1000.
CHESTNUT, Spanish, 1½ to 3 feet, 4*s.* per 100, 30*s.* per 1000.
FIR, Larch, 3 to 4 feet, 4*s.* per 100, 35*s.* per 1000.
HORNBEAM, 2½ to 4 feet, 4*s.* per 100, 30*s* per 1000.
LIMES, grand stuff, 8 to 10 feet, 12*s.* per dozen, 90*s.* per 100.
PINUS, Austriaca, 2 to 3 feet, fine, 3*s.* per dozen, 16*s.* per 100.
POPLARS, in variety, various sizes.
PRIVET, Common, fine stuff, 2 to 3 feet, 3*s.* per 100, 25*s.* per 1000.
THORNS, Double Crimson, 6 to 8 feet, 9*s.* per dozen, 70*s.* per 100.
YEWS, English, bushy, 2 to 3 feet, 8*s.* per dozen, 50*s.* per 100.
WHITETHORN, or Quick, fine stuff, 10*s.* to 25*s.* per 1000.

All the above are in excellent condition.
(Nurseries, "Kingsthorpe," 1½ miles distant, exceed 100 acres.)

THOMAS PERKINS & SONS,
34, DRAPERY, NORTHAMPTON.

BORDER CARNATIONS a Specialty.—Two First Prizes at International Carnation Show, Earl's Court, London, and Seven Firsts at Local Shows.
LADY SUTTON, grand new Apricot colour, 1*s.* 6*d.* each.
QUEEN OF BEDDERS, Award of Merit, R.H.S., Bright Rose, 1*s.* 6*d.* each.
GERMANIA, best Yellow, 1*s.* each.
GENERAL BOULANGER, Crimson-scarlet, 6*s.* per dozen.
MRS. F. WATTS, Pure White, 6*s.* per dozen.
MRS. REYNOLDS HOLE, Terra-cotta, 6*s.* per dozen.
ROSY MORN, Deep Rose, 6*s.* per dozen.
ALICE AYRES, White Flaked Carmine, 6*s.* per dozen.
PRINCESS ALICE, Salmon-Pink, 6*s.* per dozen.
GLOIRE DE NANCY, White Clove, 4*s.* per dozen.
OLD CRIMSON CLOVE (true), 4*s.* per dozen.
Best Varieties named to my selection, 6*s.* per dozen.
Unnamed Yellow Grounds, fine for cut flowers, 6*s.* per dozen.
Unnamed Self and Fancy, fine for cut flowers, 3*s.* per dozen.
The above sent post-free for Cash.
EDW. C. GOBLE, Walcot Nursery, Ryde, I.W.

WHEELER'S
NEW POTATO,
"THE ALDERMAN."

For Exhibition this Potato is a model—the eyes are shallow, the skin rough; it is of large size, a great cropper, and of the finest possible quality; it withstands disease well, and is one of the most profitable Potatos to grow.

Price 4/- per peck; 12/6 per bushel.

"I am specially pleased with 'THE ALDERMAN' Potato, and consider it one of the most valuable introductions."—J. H. FRY.

"From the 3 lb. ALDERMAN POTATOS I raised 93 lb. grand tubers, many weighing from 1 lb. to 1½ lb., and when cooked they are very white and floury, and for quality unsurpassed. This crop was grown in wet and poor soil, and not one diseased in the crop."—E. CRUMP.

Upwards of a hundred other testimonials, copy of which may be had gratis and post-free on application.

WHEELER & SON,
SEED GROWERS,
GLOUCESTER.

GARDEN ALTERATIONS AND IMPROVEMENTS.

LANDSCAPE GARDENING in all its branches. A Permanent Staff of thoroughly qualified Practical Men of good taste and wide experience. Estimates given if required. Charges strictly moderate. Plans furnished, &c.

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FRUIT TREES A SPECIALTY.

APPLES, PEARS, PLUMS, and all kinds of Hardy Fruit Trees. The best varieties for Garden or Market, new and rare sorts not obtainable elsewhere.

STRAWBERRIES, GOOSEBERRIES, CURRANTS, and all kinds of Small Fruits. All the best of the new and old and most profitable varieties.

Short Priced CATALOGUE free. Full Descriptive CATALOGUE and GUIDE, the most complete issued, 6*d.*

JOHN WATKINS,
POMONA FARM NURSERIES, WITHINGTON, HEREFORD.

EXHIBITION.

SHROPSHIRE HORTICULTURAL SOCIETY.
Schedules for the FLORAL FÊTE, SHREWSBURY, August 23 and 24, 1893, are Now Ready.
CASH PRIZES are offered in the Society's Schedule for 1893, amounting to nearly SEVEN HUNDRED AND TWENTY POUNDS. Schedules sent post-free on application to—
Messrs. ADNITT AND NAUNTON, Hon. Secs., Shrewsbury.

GARDENERS' ORPHAN FUND.—Mrs. KOSBAB returns SINCERE THANKS to all those who by their votes placed her boy on the above Fund.

TO THE SUBSCRIBERS of the GARDENERS' ORPHAN FUND.—Mrs. NEVE desires to return her sincere THANKS to all those who kindly recorded their Votes in favour of her daughter, Emily Kate.

To Nurserymen, Gardeners, and Others.

300 TONS of well-rotted WALTON HEATH LOAM for SALE. Price, 6*s.* per ton, loaded into Trucks at Reigate Town Station, S.E.R. Apply—
D. PITT AND SONS, Reigate.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for List, free.—P. MCARTHUR, The London Nursery, 4, Maida Vale, London, W.

CAMELLIAS and GREENHOUSE RHODODENDRONS.—A quantity of fine specimens in grand condition. Covered with buds fit for exhibition. Recently purchased from a private collection. Can be supplied at low prices. For particulars apply to B. S. WILLIAMS AND SON, Victoria and Paradise Nursery, Upper Holloway, N.

CHRYSANTHEMUM CUTTINGS.—Best strain, Source d'Or, 1*s.* 6*d.* per 100.
A. MORRIS, Park Lane Nursery, Hampton.

500 OLD CRIMSON CLOVE, strong-rooted layers; 1000 SMILAX STOOLS, out of 48's. Cheap to clear.—JOHNSON AND CO., The Nurseries, Hampton.

FRUIT TREES.—Apples, Pears, Plums, Cherries, per 100 or 1000. Prices on application.
FLETCHER BROS., Ottershaw Nurseries, Chertsey.

10,000 extra strong one-year WHINHAM'S INDUSTRY GOOSEBERRY BUSHES. Cheap to clear. Also two-years. Apply—
W. HUNTER, Tyne Green, Hexham.

The Best Present for a Gardener.

VINES AND VINE CULTURE.
The most complete and exhaustive Treatise on Grapes and their Culture ever published.
Third Edition just out.
Price 5*s.*, post free, 5*s.* 6*d.*
A. F. BARRON, Royal Horticultural Society, Chiswick.

MARGUERITES, Yellow, large Flowers, good Plants for 48-pots, per 100, £1, on rail; Cuttings, do., post-free, 5*s.*—JOHN HERSEY, Nurseryman, Handcross.

Seed Potatos.

H. AND F. SHARPE have forwarded their SPECIAL PRICED LIST of SEED POTATOS to their Customers and others in the Trade, and will thank those who have not received it to inform them, and a further copy will be posted.
SEED GROWING ESTABLISHMENT, WISBECH.

COVENT GARDEN MARKET.—C. E. COOPER, Wholesale Florist, 33, Russell Street, W.C., is open to supply Flowers and Foliage. Also Consignments of same solicited on Commission. Price List, Boxes, and Labels forwarded on Application. Telegrams, "LAPAGERIA, London." References exchanged.

ORCHIDS.—Many rare and choice Cattleyas, Dendrobiums, Cypripediums, &c., always in stock. Inspection invited. Please write for LIST.
W. L. LEWIS AND CO., F.R.H.S., Chase Side, Southgate, London, N.

JOHN WATERER AND SONS, Limited, American Nursery, Bagshot, call attention to their large Stock of HARDY RHODODENDRONS of finest named sorts, &c.; CONIFERS, EVERGREENS, and all HARDY SHRUBS at low prices.

SCOTCH FIR (True Native).—Extra fine well-rooted Plants, in quantity; 15 to 20, 18 to 24, 24 to 30, and 24 to 36 inches. Also strong Larch, Ash, Oak, Beech, Sycamore, Birch, Alder, Poplar, &c. Whinham's Industry Gooseberry. See List, free.
THOMAS MATHESON, Nurseries, Morpeth.

FERNS! FERNS!!—Trade.—Greenhouse and Stove, 25 saleable sorts, in 2½-in. pots, 12*s.* per 100; 10 best market sorts, in 48's, 6*s.* per doz.; stores, 6*s.* per 100. Large Adiantum cuneatum, value in fronds, 6*s.* and 8*s.* per dozen. Cyperus, Aralias, Solanums, and Grevilleas, in 48's, good value, 6*s.* per dozen. Palms, Ficus, Erica hyemalis, Cyclamen, and Dracænas, in 48's, 1*s.* each. P. tremula and A. cuneatum, for making large plants quickly, 16*s.* and 20*s.* per 100, well packed, put on rail free for cash with order.—J. SMITH, London Fern Nurseries, Loughboro' Junction, London, S.W.

FOREST TREES, &c.—Ash, different sizes, up to 5 feet; Hazel, 3 to 4 feet; Austrian Pine, 4 to 6 feet, good rooted; Poplars, sorts, 4 to 14 feet; Sycamore, 2 to 12 feet, furnished plants with fine fibrous roots; Quicks, up to 5 feet, very good; Purple Beech, best dark-leaved, worked very low; Rhododendron Caucasicum album, well set with buds, fine for pots, borders, or banks, instead of Laurels; English Yew, 4 to 6 feet, extra good; Primula, double, in 10 varieties.
JOHN CARTER, Nurseryman and Seedsman, Keighley.

Lilium Neilgherrense.

B. WAKELIN, Market Place, Alford, has received a small consignment of the above Bulbs from India, which he is offering at 1*s.* 6*d.* each.

CHRYSANTHEMUM CUTTINGS.—Extra strong Cuttings of Show Varieties, 9*d.* per dozen, to name; 6*s.* per hundred, carriage paid.
CHIPPERFIELD, Thames Valley Nursery, Hampton Hill.

EUCHARIS AMAZONICA, 3½ to 6 inches in circumference, 6*s.* per dozen, 45*s.* per 100. Offsets, 1 to 2½ in., 1*s.* per doz., 7*s.* 6*d.* per 100, clean, healthy, and free from mite. Lycaste, Dendrobiums, Lælias, Cattleyas, &c., splendid stuff, equally cheap.—R. CROSS, Worstead, Norwich.

Established 1810.

"HARTLAND," SEEDSMAN,
Patrick Street, Cork, Ireland.

Write for "YEAR BOOK of RARE SEEDS for 1893."

Tomatos and Daffodils a great feature in this establishment.

GRAPE VINES.—Strong Fruiting Canes, Black Hamburgh, well ripened, 7*s.* 6*d.* to 10*s.* 6*d.* each. Planting Canes, Black Hamburgh, Foster's Seedling, Gros Maroc, Gros Colmar, &c., 5*s.* each.
H. LANE AND SON, Nurseries, Berkhamsted, Herts.

W. THOMPSON, SEEDSMAN,
Tavern Street, Ipswich,
Invites the attention of Amateurs to the 38th edition of his CATALOGUE of FLOWER SEEDS, recently published. It includes many interesting novelties and rarities to be found in no other Catalogue, in addition to all established favourites. No English Catalogue offers so large a collection of Hardy Border and Alpine Plants. As evidence of the reputation that his Seeds have obtained, he begs to state that he has been honoured with extensive and unsolicited commands for the World's Fair at Chicago. Sent post-free on application.

ENGLISH YEWS—ENGLISH YEWS FOR HEDGES.

ENGLISH YEWS, 2½ to 3 feet, 12*s.* per dozen, 70*s.* per 100.
" " 3 to 4 feet, 18*s.* per dozen, 120*s.* per 100.
" " 4 to 5 feet, 30*s.* per dozen, 200*s.* per 100.
" " 5 to 6 feet, 42*s.* per dozen.
Every plant a perfect specimen. Excellent roots.

JOHN PERKINS & SON,
52, MARKET SQUARE, NORTHAMPTON.
Nurseries, Billing Road.

CHRYSANTHEMUM CUTTINGS.—Madame Desgrange, 15*s.*; Mrs. Hawkens, 20*s.* per 1000. Phœnix reclinata, in 5-inch pots, 12*s.* per dozen, 90*s.* per 100. Terms, Cash. G. LANGE, Chambery, Hampton, Middlesex.

FOR SALE, or EXCHANGE, two TREE FERNS, Alsophila australis, in 12-inch pots, 1 foot stem, 4 to 5 feet fronds. Plants in good health.—GARDENER, Mount Pleasant, Bishop Auckland, Durham.

SEAKALE, most delicious Vegetable.—Good Roots, special low price to sell out, 3*s.* 6*d.* per 100, worth double. Chinese ARTICHOKES, 1*s.* per 100. Miller's Earliest Ash-leaf POTATOS, 2*s.* 6*d.* per peck, 8*s.* 6*d.* per bushel. MUSHROOM SPAWN, finest quality, 3*s.* 6*d.* per bushel. Illustrated SEED CATALOGUE, post free.
F. MILLER AND CO., 267, Fulham Road, London, S.W.

TO BE SOLD in one lot, a Bargain, 125 Pyramid APPLES on Paradise, consisting of Blenheims, Wellington's Ecklinville, and Cox's Orange. £4 10*s.*, Cash with order. Samples sent, but charged.
JAMES TIPPING, Imperial Cottages, Court Road, Malvern.

CUCUMBER SEEDS.—J. HARRIS, Baker Street, Enfield, can supply his True Rochford Strain at 10*s.* per 100 Seeds. The best market Cucumber in cultivation.

50,000 EUONYMUS, Green and Golden, all splendid bushy plants.—GREEN: 9 in. to 12 in., at 25*s.* per 100; 12 in. to 15 in., at 35*s.* per 100; 15 in. to 18 in., at 50*s.* per 100; 18 in. to 21 in., at 70*s.* per 100; 21 in. to 24 in., at 95*s.* per 100; 30 to 40 in. at special prices.
GOLDEN: 5 in. to 12 in., at 4*s.* to 9*s.* per doz. Cash with Order. J. J. CLARK, Goldstone, Brighton.

PICTURESQUE NATURALISTIC ROCK FORMATION,

FOR
WINTER GARDENS AND FERNERIES;
WATERFALLS, STREAMS, LAKES, &c.

VASES, FOUNTAINS, KERBING, BALUSTRADES, TERRACES, &c., IN

TERRA COTTA.
Durability Guaranteed.

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HELLIWELL'S

PATENT IMPERISHABLE

GLAZING WITHOUT PUTTY,

FOR GREENHOUSES, and all kinds of HORTICULTURAL BUILDINGS, YARDS, RAILWAY STATIONS, and every description of ROOF COVERING. Saves all Painting and Puttying and Breakage, and is absolutely Watertight, and free from Drip.

No more expensive at first cost.

All houses can be taken to pieces and re-erected.

References given to works in all parts of the country of many years' standing.

Designs and Estimates Free, and Measurements taken Free of Cost.

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ALL KINDS.

Testimonials.

"Shirburn Castle, January 5, 1890.

"SIR,—As you requested my opinion of the houses which you erected for me some 4 years ago, I beg to inform you that I consider them a perfect success, and I have recommended them to many of my neighbours.—Yours truly (signed) MACCLESFIELD."

"Hornby Castle, Lancaster, February, 1890.

"Major FOSTER has much pleasure in stating that the vineries and forcing-houses which were erected by Mr. Helliwell in 1884, continue to give perfect satisfaction, both to himself and his gardener."

"Estate Office, Ripley, Yorkshire, January 23, 1890.

"Sir HENRY INGILBY has much pleasure in stating that the glazing work executed by you, under your patented system, at the Ripley Castle Gardens, has been in every respect entirely satisfactory. The work has stood its 8 years' wear and tear extremely well, and has hitherto cost nothing to keep it in repair."

HELLIWELL & CO., 9, Victoria St., Westminster, S.W

WRIGHT & HOLMES.

Illustrated Price List free on application to

WRIGHT & HOLMES,
Horticultural Builders & Hot-water Apparatus Engineers,
MOSELEY ROAD, BIRMINGHAM.

UP TO DATE PEAS.

CARTERS' DAISY.

(THE MOST DELICIOUS FLAVOURED PEA.)

A new dwarf sweet-flavoured Marrowfat Pea.

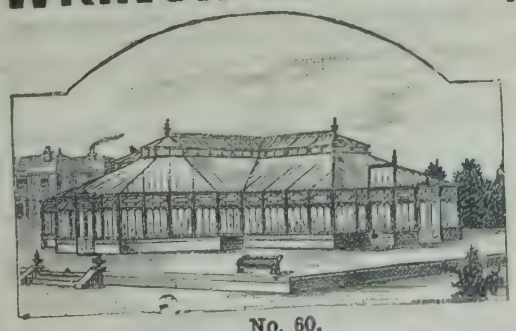
A Fellow of the Royal Society who inspected our Crop of DAISY PEAS, says:—"Many have seen illustrations of rows of Pea-haulms propped up and supported by the ripening pods, and many have smiled sceptically at what they considered the playful imagination of the artist. A visit to Messrs. Carters' field of Daisy Peas suffice to show that had the artist been present at Bromley he would not have had to tax his imagination much. There were about three acres under growth in rows three feet apart, and throughout the crop was uniformly large"

Awarded two years in succession the highest honours of the Royal Horticultural Society after thorough trial.

Price in Sealed Packets, 3/- per ¼ pint; 5/- per ½ pint, post free.
For full description, see Carters' Illustrated Catalogue, post free on application

Seedsmen by Royal Warrants to H.M. The Queen & H.R.H. The Prince of Wales,
237, 238, 246 & 97, HIGH HOLBORN, LONDON.

WRINCH & SONS, IPSWICH AND 57 HOLBORN VIADUCT, LONDON.



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NEW DESIGN—CONSERVATORY.

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ALL ESTIMATES FREE.

GREENHOUSES—Cheapest and Best.

SPAN ROOF, LEAN-TO, THREE-QUARTER SPAN ROOF, HEATING APPARATUS } *Write for Prices before Ordering elsewhere.*

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No. 65.—New Design.—Conservatory. Experienced Surveyors sent to meet intending purchasers by appointment in any part of the country.

CATALOGUE FREE ON APPLICATION. SURVEYS MADE. INTENDING PURCHASERS WAITED UPON IN ANY PART OF THE COUNTRY.

WRINCH & SONS, HORTICULTURAL BUILDERS, IPSWICH & LONDON.

FOSTER & PEARSON, 22 FIRST PRIZES.

Established 1841.

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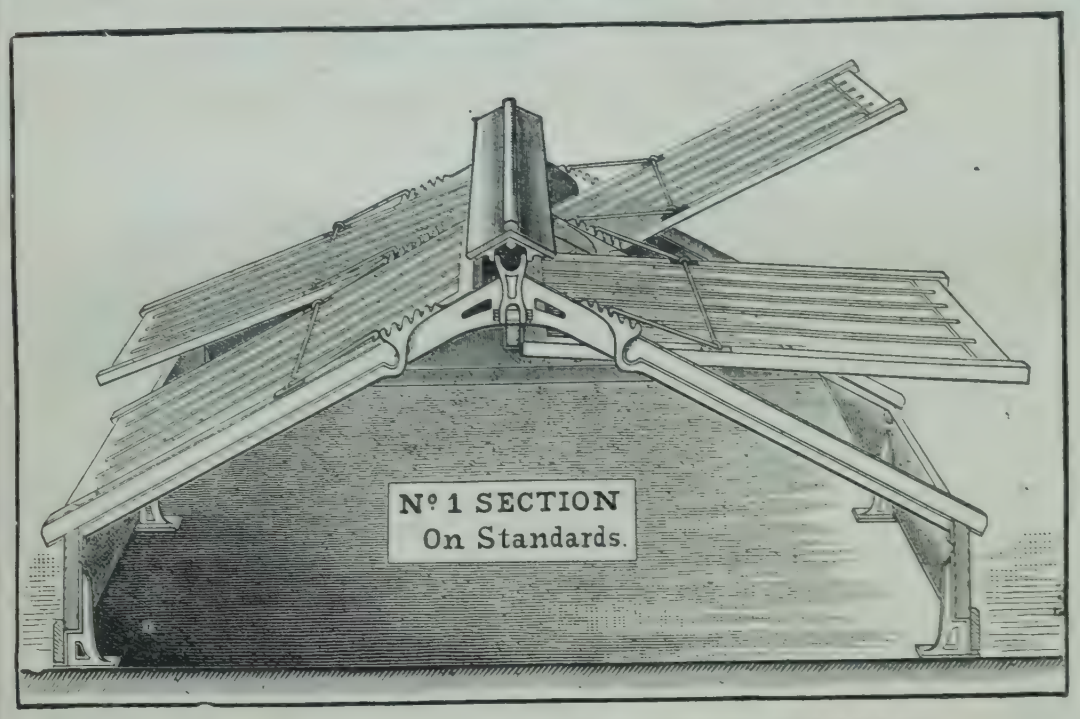

THESE FRAMES SHOULD BE IN EVERY GARDEN.

HUNDREDS SOLD.

ESTIMATES FOR

Vineries, Orchid Houses, Peach Cases, Plant Houses, Frames, &c.,

ON APPLICATION.

IMPROVED SPAN FRAMES.

The Lights are held open for Ventilation or Watering without props, and can readily be removed if necessary. Top Ventilation by Lantern.

PLEASE SEND FOR PRICE LISTS.

ONLY THOROUGHLY SEASONED TIMBER AND BEST WORKMANSHIP EMPLOYED, THUS ENSURING DURABILITY & REAL ECONOMY.

THOMSON'S SEEDS.

FLOWER SEEDS—

BEGONIA, Thomson's Superb Single and Double.—Saved from selected plants of a very choice collection. Per Packet, 1*s.* and 2*s.* 6*d.*

CALCEOLARIA, Thomson's Dalkeith Park.—A well-known and popular strain; saved from plants of dwarf and compact habit. Per Packet, 2*s.* 6*d.*

CINERARIA, Thomson's Superb Mixed.—A very carefully selected stock. Per Packet, 1*s.* and 2*s.* 6*d.*

CELOSIA Pyramidalis, Thomson's.—Best strain in cultivation; still unrivalled. Per Packet, 1*s.* and 2*s.* 6*d.*

PANSY, Thomson's Choice Mixed.—Saved from the finest named sorts. Per Packet, 1*s.*

POLYANTHUS, Thomson's Superb Hybrid.—Saved from the choicest varieties. Per Packet, 1*s.*

STOCK, East Lothian (Scarlet, Purple, White, Crimson, and White Wall-leaved).—Saved from 2-year old plants, specially selected. Per Packet, 1*s.*, 2*s.* 6*d.*, and 5*s.*

VEGETABLE SEEDS—

BEET, Thomson's Superb Red.—Unsurpassed for garden and decorative purposes. Per oz., 1*s.* 6d.

BROCCOLI, Thomson's Self-protecting.—One of the hardiest Broccolis grown. Per Packet, 1*s.* 6*d.*

BROCCOLI, Snow's Winter White.—An extra select stock. Per Packet, 1*s.* 6*d.*

CARROT, Thomson's New Improved Horn.—Superior to the Horn Carrots now in cultivation. Per oz, 8*d.*

LEEK, Musselburgh.—True stock; Scotch saved. Per oz., 2*s.* 6*d.*

PARSLEY, Thomson's Superb Curled.—Dwarf and compact; beautifully curled. Per oz., 1*s.*

TOMATO, Thomson's Excelsior.—Undoubtedly one of the best for general use; smooth-skinned, and of fine flavour. Per Packet, 1*s.* 6*d.*

CATALOGUE of SELECT GARDEN SEEDS forwarded on application. All goods carriage paid.

THOMSON'S VINES. THOMSON'S STYPTIC.
Thomson's Vine and Plant Manure.
THOMSON'S BOOK on the Vine, the Pine, the Flower Garden, and Fruit Culture under Glass.

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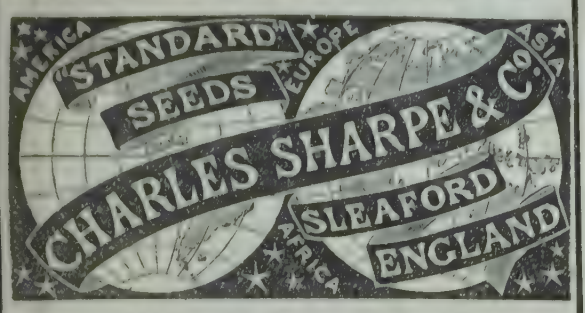

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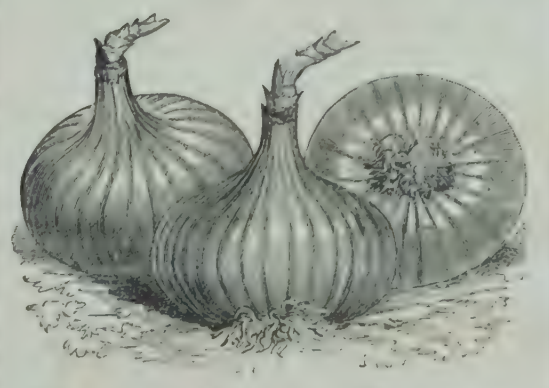

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THE

Gardeners' Chronicle.

SATURDAY, FEBRUARY 18, 1893.

MOISTURE OF THE SOIL AND ITS EFFECT ON PLANT LIFE.

IT is sometimes extremely instructive to compare general results derived from study of living plants in the field with special conclusions obtained by experience in the laboratory. As a general rule the last method of inquiry leads into a wilderness of conflicting and contradictory statements, especially when the experiments have been conducted by independent observers; of course, a single set of experiments conducted by one person is (if it give any conclusion at all), more or less harmonious. Still, when one does find any double confirmation of this kind, the result is probably more valuable than any reasoning from either method alone; and in the following few facts, I have found such a double confirmation.

A series of very excellent papers has recently been published in Germany on the different capacities for retaining and conducting water shown by different soils, and these explain certain peculiar phenomena in plant life.

Thus, if one arranges a series of soils such as, sand of a quartzose character, loam, leaf-mould with a certain amount of lime and sand, pure leaf-mould, clay and peat, these will be found to vary as follows:—

The thicker or denser soils will be able to retain a larger amount of water than the loose and sandy ones, and this result holds true (Prof. Wollny, *Forschungen*, vol. v., p. 1) in the same kind of soil if the particles are closer together in one case than in the other. For instance, beating the soil in a pot, and pressing it closely down, makes it able to hold more water than if the earth is lightly poured in. The reason, of course, is, that the particles are so close to one another, that they form narrow capillary passages which retain the water in the same way as ordinary capillary tubes.

For a similar reason these thicker clayey soils do not thaw so quickly as the loose sandy ones, and in long-continued drought, the cracks formed by the sun are fewer in number (though deeper and narrower) than those produced in the looser sandy ground; in fact, all changes in temperature are felt more rapidly and severely in loose sandy soil than they are in thick clay or loam, which becomes more slowly heated and cooled, though retaining the heat for a longer period.

This explains a point which always greatly puzzled me in Egypt. Between Cairo and the Pyramids there is a stretch of flat ground, mostly pure alluvial of the Delta, but turning into the ordinary desert sand about half to a quarter of a mile before the low limestone hills on which the Pyramids are built. (Part of this forms the links of the Mena House Hotel.)

I noticed that when the soil was even very slightly clayey or alluvial, many small herbaceous

*

plants and a few perennials grew upon it; but when there was no sign of alluvial, scarcely a single plant grew there, and the few which did exist, were all the regular desert forms which seem to subsist chiefly upon dew. The line was so well marked that one could almost have drawn it upon the soil, and in view of the preceding experiments, the reason is quite obvious. These little herbaceous Thistles and Plantains could not live unless the soil retained a certain amount of water for them, and it was only the fine-grained alluvial particles which were able to do this.

Another point in field botany, which is particularly striking in my own district (Dumfriesshire), is the manner in which many plants which really belong to much warmer counties, establish themselves in what seem very unlikely places. Thus Linaria minor, the small Toadflax, Viola cornuta, the Goat's-Beard, Tragopogon pratensis, and other peculiar southern forms occur invariably on the dry cinders and slag or waste ground of railways; of course the seed is probably brought by rail, but while Linaria minor has extended over the whole Caledonian railway from Carlisle to Beattock summit, it has nowhere to my knowledge travelled a single yard to the right or left; and this is also the case with the other forms. Here, again, we may perhaps see how the irregular porous soil of the railway, being more easily and strongly heated by the sun, enables the plant to penetrate northwards far beyond its proper home.

Another point in English botany is the way in which fleshy-leaved plants, such as the Purslane, and certain other plants, as Eryngium campestre, Brassica monensis, and so on, which are our nearest approximations to the desert types of hot and arid countries, invariably appear on the seashore, where there ought to be more moisture than anywhere else. These plants, however, grow in sand and shingle, and this becomes more rapidly and strongly heated by the sun than other soils.

The reason of rolling our crops after sowing is pretty obvious also; the ground is compressed, and so both retains water for the seedling, and is less liable to severe changes of temperature.

These experiments also explain the extraordinary change produced by thoroughly draining wet or stiff soils. In such ground the water is apt to adhere too strongly, and so prevent the growth of anything except marsh plants, such as Rushes, or rank moisture-loving grasses. On draining (or aëration by digging, which has the same effect), the capillary tubes in the soil are broken up, and the water is continually drained away, thus affording ground for good meadow grass.

Another point brought out by Professor Wollny and Herr Eser in the same *Journal*, vols. vi. and vii., is the effect of plants on the temperature of the soil. Thus it was found, that ground which was covered by plants did not become either so hot in summer or so cold in winter as that which was left exposed, and the daily change in temperature was also much less than in bare ground. It was also found that ground covered with straw or manure was not so well protected against these changes as that covered with living grass, and that the closer and thicker the stems of grass or corn were planted, the better was the protection against changes of temperature. It seems probable, from other experiments, that these differences are due to the way in which evaporation from the soil is checked by living plants. The plant-covering acts as a sponge, and after a shower of rain retains a large amount of water, which is only given off gradually afterwards. This explains the familiar fact, that the disappearance of forests usually produces drought in hot climates, as instanced by the Cape de Verde Islands, which, when discovered by the Portuguese, were covered with forest and very fertile, and are now exceedingly barren and arid, and only possess a single tree. This, probably, also in part explains why ponds which are sheltered by trees do not freeze so quickly as those which are exposed—for instance, St. James's Park, as compared with the Round Pond.

There is also a peculiar reaction of surroundings on plants, and plants on their surroundings in this connection. A tropical forest, where there is great humidity of the air, is always extraordinarily full of plants and exceedingly dense. The trees are very close together, and there is an enormous amount of undergrowth, while the creepers fill up every available space between the undergrowth and the upper branches. This extreme density of the foliage is not nearly so marked on the tops of mountains, and sometimes disappears altogether on the crest of a mountain or a plateau, where the wind can sweep the moisture away. One sees exactly the same thing in this country; any very narrow valley or glen among the hills is, when left alone, much more crowded with vegetation than an exposed wood, and grass grows much more closely on stiff or wet ground than it does on light and loose soils.

One might multiply conclusions and hints of this kind indefinitely, but perhaps enough has been said to show the value of such laboratory experiments, which seem unfortunately to be made only in Germany, and not to have found an abiding place in our own country, where agriculture certainly requires the best scientific assistance. *G. F. Scott Elliott.*

New or Noteworthy Plants.

Odontoglossum crispum, Hunter's var.

Among the many varieties of this Protean-plant, the large flowering are more fashionable than the smaller ones, yet from time to time specimens come into flower of medium or even of small size which are of special attraction and merit, and which for their grace and loveliness may come into competition with the crowd of forms without a distinct character. Recently we received from H. T. Hunter, Esq., St. Andrews, Edinburgh, a flower of only 1¾ inches in diameter, with an unusually narrow lip, which will range amongst we will not say the best, but certainly the most valuable varieties that we have noticed for some long time past. The flower is mostly white, suffused with rosy-blush beneath the border of the sepals, and on the fringed border of the petals are numerous rosy blotches, and at the base of those leaflets is a group of several intense rosy-coloured spots. The lip is yellow at the disc, with a large rosy blotch between the crest and the top. If one would make a comparison between a big-flowering variety and a small one, it may be said that it is an O. crispum Trianæ much reduced in size, and with more intense colours. The rosy colour runs through the entire flower, and the way the flowers are arranged is similar to what is observed in the inflorescence of Phalænopsis Schilleriana. The variety "roseo-punctata," which was awarded a mark of merit by the Royal Horticultural Society, is the nearest approach to our new *débutant*. *F. Kränzlin, Berlin.*

Lælia Finckeniana, *new nat. hybrid.*

This pretty, distinct, natural hybrid Lælia first flowered with C. W. Fincken, Esq., Hoyland Hall, Barnsley, out of an importation of the Liverpool Horticultural Co., and a good plant of it has lately bloomed with Messrs. F. Sander & Co., of St. Albans. In growth the plant nearly resembles Lælia autumnalis alba, or a stout form of L. albida, but the leaves are broader. The flowers at first sight might be taken for a rather small L. anceps Sanderiana, but on examination the labellum is seen to be totally different, the ovate-oblong front lobe of the labellum being much larger, and the basal part and side lobes much shorter than in any form of L. anceps. The flowers are pure white, the base of the lip having some purple lines extending half-way up the side lobes, and three yellow-ridges running along the lower half of the middle lobe, the front of which has a bright purplish crescent-shaped colouring and a broad white margin. It might be L. autumnalis alba × L. anceps, white var., but the problem is a difficult one to solve. It should be said that in Messrs. Sander's plant the pseudo-bulbs exhibit the angles of L. anceps more than in Mr. Fincken's. *James O'Brien.*

Grafting Eucalyptus.—M. Justin Dugourd, in a recent number of the *Revue Horticole*, has an article on this subject. Eucalyptus globulus, which is the species generally preferred, whether for ornamental or sanitary purposes, does not succeed on dry, rocky soils, where E. resinifera succeeds well. It was very natural, therefore, to graft the globulus upon the resinifera, and this has been successfully accomplished both by cleft-grafting and by budding. Grafts thus effected in Palestine have attained the height of 2 mètres in five months.

Bismarck Apple.

We are enabled to lay before our readers a figure of this Apple as grown by Messrs. Bunyard, of Maidstone, who hold it in high esteem for its cropping properties. It is, indeed, well spoken of generally. Messrs. Bunyard say it is of Tasmanian origin, whilst Messrs. Rivers attribute it to New Zealand. It is a large Apple, globose-conic, rather depressed at the top, and with a short stalk. It is of brilliant colour, and, owing to its productiveness and good-keeping qualities, is one of the best Apples for market purposes. As to keeping qualities, they were evidenced in the fine sample shown on Tuesday last at the Royal Horticultural Society by Messrs. Cheal.

Orchid Notes and Gleanings.

Oncidium Saintlegerianum, *Rolfe.*

Mr. O'Brien, at p. 10, speaks of his suspicion that when Oncidium Saintlegerianum was described, the figure of O. spilotanthum, Lindl., *Bot. Reg.*, xxxi., t. 40, was overlooked. This is not the case, however. The two plants certainly resemble each other rather closely, so much so, that at the first cursory glance, I not only thought of this plant, but attempted to identify them together. Then, and not before, I saw that they belonged to quite different groups, for in O. Saintlegerianum the lateral sepals are united for a considerable distance, while in O. spilotanthum they are quite free. The affinity I indicated for the former is quite correct, and I have nothing to add thereto. It was Lindley who united O. spilotanthum with O. Batemannianum, and I believe not erroneously, though its flowers are a little larger. Both have free lateral sepals, and a number of small tubercles round the central crest, which characters are quite wanting in O. Saintlegerianum. Although I have not seen Mr. Lucas' plant, I suspect it belongs to this new species, which certainly does bear a superficial resemblance to O. spilotanthum. *R. A. Rolfe.*

A New Variety of Odontoglossum crispum.

We have received from Mr. William Kirkpatrick of Bogotá, Republic of Colombia (New Granada), a dried flower, with a full-sized drawing of plant, of a new variety. The petals are creamy-white, with a slight tinge of yellow, and spotted with orange-yellow; the lips are also yellow. We are informed that the plant remains in Bogotá until such time that it may be remitted in a flowering state. It looks as if it might be a hybrid in the way of O. Andersonianum, and in most importations there come forms very like the one in question.

Two New Hybrid Cypripediums.

C. Eucharis (*F. Desbois*).—A hybrid from C. insigne Chantini by C. Lawrenceanum. Dorsal sepal very fine, the centre clear yellow, speckled with brown, lightened with violet, and distinctly bordered with white; inferior sepal greenish-white, veined with clear green. Pendent petals reddish mahogany-brown, marked with two little ridges upon each petal. Lip reddish-crimson. Staminode amber, with light hieroglyphic markings, green in the centre. Foliage fine, ground-colour clear green, much mottled with dark blackish-green.

C. villosum violaceum, Hort.—A hybrid from C. villosum × hirsutissimum. Dorsal sepal dull black, fading into clear green, bordered with creamy-white; inferior sepal greenish-blue, lightly streaked with dark green. Petals bright chestnut-red above, much speckled with dark crimson, the lower part clear amber-yellow, slightly spotted towards the base. Staminode pinkish-flesh colour, surmounted with a large excrescence, sea-green in the centre. Foliage like that of C. hirsutissimum, but more elongated; slightly resembling C. Germinyanum. These two hybrids were raised by M. Ch. Vuylsteke, nurseryman, of Locchristy, near Ghent. *F. Desbois.*

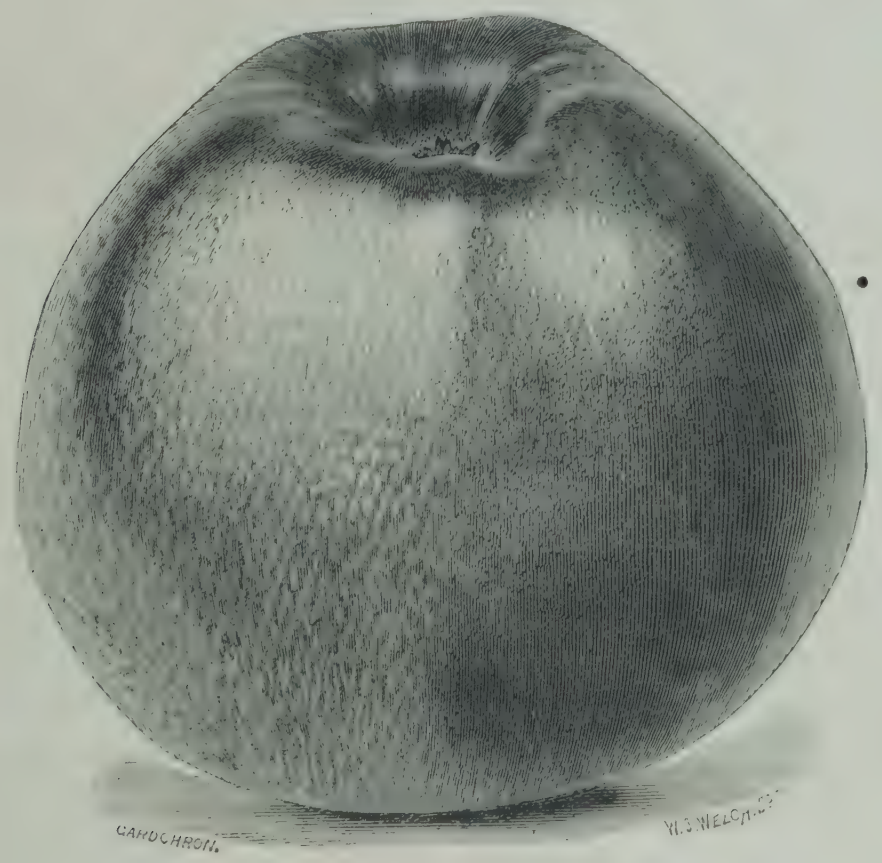

Fig. 28.—Bismarck apple. (see p. 194.)

EXPERIMENTS IN MANURING

POTATOS.

With a view of increasing the yield of our field Potatos last season, I tried several experiments with various manures. The soil of the field is a stiff loam, which contains a large quantity of small pieces of limestone, and a considerable amount of ironstone in pieces varying from quite small up to that of a man's fist. This upper layer is 8 inches deep on an average, and beneath it is another of limestone rock of varying thickness, and consisting of small lumps mixed with soil, which is almost as firm as concrete. The land slopes sharply to the north-west, and is thus well drained. A portion of this field is always cropped with Potatos, and the crop of tubers is of first-class quality. As a rule, they are usually planted to succeed Mangel Wurzel, the latter being manured with about 20 tons of good farmyard manure per acre, which is ploughed in before the seed is sown; and when the young Mangels are growing freely, they are afforded a dressing of chemical manure, consisting of superphosphate, nitrate of soda, bone-flour and muriate of potash. There is always a residue of this dressing left in the soil after the Mangel crop is taken away, which assists the Potatos the next season. All the Mangel tops are also left on the ground, and ploughed in, and this returns part of the nitrogen for the benefit of the succeeding crop. The ground is ploughed to a depth of 8 inches early in the autumn, so as to get the full benefit of the winter's frost, which liberates potash and other mineral substances in the soil, and also produces a good tilth.

Last season £75 worth of produce was sold from this field, and £35 worth used at home, which is an average produce of £17 per acre; and yet we are often told that it does not pay to cultivate land now.

Plot No. 1 was manured with gas-lime at the rate of 20 cart-loads per acre, as an experiment. Cost of the lime and its application = £2 12*s.* per acre.

	tns.	cwt.	qr.	lb.
Yield—Ware	5	6	2	22
Seed	2	2	1	18
Small	0	14	1	4

Value per acre, £23 6*s.* 8*d.*

Value per acre, less cost of manuring, £23 14*s.* 8*d.*

Plot No. 2 was manured with a mixture composed of two parts kainit, 1 part nitrate of soda, 1 part superphosphate, and 1 part steamed bone-flour; 3½ cwt. of this was used per acre, at a cost, including application = £1 5*s.* 9d.

	tns.	cwt.	qr.	lb.
Yield—Ware	7	15	3	22
Seed	2	1	2	18
Small	0	19	2	6

Value per acre, £36 17*s.* 4*d.*

Value per acre, less cost of manuring, £35 11*s.* 7*d.*

Plot No. 3 had mineral manures the same as No. 2, and in addition had 10 cart-loads of gas-lime and 10 cart-loads of coal-ashes per acre. Cost of manure and its application = £3 17*s.* 9*d.*

	tns.	cwt.	qr.	lb.
Yield—Ware	8	5	1	25
Seed	1	15	0	13
Small	0	16	2	18

Value per acre, £37 11*s.* 4*d.*

Value per acre, less cost of manuring, £33 13*s.* 7*d.*

Plot No. 4 was cropped with Potatos last season, and this spring was manured with farmyard-dung at the rate of 20 cart-loads per acre. Cost of manure and its application = £5 18*s.* 6*d.*

	tns.	cwt.	qr.	lb.
Yield—Ware	7	9	0	12
Seed	2	14	1	24
Small	1	9	3	18

Value per acre £37 2*s.* 8*d.*

Value per acre, less cost of manuring, £31 4*s.* 2*d.*

Plot No. 5 had no manure this season, but was cropped with Mangels last year, when it had 20 cart-loads of farmyard dung, and 6 cwt. mineral manure per acre. The latter cost £3, and was composed of nitrate of soda, muriate of potash, steamed bone-flour, and superphosphate.

	tns.	cwt.	qr.	lb.
Yield—Ware	9	18	0	24
Seed	1	16	0	18
Small	1	10	3	6

Value per acre £45 4*s.*

Plot No. 6.—The previous season this plot had the same manure as No. 5, and this year was dressed previous to planting with 3½ cwt. per acre of mineral manure of the same mixture as No. 2. Cost of manure and its application = £1 5*s.* 3*d.*

	tns.	cwt.	qr.	lb.
Yield—Ware	10	6	1	0
Seed	1	15	3	21
Small	1	0	3	1

Value per acre £46 0*s.* 8*d.*

Value per acre, less cost of manuring, £44 15*s.* 5*d.*

Plots Nos. 1, 2, 3, and 4 were cropped with Potatos the previous season, and had no residue of mineral manure in the soil like Nos. 5 and 6.

Plot No. 2 gave the best returns where there was no residue of manure in the ground, and the sample was very good.

In plot No. 3 the ashes would probably have shown a better result without the gas-lime. The tubers came up much cleaner and brighter than on some of the other plots.

In plot No. 4 the gross proceeds show 5*s.* 4*d.* per acre better than No. 2 (where mineral manure was used), but farmyard-manure, no matter how good it may be, is too costly in its application, and does not pay so well in the end. Many of the tubers on this plot were also too large and proved to be hollow inside.

Plot No. 5 gave by far the best results—as the residue after last year's manuring for Mangels was amply sufficient, and nothing has to be deducted for cost of manure. The sample was a good one. A few only of the tubers were too large, but not enough to make any difference in the value of the crop; however, they showed plainly that plenty of plant food was supplied.

Plot No. 6 was, in every respect, treated the same as No. 5, with the exception of the dressing of manure given at planting time; the total weight of the crop was 2 cwt. less than No. 5, the gain in gross value resulting from the increase of the ware, the increased yield did not pay for application of the manure as the *net* returns were 8*s.* 7*d.* per acre less.

The variety grown was Magnum Bonum, which is always of good quality with me. I always save my own seed, as I do not believe in the tradition that a change of seed has a good influence on the crop. I have grown the same stock in this field for eight years, and instead of deteriorating I find the last crop has been one of the best we have ever had, but great care is always taken in storing the seed. I do not approve of the pitting system, and always have the sets spread out carefully on the floor of a loft where frost is barely excluded. When first dug the tubers often have to lay in a large heap for two months, but early in January there we have more space to spare, and the heap is then levelled down to about 1 foot in thickness, and so remains till planting time comes. By planting early in April the greater part of the first shoots are saved, and there is no waste of the nutriment stored up in the seed-tuber. Doubtless, our immunity from the Potato disease is partly owing to the exposed position of the field and to carefulness in gathering up the tops and the few diseased tubers, and destroying them immediately after storing the crop. As regards

cost of cultivation, which has not been deducted from the above trials, planting with the aid of a horse to draw the furrows, but covering in by hand, costs about 26*s.* per acre, and digging, sorting by hand, and storing the crop, costs about 83*s.* 9*d.* per acre on the heaviest portion. Other expenses, such as earthing and hoeing, are only trifling. *W. H. Divers, Ketton Hall Gardens, Stamford.*

A SYNOPSIS OF THE SPECIES OF CANNA.

(*Continued from p.* 164.)

17. Canna polyclada, Wawra, *Maxim. Reisc.*, 143, t. 122. Stem tall, slender, glabrous. Leaves oblong, with a rounded base, acute, deep green, with a claret-brown edge, the lower 1½ foot long. Inflorescence a panicle 1½ to 2 feet long, with long slender racemose branches; bracts suborbicular; flowers often in pairs. Sepals lanceolate, ½ inch long. Petals lanceolate, tinged with red, unequal, the longest 2 inches long. Upper staminodia two, oblanceolate, bright crimson, acute, not longer than the petals; lip oblanceolate, bright crimson, spotted on the claw with yellow. Capsule globose, 1 inch diameter.

Hab.—Southern and Central Brazil; Rio Janeiro to Matto Grosso.

18. C. speciosa, Rosc., *Scit.*, t. 17; *Bot. Mag.*, t. 2317; *Bot. Reg.*, t. 1276. *C. polymorpha* and *leptocheila*, Bouché. Stem green, glabrous, 5 to 6 feet long. Leaves green, broad, oblong, acute, the lowest 1½ to 2 feet long. Panicle deeply forked; racemes long. Sepals lanceolate, pale red, ¾ inch long. Petals lanceolate, pale red, 2 inches long. Upper staminodia usually two, bright red, emarginate, 3 inches long, ¼ to ⅓ inch broad; lip bright red-yellow, emarginate. Capsule larger than in *C. indica.*

Hab.—Eastern Himalayas; Nepaul, *Wallich.* Sikkim, drawn by Sir J. D. Hooker. Introduced into cultivation about 1819. *C. nepalensis*, of Wallich, is a form with three upper staminodia. I know nothing of *C. violacea*, Bouché, in *Linnæa*, xii., 146, of which the leaves are said to be deciduously woolly beneath, the flowers 4 inches long, and the three to four upper staminodia, like the lip, yellow and dull violet.

19. C. discolor, Lindl., in *Bot. Reg.*, t. 1231. Stem 6 to 10 feet long, stout, glabrous, purple, glaucous. Leaves broad, oblong, acute, more or less suffused with claret-brown, the lower reaching 3 feet long by nearly half as broad. Panicle deeply forked; racemes lax; bracts small, orbicular. Sepals lanceolate, green, ½ inch long. Petals lanceolate, pale green, 1½ inch long. Upper staminodia two, oblanceolate, bright red, entire, 2½ inches long, ¼ to ⅓ inch broad; lip brick-red, lanceolate, emarginate. Capsule larger than in *C. indica.*

Hab.—Tropical America. Introduced into Europe from the Botanic Garden at Trinidad about 1829. Specimens collected in Guatemala by Bernouilli and Captain Donnell Smith probably belong here.

Sub-genus II. Distemon. Corolla-tube short. Upper staminodia suppressed.

20. C. paniculata, Ruiz. and Pav., *Fl. Peruv.*, i., p. 1, t. 1 (excluding leaf). *C. denudata*, Rosc., *Scit.*, t. 22, 23. *C. excelsa*, Lodd., *Bot. Cab.*, t. 743. *C. divaricata*, Klotsch. Stems tall, slender, glabrous. Leaves green, oblong, acute, glabrous, the lower 1½ to 2 feet long, 6 to 8 inches broad. Inflorescence a large panicle, with several lax racemose branches; branch-bracts linear, scariose, reaching a length of 6 to 9 inches; flower-bracts small, very acute; flowers single, distinctly stalked. Sepals lanceolate, ½ inch long. Petals lanceolate, yellowish-green, 2 to 3 inches long. Upper staminodia entirely suppressed; lip and anther-bearing staminode linear, bright crimson, rather longer than the petals. Capsule small, oblong.

Hab.—South Brazil, *Burchell! Sello! Bowie and Cunningham!* Peru, *Pavon!* Bouché and Horaninow admit seven species of *Distemon*, but all our London specimens do not vary materially. The original description and figure of *C. paniculata* are both very poor, and the leaf in Pavon's type specimen in the British Museum, which coincides with his description, is evidently not that of a Canna. I have seen the Columbian form.

Sub-genus III. Eurystylus. Corolla-tube long. Upper staminodia three, unguiculate; lip orbicular.

21. C. flaccida, Salisb., *Stirp. Rar.*, t. 2; Red., *Lil.*, t. 107; Rosc., *Scit.*, t. 6; Lodd., *Bot. Cab.*, t. 562 (Dill., *Hort. Eltham.* t. 59, fig. 69). Stem green, glabrous, 4 to 5 feet long. Leaves oblong-lanceolate, green, the lower 1 to 1½ foot long, 4 to 5 inch broad. Inflorescence a lax few-flowered simple raceme; bracts very small. Sepals lanceolate, green, 1 inch long. Corolla-tube cylindrical, 2 to 2½ inches long; lobes lanceolate, reflexing, nearly as long as the tube. Upper staminodia three, their free part obovate-unguiculate, sulphur-yellow, 2½ to 3 inches long by above 1 inch broad; lip the same colour, large, orbicular. Capsule obovoid-oblong, 2 inch long.

Hab.—Southern United States; Carolina to Florida, in swamps. This is totally different from C. glauca, with which it was confused by Linnæus, Miller and Willdenow. *C. Reevesii*, Lindl., *Bot. Reg.*, t. 2004, is the same species described from specimens cultivated in China. It is in Edgeworth's collection from a garden in the Central Himalayas.

Sub-genus IV. Achiridia. Tube of the corolla and of the staminodia as long as the blade. Flowers very large, pendulous.

22. C. iridiflora, Ruiz. and Pav., *Fl. Peruv.*, i., 1; Rosc., *Scit.*, t. 14; *Bot. Reg.*, t. 609; *Bot. Mag.*, t. 1968. Stem green, 6 to 10 feet long. Leaves oblong, bright green, slightly pubescent beneath, the lower 2 to 2½ feet long by 1 foot broad. Inflorescence a panicle composed of several drooping corymbose racemes; branch-bracts large, scariose, boat-shaped; flower-bracts small, ovate or lanceolate. Sepals green, lanceolate, 1 inch long. Tube of the corolla cylindrical, 2½ inches long; lobes lanceolate, red-brown, as long as the tube. Upper staminodia three, rather longer than the corolla-lobes, rose-crimson, obovate-unguiculate, ¾ to 1 inch broad; lip the same colour, narrower, deeply emarginate.

Hab.—Andes of Peru, introduced into cultivation by Mr. A. B. Lambert in 1816.

23. C. liliiflora, Warscew.; Planch. in *Flore des Serres*, t. 1055-6; *Rev. Hort.*, 1884, p. 132, with figure. Stem robust, green, 8 to 10 feet long. Leaves many, oblong, green, the largest in the genus, 3 to 4 feet long, 1½ foot broad, spreading from the stem at a right angle. Inflorescence a panicle composed of several corymbose branches; rachis green, glabrous; branch-bracts large, linear-oblong, pale green. Sepals linear, as long as the tube of the corolla. Petals lanceolate, pale green, 5 to 6 inches long, united in the lower half in a cylindrical tube. Upper staminodia three, white, united in a tube in the lower half, with a spreading obovate-unguiculate blade ¾ to 1 inch broad; lip oblanceolate, as long as the staminodia. Flowers finally tinged with pale brown and scented.

Hab.—Veraguas, introduced into cultivation by Von Warscewicz about 1855. *J. G. Baker.*

FOREIGN CORRESPONDENCE.

ORCHIDS AT NORTH EASTON, MASS., U.S.A.

December 10, 1892.—Visitors to this noted collection at any season will always find something of interest in bloom among the many unique and beautifully-grown examples to be found here. Mr. F. L. Ames is an amateur in the true sense of the word, and is doing much to popularise Orchid culture, allowing the public free admission to the houses—a privilege which thousands take advantage of. It would be impossible to note in detail the numerous plants recently seen here. All the flowering Orchids, with the exception of the cooler-growing varieties, were arranged in the large Cattleya-house, forming a glowing display. Among the most conspicuous was a group of Dendrobium Phalænopsis Schroderianum, with upwards of 500 fully-expanded blossoms, possessing remarkable and pleasing variation; one specimen carried 100 flowers, on fifteen spikes. D. p. Statterianum was also in bloom: its flowers, though smaller, are of intensely rich colour; also a quantity of D. bigibbum. Plants of Cattleya in flower were suspended throughout the house, and included many remarkable and valuable hybrids. In flower was also observed the rare C. leucoglossa, with three of its delicate and pretty blooms; this is a hybrid between C. Fausta and C. Loddigesii. A plant of Lælio-Cattleya Pallas, the lip of which was intensely vivid, had two large flowers open; the parents of this variety being Lælia crispa and Cattleya Dowiana is sufficient to account for the great beauty of this plant—the petals, however, show the influence of L. crispa, as they partake much of its revolute character. Cattleya Cassandra, a cross between C. Loddigesii and Lælia elegans, had five flowers open, which are of a soft lilac colour, with a large C. Loddigesii lip, that is marked with amethyst. Well-bloomed was a specimen of Lælio-Cattleya Marriottiana, a lovely hybrid, with a novel colour. These, and numerous examples of Cattleya labiata, made quite a paradise of bloom, the latter in almost every case carrying four-flowered stems, and the colour, substance, and form were all that could be wished.

Lælia anceps, especially the white forms of it, have done well this season, and I remarked one specimen of L. a. Sanderiana with seventeen flower-spikes, several L. a Stella, with seven, eight, and ten each; L. a. Amesiana (a very delicate-coloured and rare form), L. a. Ballantineana, L. a. Schroderiana, L. a. Dawsonii, and L. a. Hilli, were in bud; and a forest of flower-spikes was noticed on a batch of the ordinary form. L. autumnalis alba had six spikes of its handsome snow-white blooms; L. Gouldiana, true, was well-flowered; a specimen of Cattleya Bowringeana had more then fifty flower-spikes—a wonderful sight. Among the Cymbidiums were a healthy specimen of C. elegans, carrying two immense flower-spikes; the pretty white and pink striped C. pulcherrimum, with four strong panicles; and a fine flowering plant of C. eburneo Lowianum was well advanced in bloom.

Cypripediums are well grown, and many of them matchless specimens. Among them were several distinct examples of C. H. Ballantine, obtained from seed raised in this collection. C. T. B. Haywood (a grand plant) had seven flowers; C. tessellatum porphyreum three fine blooms; the chaste C. insigne var. Sanderiæ, a very healthy plant, had two flowers C. MacFarlanei, C. astræa (a charming variety), C. Niobe, C. regale, and the pretty C. polystigmaticum a number of seedlings of great promise have found a home here.

In the house set apart for cool-flowering Orchids were many hybrid Odontoglots with bold massive spikes; a grand plant of O. hystrix illustris had fourteen flowers; Odontoglossum Wilckeanum var. Burfordiense carried six blooms, broad, and of great substance and colour. In a basket was a plant of the rare Miltonia Bluntii var. Lubbersiana, in flower; Miltonia Bleui var. splendens was just showing flower on three strong growths; and in a very moist cool corner of the house numerous Masdevallias were in flower, including several interesting and pretty hybrids, such as M. Courtauldiana, M. Measuresiana, M. Gairiana, M. Geleniana, and others; also a distinct variety raised here between M. ignea rubescens and M. Harryana—the flower is as large as the finest M. ignea, and possesses a pleasing suffusion of purple. Several more seedlings are shortly expected to bloom.

The crossing of Orchids receives great attention and the condition of these delicate treasures is as gratifying to the owner as to the gardener, Mr. Wm. Robinson, considering the very high summer-heat experienced in this part of the country. *A. D—k.*

CYNORCHIS.

This name is given to a genus of terrestrial tuberous-rooted Orchids of the Ophrydeous tribe, allied to Habenaria, but having the central lobe of the rostellum well developed. Bentham estimated the number of species at twelve, all natives of the Mascarene Islands and of tropical Africa, and Mr. Rolfe has added several others. C. grandiflora, of which we give an illustration (fig. 29), was shown on Tuesday last at the Royal Horticultural Society by Messrs. Lewis, of Southgate. Mr. Ridley, in the *Journal of the Linnean Society*, describes it as a

Fig. 29.—CYNORCHIS GRANDIFLORA: FLOWER-SEGMENTS, OBLONG, GREEN, SPOTTED WITH PURPLE LIP, BRIGHT ROSY-LILAC.

terrestrial herb, with oblong woolly tubers; sheathing leaves, the radical one spreading, lanceolate, 3 inches long; the cauline leaves sheathing round the stem, which is 4 to 5 inches high, with one or two large flowers. Sepals oblong lanceolate, green, red-spotted; petals narrower, white, lip broadly four-lobed, lateral lobes obovate, the central one dividing into two broad divisions; spur long, abruptly dilated at the apex; column very short, with slender curved stigmatic processes. Mr. Ridley enumerates two varieties:—

Var. α, purpurea, with the lip purple, spotted at the base, and scentless.

Var. β, albata, lip white, purple at the base, fragrant.

The plant is said to be common on damp rocks in Ankanfa (Madagascar). The plant is distinguished by the one or two conspicuous flowers, much larger than any of the others in the genus. The tubers are 1½ inch long; the leaves are dark green, with brown spots. The flower varies in colour considerably; apparently the commoner form has green sepals, with dark red spots and white petals; the lip is purple, with darker spots at the base, and 2 inches long by 1 in diameter. In the other form the lip is white, with a purple blotch at the base, and a few pink spots on the underside at the tip. The pollinia are green, and have very long slender pedicels, and the pink anthers, the corresponding long arms characteristic of the genus. The spur is long and straight, and the terminal half is suddenly dilated. The above descriptive notes are condensed from Mr. Ridley's paper. In the cultivated plant the colours are as given in the legend to fig. 29.

CULTURAL MEMORANDA.

MARECHAL NIEL ROSE.

If cuttings of this popular Rose are taken off at once with a heel, i.e., a piece of the old wood attached, and inserted in 4½-inch pots, having a few pieces of potsherds in the bottom, with a bit of rough loam over them for drainage, and filled to within an inch of the rim with sandy soil, made firm, and afterwards watering through a rose to settle the soil about the cuttings, and placed in a forcing-house or pit, they will soon root. They should then be potted singly into 3-inch pots, watered, and again put into heat, giving them a position near to the glass. Subsequently shift the plants, as they require more space at the roots, into 6-inch and 9-inch pots, affording good drainage and rough substantial loam to grow in. Give plenty of water at the roots when required, and cut all lateral growths or side-shoots out as soon as they appear, thereby concentrating all the energies of the plant into one leading growth, which being allowed to grow uninterruptedly, and being kept well supplied with liquid manure at the roots during the summer and early autumn months will attain to a length of 15 or 20 feet by the end of October next. We have some which have been so treated that are now 25 feet long, trained up the trellis on the back wall of a Fig-house and down again to the 9-inch pots in which they are growing. These will be shortened back considerably forthwith, and started into growth, bringing the points of the rods down in a semicircular fashion almost to the ground, to secure every eye or bud pushing into growth along the entire length of the rods. *H. W. Ward.*

FORESTRY.

SEASONABLE WORK.

Now that the cones of the Scotch Fir and Larch are thoroughly matured by frost, they should be gathered in dry weather, and the seed extracted, so that it may be ready when wanted for sowing in April. I may explain that although the cones are ripe in the autumn, yet by allowing them to remain exposed on the trees during winter the action of the frost loosens the scales considerably, so that the seeds can be extracted by a less degree of heat, which is an advantage in more ways than one. In the natural forests in the Highlands of Scotland my practice has been to collect the cones in February and March, and by placing them on flat flag-stones heated by the rays of the sun the scales gradually open, and allow the seed to drop out. This is a very safe way of extracting the seed, as there is no risk of their vegetative power being impaired by overheating. In cases, however, where large quantities of seed are required, the cones may be placed some 6 inches deep upon a wooden kiln, and the temperature raised to about 110° Fahr., which will be quite sufficient for opening the scales without in any way blunting the vitality of the seed. In many parts of the country the plantations are mixed with an inferior variety of the Scotch Fir from the Continent, viz., Pinus sylvestris haguenensis; therefore, the planter should exercise his judgment in the selection of his cones, and only gather such as are produced by the true Highland Pine. The continental variety grows very well on sheltered situations, but when planted on wind-swept heather ground at high elevations in these islands, exhibits a brown stunted appearance, which rather an eyesore than an ornament, and as never attains a profitable size under such conditions, it should by all means be avoided. In gathering Larch cones, great care should be taken to select such as are produced by fine healthy trees free of ulceration, canker, rot, or blemish of any kind, as the cones on healthy trees are always well developed, and the seed of superior quality. Diseased stunted trees generally produce a great wealth of cones, and as they can be gathered from small trees with less trouble than from healthy ones of a larger size, they are very tempting to the collector who is often paid by quantity. In cases where only a small quantity of seed is required the cones may be split up mechanically to allow the seed to drop out, but in all cases where any considerable quantity of seed is wanted the cones had better be dried on a wooden kiln, and then removed when in a warm state, and placed on a hard floor where they should be beaten with flails or other suitable implements to extract the seed. The cones of other hardy coniferous trees should now be gathered, and the seed extracted in a similar way.

The Preparation of Seed-Beds.

Dig, trench, and prepare ground so that it may be ready to be formed into seed-beds when wanted in April; and in cases where the nursery plots have become exhausted, take advantage of dry frosty weather to cart fresh soil to improve their texture. If not already done, finish the sowing of Acorns, Chestnuts, and the berries of the Yew, Mountain Ash, Hawthorn, Holly, &c., which were stratified in rot heaps last summer; and in favourable weather towards the end of the month sow Beech-mast, Elm, Sycamore, Ash, &c. In favourable weather push forward the planting of forest and ornamental trees on dry ground, and prepare cold stiff clay and peat-bog for spring planting at a later period. Plant cuttings of deciduous trees and shrubs usually increased by that method, such as Elders, Willows, and some of the Poplar tribe, &c. Plant out seedling trees and shrubs into nursery rows, and transplant such as are too crowded in the lines to afford additional space for their development. In preparing heather ground for planting, it is sometimes necessary to burn the heath and surface-scrub a few years before planting is commenced, and in doing so the surface-scrub may be burned any time during dry weather in spring up to April 11, when the grouse generally begin to nest, but that time is sometimes extended for fourteen days when all parties concerned are at one on the subject. *J. B. Webster.*

The Apiary.

BEES-WAX.

Care should be taken of all scraps of comb about the apiary, to be melted down. If a box is set apart for the purpose of keeping them in, there will be no excuse for throwing any away, which often happens when a receptacle is not provided. The box should have a tight-fitting lid, so that the wax-moth cannot deposit her eggs, also to keep out bees as well. When a sufficient quantity of comb has accumulated for melting, it will be necessary to sort it, so that the light and the dark pieces may be melted separately. The former will yield wax of beautiful colour and purity fit for exhibition, or it may be made up into super-foundation. Wax extracting is one of the departments of bee-keeping most suitably carried out in the winter evenings, for if it is done in the summer when bees are flying, the aroma of the molten wax attracts them in large numbers, so that they get into the house and become a nuisance. Good bees-wax generally fetches about 2*s.* a pound, and if there is no sale for it at this price, the bee-keeper will find it most to his advantage to send it to a foundation manufacturer, if the cost of carriage is not too great, who will make it into foundation for him at the rate of 6*d.* per pound. Why then cannot bee-keepers make up their minds to supply themselves from their own bees with wax enough to make sufficient foundation for each year's requirements, as the purchase of this article is one of the most expensive items that has to be provided for. A good plan for extracting small quantities of wax without the aid of a wax-extractor is to tie the combs in a calico or flannel bag, which place in a colander in the oven over a bowl of water.

Weeding-out Combs.

Combs are to be found in most hives every year that require weeding-out by reason of old age, irregularity, or through their containing too large a proportion of drone cells. The best plan to effect this is, when examining stocks in spring to move the imperfect cones to the outsides of the cluster of bees, and gradually work them out of the hives by introducing at intervals frames containing full sheets of foundation in the middle of the brood-nest. *Expert.*

The Week's Work.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maiden Erlegh, Reading.*

STRAWBERRIES.—Take advantage of fine dry weather to clear the plants of dead and decaying leaves and runners. Any gaps in the lines should be made good, and "blind" plants amongst those planted in the autumn should be thrown out, their place being filled with others from the stock of forcing-plants, or from the reserves. If these are carefully transplanted at this season with good masses of roots and soil, there will be little difference observable, and the beds will have a uniform appearance. This finished, hoe the land, and clear off weeds, after which afford the beds a dressing of fresh soot, more particularly just round about the collar of the plants, which is all the top-dressing that will be required for the present. It being now generally accepted that new plantations of the dessert varieties should be made biennially, it is surprising to observe some gardeners still persisting in giving Strawberry plantations a heavy dressing of rotted manure in the autumn, the idea being that the manurial ingredients of the same are washed down to the roots by winter rains, which so far is correct. But the mischief wrought by thus providing shelter for slugs must be obvious to all. Hence, where such has obtained, I advise the clearing off all the manure, and dressing with soot, as advised above, when, if the ground is dry, and the soot is fresh, the number of slugs which will be found dead will speak much for the practice. Instead of affording dressings of manure, our two-year-old plantations are treated to frequent soakings of manure-water in mild weather during the winter.

PREPARATIONS FOR GRAFTING. — In most gardens there are varieties of Apples and Pears which do not give satisfaction, and, except in the case of worn-out trees, it is a saving of time and labour to regraft such rather than to replace them with new trees. The scarcity of fruits at any particular season will determine what varieties should be chosen as grafts. Late Apples of good quality are most needed. Of such, Cockle Pippin at this part of the season is hard to beat if the weather in the autumn was such as to favour leaving the fruit on the trees till the end of the month of October, or it was otherwise favourable to their thorough ripening. Claygate Pearmain is in some respects the superior of Cockle Pippin, and I cannot too highly recommend the variety for late dessert use. In the case of old trees, and those with cracked and unkind-looking bark, it is more satisfactory to prune them back from one foot to half a foot from the main stem, and whip-graft on selected shoots of the resulting young wood next season, or bud the same in the late summer. Shoots intended for scions should be obtained forthwith, and heeled-in on a north border, or in a cold moist cellar. Do not make them up into bundles, but lay them in singly, so that the moist soil may be in touch with them. Withered shoots never make good grafts.

THE ORCHID HOUSES.

By W. Holmes, *Gardener, Pickering Lodge, Timperley.*

WORK IN THE HOUSES.—The time has arrived when the re-potting and top-dressing of Orchids must be pushed forward, and at this season it is always a matter of choice which shall be done first. Lælia anceps and L. autumnalis are now forming fresh roots, and these should be re-potted amongst the earliest taken in hand. These species need not be re-potted yearly; in most cases every second or third year is sufficiently often, providing the plants are doing well. Lælia anceps Sanderiana, L. a. Stella, L. a. Schroderiana, and L. a. alba, which are varieties that are chiefly grown in baskets, will not require to be turned out of their receptacles, but the old material should be carefully picked out from among the roots, and replaced with new compost that may consist mostly of peat, a very small quantity of sphagnum moss—just sufficient to indicate when the plants require to be watered, in which concern I would remark that very little water is needed for the present, an excess of moisture just now often causing the root-points to decay. The same kind of treatment that is suited to L. anceps will be found adapted for L. autumnalis and its variety Gouldiana and others. The typical L. anceps does better in pots—in fact, the use of baskets should be limited to the more shy-flowering species and varieties. In repotting L. anceps, much pot-room is not required, and it is better to err in using a small pot than a large one, their roots being mainly aërial. Any newly-imported plants are better if placed in clean pots and crocks only, until such time as they have made plenty of roots; and before potting them, let them be well-washed and looked over, an injurious weevil or beetle being frequently brought over with the plants, which is got rid of with much difficulty. I heard of a gardener who was troubled all last summer with some of these marauders, which are again making their appearance amongst his Orchids. The insect is generally to be discovered on the undersides of the leaves, and as soon as the plants are touched it drops either on to the stage or the pot, and being nearly the colour of the outer sheathing of pseudobulbs, it is soon out of sight. Standing the plants on inverted pots is a good plan where these weevils abound. I believe this insect was figured in these pages. Vanda Amesiana and V. Kimballiana must be looked over and top-dressed with fresh sphagnum moss. To grow these two species well, and flower them satisfactorily, I find the cool end of a Dendrobium-house, well exposed to light and sun, the best place for them. Ours never got any shading at all last summer, and Epidendrum radicans got the same kind of treatment, and this plant is now flowering freely. When V. Amesiana is well grown and ripened, some growers advise an intermediate-house temperature for it, but it really does better in the Dendrobium-house, as does V. Kimballiana, affording both plenty of water whilst growing.

FRUITS UNDER GLASS.

By Jas. Whitton, *Gardener, Glamis Castle, Glamis, N.B.*

PINE-APPLES.—Now that we are getting more sunshine, increase the minimum day and night temperature by 5°. Prepare composts for potting-on young stock. Fanciful compounds are unnecessary. Where a good turfy loam is available, nothing else is required beyond a little bone-meal. Do not break the turf into too small pieces, and if the soil is of a light sandy description, sift out and reject the finer particles. Should the soil be of a heavy clayey nature, add sufficient lime-rubbish, charcoal, and quarter-inch crushed bones, to keep it porous; the Pine-apple detests a sour soil. Further, if the soil is of a poor quality, add some good plant-fertiliser; Thomson's is still one of the best, using the proportions as given by the vendors, taking care not to overdo the mixture with these. We occasionally see plants getting too much of a good thing in the way of artificial manures, we presume in the anxiety to produce something phenomenal. See that the soil is in proper working order before potting. An experienced hand knows at a glance when the soil is in proper order. A simple method for young men is to test the compounds by taking a double-handful, give it a good squeeze, and lay it down on a bench. If it falls down, it is too dry; should it hold together without breaking, it is too wet. The medium and proper state is thus very easily learned. See that all pots and crocks are clean and dry. For Queens and such medium-sized growers, 10 or 11-inch pots will be ample. Smooth Cayennes, and the larger-growing sorts, will require a size or two larger. I never saw any gain in using larger pots than those stated in which to fruit Pine-apples. Pot neatly and firmly, and replace the plants in a bottom-heat of 75° to 80°. They will not require water for a time, if the soil was in proper order. Damp the house regularly, and keep a genial growing atmosphere; a night temperature of 65° to 70° will be ample. Watch carefully those plants showing fruit and in bloom, and see that they do not suffer from want of water; a check at this stage is productive of deformed fruits.

MELONS.—See that the soil is warmed and in good order in the beds before planting the early sowings, so as to avoid giving the plants any check when setting them out. Where beds are not available, or bottom-heat therein deficient, the difficulty may be overcome by growing and fruiting the plants in pots; indeed, many good cultivators use large pots in preference to beds, and where soil is scarce, or of indifferent quality, there is a gain in such procedure. Use pots 18 inches and upwards in diameter. Drain them well, and ram the soil firmly. Turn out the plants carefully from the smaller pots, and plant carefully in the larger, leaving sufficient room for watering and top-dressing. Set the pots properly, and put a stake to support the plant up to the trellis. Allow the main stem to grow to the full height desired without stopping, and then pinch out the point. The laterals may be rubbed off when at the bud-stage on the lower part of the stem, taking care not to injure the main leaves. The laterals which start opposite the first wires of trellis must be allowed to grow; these will show fruit at third or fourth leaf from the main stem. Once the fruits are seen, pinch the buds beyond, so that all the energy may be directed to the fruit. Watch daily for the opening of the female blooms, and fertilise them, allowing them to be fully developed before so doing. The pollen on male blooms is usually at its best on the second day after opening at this season of the year. Sow for succession crops as requirements demand. The usual calculation is to allow from twelve to sixteen weeks from time of sowing to ripening of fruit, according to the season, and other conditions.

CUCUMBERS.—A brisk heat of 65° to 70° at night must now be maintained to get quick growth so essential for first-class Cucumbers. Ventilate carefully on sunny days, but guard against cold draughts. As the plants grow, pinch the shoots at every second or third joint, and thin out the young fruits if more than two set at a joint. Though usually the removal of deformed fruits keeps them thin enough, if the fruits are cut when ready one can leave most formed. Towards the end of the month prepare a hotbed for growing the supply in frames. There is not much gained by having these made up before April. For general purposes our favourite is Edinburgh Beauty, a variety of medium size, good quality, and very free fruiting. It was sent us on trial by the raiser some seven or eight years ago, and has never failed to be very satisfactory. For exhibition purposes any of the Telegraph type are good. Perhaps Lockie's Perfection is the best—at any rate, it is the best I have seen.

THE FLOWER GARDEN.

By T. H. Crasp, *Gardener, Canford Manor, Wimborne.*

VIOLA TRICOLOR AND ITS VARIETIES.—These plants, under several popular names, have long been cultivated in our gardens, being favoured alike by rich and poor; a matter not to be wondered at, considering the ease with which all of them may be grown, the diversity of colour and markings the flowers exhibit, and the floriferousness of the plants. They are easily propagated by seeds and cuttings, also by division and layers. Seeds should now be sown in pans of light friable soil, and placed in a gentle heat, or even in a cold frame, where germination soon takes place. The seedlings should be pricked off into boxes or in frames when they are large enough to be handled, and planted out in the open ground in April. These seedlings will flower freely throughout the summer, and will scarcely be less ornamental than named varieties. Cuttings may also be put in at this season, although they strike more readily at the end of the summer; still, good results may be obtained from cuttings if a little extra care be taken, for where a large stock has to be kept up it will be found necessary to keep on putting in cuttings all through the season. The soil used should be of a sandy nature, and it should be pressed firmly round the cutting at the time, and if they are placed in a slight heat they will root much more readily than in a cold frame at this season of the year. Plants thus obtained may be placed in their permanent quarters in the autumn, or in a prepared border, with a view of lifting them again with better roots and with balls of soil—an essential point in planting Pansies. Pansies for ordinary decoration will thrive in almost any garden soil, provided the position is not too hot or dry; but a rather cool moist bottom and cool moist air are best for them, which is one reason why these plants thrive better generally in the northern parts of Britain than in the southern. In the case of choice varieties, it always pays to have specially-prepared beds for them, as they then produce flowers of greater size, and the flowering season is also somewhat lengthened. And it is nearly a necessity to have such beds if exhibiting is followed, as only large flowers with properly developed features are of any use. In preparing the beds, which may be done at the present time, plenty of fibry loam, thoroughly-rotted cow-manure or horse droppings, and sharp sand or road grit should be dug and mixed with the staple, and it is a good plan to have the beds sunk 3 or 4 inches below the level, if the soil be naturally dry; and then, if they are planted fairly deep, the roots are placed in a cooler and moister medium than if they were shallow-planted. A mulching of old potting-bench soil, leaf-mould, and rotted stable manure should be afforded before the flowering season commences, and another at the end of the summer. When watering is necessary in the summer, it should be thorough, and it should be undertaken in the early morning or evening, preferably the latter.

GENERAL HINTS.—The most important matter at the present time is the completion of the planting of Roses and deciduous shrubs. Roses which have been covered up may now be exposed, especially the Tea Roses, for the sooner they see daylight after this date, the better, the retention of protecting materials keeping the soil cold, and sometimes injuring the buds. A few of the roots may be pruned forthwith, so as to obtain early bloom, but the bulk of the pruning should be deferred for a few weeks longer, otherwise late spring frosts may play havoc with growing shoots.

CALCEOLARIAS may be transplanted from the boxes or hand-lights, where they were struck in the autumn, into cold frames, employing a soil consisting of loam, leaf-mould, and sand. Plant them 4 inches apart, and pinch out the points occasionally as growth progresses, and admit plenty of air after the plants have started to grow.

PLANTS UNDER GLASS.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

ACHIMENES, GESNERAS, AND TYDEAS.—Pot off the tubers before they start to grow, affording them a compost of partially rotted leaf-mould and good peat in about equal parts, with plenty of silver-sand added, and a small quantity of dry cow-dung. The pots or pans should be well crocked, and these, after planting them with the tubers, may be placed in a cool house or close shed, starting them on in batches, according to requirements, covering the pots meanwhile with Cocoa-nut fibre refuse. Achimenes for placing in baskets should first be potted in 60-sized pots, this being a handy size for planting out.

IXIAS, SPARAXIS, BABIANAS, TRITONIAS, and similar Cape bulbs, which were stored away, may now be brought to the light, and afforded water. Tritonia crocata aurea becomes a useful plant when grown from twelve to twenty bulbs in 8 and 10-inch pots. Started at this season, it will flower in July and August. As potting soil use loam, leaf-mould, and plenty of sand, and whilst in full growth, liquid manure should be supplied; it will do very well if left undisturbed for several years.

SELAGINELLAS AND LYCOPODIUMS. — These species will require attention during the present month. When S. denticulata is used for an edging in conservatories and other structures, vacant places in these should be made good before warm weather comes. Sometimes it may seem better practice to replant entirely, in which case the margin of soil should be renewed, or a considerable amount of rich loam, rotted manure a quarter of the whole, and sharp sand added to the old soil. Hardy Ferns may be re-potted or top-dressed, and the drainage of the pots made good. The deciduous species that were put away for the winter should be brought to the light, and receive a watering. A very useful evergreen Fern is Polystichum angulare. P. proliferum Wollastoni should be grown in quantity in small pots.

STOVE PLANTS.—When it is required to increase the number of the varieties of Dracænas and Crotons, those plants that have got naked at the bottom should have a few leaves and a portion of the bark taken off the stems, and be bound round at the spot laid bare with sphagnum moss. Treated so, they soon form roots, if kept in a moist stove, and their roots are seen to be pushing through the moss; the tops may be cut off, and potted, making good plants at once. The remainder of the stems of Dracænas may then be made into cuttings, or eyes, as Vines are propagated; and the Crotons will break below the point of severance, and make large plants.

CYPERUS ALTERNIFOLIUS.—The head of leaves of this plant, with a small portion of the stem, will strike well in 3-inch pots filled with good soil and sea-sand, in a warm pit. The plant when grown in small pots is useful for table-decoration, &c.

COLEUS, ETC.—These plants may now be pushed on in heat, and cuttings taken as soon as these are obtainable. Put the cuttings one in a 3-inch pot, and plunge in mild bottom-heat, in a propagating-frame. Seeds of Coleus may be sown in heat, also those of Streptocarpus and Tree Carnations, in mild bottom-heat.

VIOLETS in frames, that have not been watered for some time, will be benefited by a thorough watering sufficient to get to the lowest roots; remove the lights when the weather is mild for a time during the day, or tilt the lights sideways with a block.

MIGNONETTE.—Attend to the August and September sowings, and afford a small pinch of Clay's or Standen's manure before watering the soil, which will assist the plants greatly; do not stand it on slate shelves. A wood, coal-ash, or sandy bottom is best; maintain the temperature at from 45° to 55°.

THE KITCHEN GARDEN.

By H. C. Prinsep, *Gardener, Buxted Park, Uckfield.*

FORCING ASPARAGUS.—In all establishments with any pretension to completeness, a supply of forced Asparagus usually has to be provided, and for this purpose a sufficient number of roots must be grown, as it is difficult to get very early supplies from the permanent beds. But where such beds have been made for the express purpose of forcing, they may now be started into growth. A temporary frame, of sufficient size to cover the beds, may be made with ordinary flooring-boards, and if a few square posts be driven into the ground, and the boards screwed to them, the frames may be easily taken to pieces, and used similarly for covering another bed, or part of one. Asparagus-beds forced in this manner should be made near the frame-ground, in such a position that the littery appearance of the beds would be less conspicuous, and the labour connected with the fermenting material would be less. Those who have to lift a large quantity of roots each season for forcing should take the first opportunity, when the ground is in a workable condition, to make new beds. In soils naturally well-drained, there is not much difficulty in doing this, but on cold, heavy land, special preparations are needed, or the roots will rot during the winter; and in such soil, beds raised considerably above the ground-level are best. It is yet too soon to sow Asparagus seed, but the beds should be got in readiness before the beginning of the busy season.

TOMATOS. — Plants raised from seed sown a month ago will now require to be potted. The soil used should be light, and fairly rich, and the plants, after being potted, should be kept as near to the glass as possible without actually touching it. Those large enough for planting out, or putting into their fruiting-pots, should be kept no longer in the small pots than can be avoided. A dry warm atmosphere suits the Tomato, especially after the plants have begun to flower, the fruit not setting well in damp air.

FRENCH OR KIDNEY BEANS.—Make another sowing in heated pits, and failing these, the seed may be sown in pots, and placed in a vinery just started. Keep a sharp out-look for red-spider, otherwise this troublesome pest is apt to get the upper hand. When Kidney Beans are grown in pots, they should have roomy pots, six plants being a sufficient number for one of 9 inches. The plants should be about 1 inch from the side, and a few sticks inserted to keep the plants erect.

CELERY.—Make up a slight hot-bed on which to sow Celery seed, taking care to have the material well turned over before being made up, so as to bring every part of the bed to a uniform temperature on the surface; and after the heat has been tested, and found not to be too high, say, 80°, a layer 4 inches thick of light rich soil should be spread evenly, and soon afterwards the seed may be sown broadcast, a very thin sprinkling of fine soil strewn over it, and be slightly patted with the spade or a piece of smooth board.

CAULIFLOWERS.—Those sown early in the year will now be large enough for planting in frames, put over slight hot-beds, and the sooner this planting is done the better, the plants receiving but little check thereby. At the same time much valuable space would be wasted if only those intended to remain till fully grown were planted. It is therefore best to carefully prick out the young plants from 4 to 6 inches apart, lifting some of these with balls of roots and soil the first week in April, and transplanting them on a warm border out-of-doors, allowing the others to grow on to form heads on the hot-bed.

HERBS.—Examine herb beds, and fill up deficiency, if any, making fresh plantations, or getting beds made for sowing seeds later. Sow Parsley and Chervil in the open ground on warm dryish sites.

SALADS.—Lettuces that were sown in heat will now be large enough to prick-out 2 or 3 inches apart according to the size the varieties grow. Sow Mustard and Cress, and blanch Endive and Chicory Dandelion, &c.

EDITORIAL NOTICES.

LETTERS FOR PUBLICATION.—*All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

NEWSPAPERS.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Advertisements should be sent to the PUBLISHER.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETING.

SATURDAY, FEB. 25—Royal Botanic Society.

SALES.

MONDAY, FEB. 20 { Plants and Shrubs at Protheroe & Morris' Rooms.

TUESDAY, FEB. 21 { Important Sale of Japanese Lilies at Protheroe & Morris' Rooms. Orchids from Messrs. Charlesworth, Shuttleworth & Co. at Protheroe & Morris' Rooms.

WEDNESDAY, FEB. 22 { Japanese Lilies, Begonias, Ferns, Palms, &c., at Protheroe & Morris' Rooms. Roses and other Plants at Stevens' Rooms.

THURSDAY, FEB. 23 { Roses, Carnations, Shrubs, &c., at Protheroe & Morris' Rooms. Orchids, Liliums, &c., at Stevens' Rooms.

FRIDAY, FEB. 24 { Special Sale of Carnations, Picotees, Lily of the Valley, Gladioli, Roses, &c., at Protheroe & Morris' Rooms. Important Sale of Orchids, from Messrs. Sander & Co. of St. Albans, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—39°.7.

The Royal Horticultural Society.

AT the annual meeting held on February 14, under the presidency of Sir TREVOR LAWRENCE, the general tone was one of quiet satisfaction. The meeting-room was packed, but not a discordant note was heard. The Fellows present seemed to feel that the Council had done their work well, and that comment was needless. The most important announcement was that the Rev. Mr. WILKS, who for some few years has acted as Honorary Secretary, had now, in accordance with the provisions of the Charter, become a paid officer. We may at once say that no money payment could adequately represent the value of the services rendered by Mr. WILKS hitherto, but if by the payment of an honorarium, the Society can retain the services of their Secretary, fortunate is the Society. This was set forth clearly by Professor FOSTER in his speech, and thoroughly endorsed by the meeting. The only feeling we have in the matter is, that the salary allotted is much too small in proportion to the importance of the services. In referring to the matter of his acceptance of a salaried office, Mr. WILKS made a manly straightforward speech, which commanded the instant goodwill of the hearers. He narrated briefly the state of things when the Society left South Kensington, and decided to revert to its old and proper policy—the promotion of horticulture. He detailed the work which had been done since at Chiswick and elsewhere, admitted the possibility of mistakes, and begged the Fellows when they saw reason to complain to apply directly to him instead of ventilating their grievances in the press. In a peroration, which rose to eloquence, Mr. WILKS pressed on the Fellows present the necessity of using their influence to obtain new Fellows, and this on the high ground of the advancement of horticulture, not on the lower level of substantial advantage to be gained by individuals. At the same time, we may not improperly point out that the subscribers of one guinea now get a great deal more than the value of their guinea. Indeed, if they choose to avail themselves to the full of their privileges, they would, and do, get a largely disproportionate amount for their outlay.

Reverting to the Report, we note with much satisfaction that a great deal has been done at Chiswick in the way of putting the houses in repair. Owing to former financial difficulties, many of these had become ruinously dilapidated. Now, some have been restored, others rebuilt, two are condemned as beyond repair, whilst no less a sum than £386 has been spent on the great vinery which is now in substantial repair. Those who knew Chiswick in the Kensington days, will recognise the great work that has been done in the reorganisation of the gardens, and will look forward hopefully to further progress in this direction.

Another point in which the Society is marching with the times, is in the institution of examinations and scholarships for young gardeners. Practical training is not defective in this country, but hitherto little or nothing has been done to insist on that thorough grounding in principles and their application to practice, which is the only means of securing progress and power of adaptation to new circumstances.

Of the arrangements for the present year we shall speak on another occasion.

FUCHSIAS AS ROOF CLIMBERS.—Our Supplementary Illustration represents a view in the summertime of a Begonia and Fuchsia-house at Messrs. J. VEITCH & SON'S nursery, King's Road, Chelsea, and well exhibits one of the uses to which some robust-growing varieties of the Fuchsia may be put in beautifying even such a plain structure as a nursery greenhouse. The plants in this case were growing in pots, placed on the bench quite close to the sides of the house, and where the stems and shoots of various lengths were trained from the sides towards the middle of the house, meeting over the pathway. The season's growth was most abundantly flowered at the time that we saw the plants, in the middle of July last. Such varieties as Rose of Castille, Eynsford Gem, Beauty of Trowbridge, Rose of Denmark, among those with light-coloured flowers; General Roberts, with blooms 4 inches long; President, Scarcity, and Abdel Kader, among dark-coloured ones are suitable for the purpose. Of species, we might recommend Boliviana rosea, Fulgens, Dominiana, Corymbiflora, Corallina, and Integrifolia. Fuchsias, whether of varieties or species, require in age a good deal of root space; and in small borders and pots, when filled with roots soot-water and other manurial aids to growth should be afforded the plants, and an annual top-dressing in early spring, after excavating from among the upper roots as much of the exhausted soil as possible; whilst those in smallish pots may require to be shifted into larger ones at that season.

LINNEAN SOCIETY.—On the occasion of the meeting on Thursday, February 2, the president, Prof. STEWART, in the chair, Mr. JOHN PERCIVAL was elected, and Mr. WILLIAM WHITWELL was admitted a Fellow of the society. On behalf of Mr. THOMAS SCOTT, the secretary read a report on the Entomostraca from the Gulf of Guinea, collected by Mr. JOHN RATHAY. Mr. H. BERNARD gave an account of two new species of Rhux. An important paper by Mr. ARTHUR LISTER on the "Division of Nuclei in the Mycetozoa," gave rise to an interesting discussion, in which Dr. D. H. SCOTT, Prof. HOWES, and others took part. This was followed by a paper on the "Structural Differentiation of the Protozoan body as studied in Microscopic Sections," by Mr. J. E. MOORE. The meeting adjourned to February 16.

THE ROYAL HORTICULTURAL SOCIETY.—A grand flower show will be held by this Society in the Agricultural Hall, London, from August 29 to September 1 next, when it is intended to make special awards for heating apparatus and appliances that are practically tested in the building. These awards will prove of the greatest value in promoting trade, and the action of the Royal Horticultural Society in insisting that the awards shall alone be for demonstrated and proved merit, should commend itself to our general exhibition authorities.

AWARDS AT THE ROYAL HORTICULTURAL SOCIETY.—The Society has published a list of all the plants certificated by its various committees from 1859 to 1892 inclusive. This useful task has been performed by Mr. JOHN WEATHERS, who has done his work well. The list is not only useful for present reference, but will have much historical value. For instance, on opening the book at p. 17, we came by hazard on the record of the first exhibition of the berried Aucuba, shown by Mr. STANDISH on June 5, 1861. In the case of species, the compiler should have added the name of the author of the species; thus, Aristolochia elegans, though shown by Mr. BULL, was not described nor figured by him; neither was STANDISH responsible for the name Aucuba japonica. We do not find any record of Botanical Certificates, though they are occasionally given, and are decidedly the most appropriate form of recognition for many things which now get less suitable awards. There is, unfortunately, an impression that a Botanical Certificate is awarded to a plant of relatively little horticultural merit, or to one in which "there is no money." The latter point should not receive the slightest official consideration at the Royal Horticultural Society, though so long as most of the members of its committees are traders, it is impossible to prevent individuals from being swayed by such considerations. The Botanical Certificates, if awarded at all, should be given to all newly-introduced plants (if deemed worthy of an award), to newly-raised hybrids, and to all plants of sufficient botanical interest. Perhaps, in view of the difficulties before mentioned, it would be best to substitute the "Award of Merit" for those cases which now obtain a Botanical Certificate. An "Award of Merit" is too comprehensive to give rise to objection, and the "First-class Certificate" could then be reserved for the showy cultivated varieties brought before the meetings. We are glad to see the rules for the naming of Orchids prefixed to the list of Certificated plants, and should be pleased to see them more fully acted on.

JOURNAL OF THE ROYAL HORTICULTURAL SOCIETY.—Parts 2 and 3 of the 15th volume have lately been issued, and, if not quite so important as some of their predecessors, and the papers not of so high an average, they are yet creditable to the Society. The history of the Begonia, which has been unfolded during the lifetime of the present generation, is well summarised by Mr. VEITCH; whilst that of the Fuchsia, which belongs in part to the preceding period, is sketched by Mr. GEORGE FAY in a very interesting way. The Aster paper is also very valuable. Generally speaking, the "Conference papers" are of superior quality to the others, as if more pains were taken in their preparation. Some of the other papers and communications seem suitable for a mutual improvement or amusement society in the country, and as such would render valuable service, and would be useful for the temporary purposes of the "three o'clock meetings," but they are hardly suitable for permanent record in the *Journal*.

"BOTANICAL MAGAZINE."—The plants figured in the February number are:—

Stevensonia grandifolia, t. 7277.—A noble Palm, famous for its beauty, and for some circumstances connected with the disappearance from Kew of one of the three originally introduced plants, and which led to the application of a name which it is desirable now to suppress. It is one of a group of five Palms con-

Fuchsia House at Messrs. James Veitch & Sons' Nursery, Chelsea.

fined exclusively to the Seychelle Islands, and each represented by a single species. The plant flowered for the first time at Kew last autumn. The tree in its mature state is wholly destitute of spines, whereas in the young state the deep orange-red petioles are clothed with black needle-like spines, 1 to 3 inches long, and the young leaves are orange beneath, and mottled with orange-brown spots above. The difference in these respects between the old and young plants is so great, that Mr. Watson observes that it it hardly credible that they form but one species. It is unnecessary to describe the leaves, but it may be stated that the flower-spike is 3 to 6 feet in length, dividing into numerous slender branches, swollen at the base, and densely covered above with yellow flowers, each about a quarter of an inch in diameter. The flowers are monœcious.

Coccocypselum hirsutum, t. 7278.—A trailing plant, long cultivated as a basket-plant at Kew and elsewhere for the sake of its deep violet-coloured berries, which are borne in heads on slender hairy stalks. It is generally known as C. discolor or C. repens. Sir Joseph Hooker clears up the confusion in the nomenclature, and shows that the plant is a native, not of Jamaica, but of Mexico, Central America, and Trinidad.

Mammillaria prismatica, t. 7279.—Sometimes referred to Anhalonium, a section of the genus remarkable for the spineless rhomboid tubercles. It is very like the one recently figured by us under the name of A. fissuratum, but is said to be much larger, with the tubercles less ovate, smooth, not warted and fissured, and the (funnel-shaped, white) perianth is larger and longer. Kew.

Tritonia rosea, t. 7280.—A Gladiolus, or Ixia-like plant, with spikes of pale rose-coloured funnel-shaded flowers, the three lower segments of which are marked by a yellow blotch. At Kew this beautiful plant proves hardy in a south border protected by a wall.

Trichopilia sanguinolenta (*? sanguinea*), t. 7281.—A species introduced to the Royal Horticultural Society by Hartweg from the Andes of Ecuador, where it has never since been found. In the present notice, Sir Joseph Hooker corrects sundry errors into which his predecessors had fallen, and shows that the genus Helcea proposed for its reception is untenable.

The segments of the perianth are olive-yellow, with large brown spots. The lip concrescent with the sides of the column; oblong, two-lobed at the free extremity, crumpled at the edges, white, margined with violet.

"The Orchid Review."—Number 2 of this periodical is an improvement upon Number 1. The history of hybridisation among Orchids is continued, and will form a valuable record. Incidentally it is mentioned that an imported plant of Anguloa media × presented the same characters as those of A. media × raised by Mr. Seden out of A. Clowesii by A. Ruckeri some years ago. The newcomer, which is in the possession of Mr. Measures, is thus shown to be a natural hybrid, of the same parentage as the one produced by Mr. Seden.

Manchester Orchid Show.—We are requested by the secretary of the Royal Botanical Gardens, Manchester (Mr. Bruce Findlay), to publish the following announcement: "The forthcoming great Orchid and Artistic Plant Group Exhibition at Manchester. Schedules for this event will be issued in the course of a few days. A number of special valuable prizes will be given in the shape of Silver Cups, Medals, and money. It is expected that the Orchid display will be the finest ever seen in the country."

National Chrysanthemum Society.—A meeting of the general committee took place at Anderton's Hotel, Fleet Street, on the 13th inst., Mr. R. Ballantine presiding. Among the correspondence was a letter from Mr. John Earland, Wellington, New Zealand, thanking the committee for the Silver-gilt Medal awarded him in September last for his exhibit of frozen Chrysanthemums, and stating that he had raised other new varieties, which he hoped to send to England on some future occasion. The chairman reported that the two cases of frozen blooms the committee were despatching to New Zealand would leave London in a day or two, and it was expected they would be delivered to Mr. Earland about the end of April. A draft report and financial statement of a very favourable character were submitted by the Secretary, and approved for presentation at the annual meeting on Monday next. The Secretary reported the amount contributed to the Special Prize Fund to date amounted to £128 14*s.*, exclusive of a Silver Cup and several Medals. Fifteen new members were elected, and three societies were affiliated, bringing the number up to 100. Hearty votes of thanks were accorded to Mr. R. Ballantine, the Chairman, and to Mr. R. Dean, the Secretary, for their services during the year.

Flowers in Season.—Some very fine blooms of Chinese Primulas reach us from Messrs. J. Veitch & Sons' Royal Exotic Nursery, Chelsea, better than which is rarely seen. The colours are varied, pure, and decided, and include white, light rose, crimson, purplish-crimson, violet, and lavender-blue. A few double forms are noticed in palest pink, crimson, and rose. These are very pretty, and should make admirable bouquet flowers. In substance, the single-flowered varieties exceed the double ones, as they also do in size and symmetry. Messrs. J. Carter & Co., Seed Merchants, High Holborn, W.C., send others, mostly single-flowered varieties, which indicate a very fine strain of Chinese Primula.

Rosa gigantea.—Mr. T. Hanbury, of La Mortola, Italy, remarks, "This interesting plant, alluded to in your last issue, has passed through the winter well in this garden, and is making a vigorous start to cover an Olive tree."

Potato Disease.—We take from the *Annales Agronomiques* for January 25, the following summary of M. Boehm's experiments for many years, relating to the diseases of Potatos:—"1. True wet-rot is caused by obstruction of the lenticels, and consequently is connected with obstructed respiration. The disease itself, following the invasion of the bacteria, is but a secondary phenomenon. When contact with the air is entirely intercepted, butyric fermentation ensues. 2. In the disease itself, properly so-called (in the restricted sense of the word), the tissues of the Potato are killed by the Phytophthora infestans; the alterations which consequently ensue in the tissues of the tubers are variable, and depend upon the intensity of the infection, the size of the Potatos, the temperature and the moisture of the surrounding atmosphere. 3. When conditions are favourable to the development of the "ærobic" bacteria, the Potatos are reduced to the consistency of liquid-manure; when they decay slowly, and oxygen reaches them in sufficient quantity, the cell-walls become corky (dry-rot), and this corkiness spreads inwards from the exterior. 4. Healthy Potatos, when in the ground, are never infected through the corky envelope which covers them; before they can take the infection, insects, wire-worms, or slugs must pierce this envelope. Neither do healthy Potatos stored in a cellar ever become infected by contact with diseased Potatos. 5. When a diseased Potato is used for seed, either no plant at all or else a healthy plant is obtained from it. It is a mistake to suppose that Phytophthora winters in the tubercles, and thus infests the new plant. The winter form of the fungus is quite unknown. 6. At a temperature of zero, C., not only does the Potato-fungus cease to develop, but it dies. Only the tissues that the mycelium has invaded, and which at first appear perfectly healthy, rot, or become corky."

"Les Plantes Potagères et les Culture Maraichère."—This is a little work devoted to setting forth of the best methods of cultivating vegetables in private establishments and in market gardens. It is the work of M. Ernest Berger, the foreman of the "Fleuriste" of Bordeaux. After describing the best sites for a market garden, the author proceeds to detail the necessary operations required to get it into condition, and then describes the method of cultivation appropriate to each plant, taking them in alphabetical order. Woodcuts and an index render the book very serviceable for the class of persons for whom it is intended. MM. J. B. Baillière et fils of Paris, are the publishers.

The Florets of a Chrysanthemum.—We read in the *Jardin* of a gambling transaction analogous to the Missing Word Competition lately occupying the attention of our law courts. According to our contemporary, some "Americans" (we trust they were not horticulturists) at a recent flower show at Chicago instituted a lottery, the prize of which was 250,000 francs (!), to be gained by the person who should, at a first glance, specify the number of florets in the "Prince" Chrysanthemum. A fine specimen was exposed to view, and no fewer than five thousand gamblers defiled in front of it, to estimate the number of its florets. The estimates, we are told, varied from 120 to 6000, whilst the actual number was 512. We repeat this, as our friends would say, *sous reserve*.

The World's Fair at Chicago.—For the convenience of visitors to Chicago during the forthcoming exposition, a mammoth hotel is being erected by the World's Fair Co-operative Bureau. The hotel is in blocks, somewhat after the plan of St. Thomas's Hospital, and will contain over 6000 rooms. These rooms will be let at a uniform rate of a dollar a day to those who pay a nominal registration fee beforehand, and thus secure the right of occupancy at any time during the exposition.

Boletim da Sociedade Broteriana.—The volume for 1892, edited by Prof. Henriques of Coimbra, contains an account in Portuguese of the Botanic Institute of the University, some valuable contributions to the *Flora of Portugal*, by A. X. Pereira Coutinho in Latin, and a catalogue of the flora of the island of St. Thomas (Western Tropical Africa) by Dr. Henriques.

"The Field Club."—The volume of the *Field Club* for 1892 (edited by the Rev. Theodore Wood) contains, as usual, much information and gossip upon natural history subjects, presented in a form which will interest the *dilettante* as well as the scientific reader. The contents are amusing and instructive, not too insignificant to please the student, nor so technical as to alarm the amateur.

Sarracenia flava, Manda's Variety.—Messrs. Pitcher & Manda announce, under the name of Sarracenia Mandaiana, what they suppose to be a natural hybrid between S. flava and S. Drummondi, as indeed it may well be, as it was found growing in company with the two species named, and is intermediate in character. The upper part of the pitcher and the lid have the spotting characteristic of S. Drummondi.

"Dictionnaire Pratique d'Horticulture."—The French edition of what has come to be called Nicholson's *Dictionary* is being issued monthly. Thanks to the proprietors of the *Revue Horticole*, Messrs. Vilmorin and others, a good deal of additional matter, many woodcuts, and other illustrations, are given, so that the French version is something more than a translation. The work is issued in parts, and may be had from M. Octave Doin, 8, Place de l'Odéon; or of Messrs. Vilmorin, Andrieux et Cie., 4, Quai de la Mégisserie.

American Pomological Society. — The annual publication of this Society always causes us to feel very little—so well organised, so practical, so useful is it. On this side we had little or nothing to compare with it till lately, when the Report of the meeting held at Washington, with various articles on subjects connected with pomology, and the discussion that ensued. The work ends with an elaborate catalogue, in which the value of each particular fruit enumerated in each one of the States of the Union is estimated.

A BOTANIST'S PICTURE GALLERY. — The announcement that the pictures of the late Mr. JOSHUA CLARKE, F.L.S., of Saffron Walden, have just come under the hammer at Messrs. CHRISTIE, MANSON & WOODS, King Street, St. James' Square, London, recalls the personality of a very interesting man. He was born at Saffron Walden on April 10, 1805, and died in the same town in February, 1890. He always resided there, according to an obituary notice in the *Journal of Botany*, and, indeed, had been mayor of the place for ten years. Natural history was the great passion of his life, and he was one of the most active promoters of the Saffron Walden Museum. His special branch of study was local botany, which he followed with such enthusiasm and discrimination as to detect two plants quite new to the English flora—Lathyrus tuberculosus (Linn.), and Erucastrum Pollichii (Schimp. et Spenn.), which he first noticed in Essex. He was elected a F.L.S. in 1853, and contributed occasionally to the *Gardeners' Chronicle*. Although, as has been indicated above, natural history was the primary recreation to him, a mere glance at the list of a hundred odd pictures which were sold on Monday last, proves him to have been a man of very considerable artistic taste. The majority of the pictures were, as might have been expected, of a rural interest, many having flowers for their subject. For instance, there were two pictures of T. S. COOPER, each with the inevitable cows, but one painted in 1867 represents Canterbury meadows, with the old gate in the background. This pair realised £255 4*s*. The two HARDY'S, HEYWOOD and J., were represented by several characteristic "doggy" pictures, one of which by the latter, and labelled "Retriever and Spaniels," sold for 145 guineas; Mr. B. W. LEADER'S "A Welsh River Scene," 195 guineas; and Mr. E. J. NEIMANN'S "On the Wye," £189, are first-class examples of these two excellent artists; and the same may be said of Mr. J. B. PYNE'S three canvases, which, however, only realised an aggregate sum of £51 17*s*. 6*d*. Still life is yet further mirrored in the half-dozen rural scenes of Mr. E. M. WIMPERIS, all of which sold remarkably well; W. C. T. DOBSON'S ambitious and happy picture, "Mother and Child,"

> "Thou art thy mother's glass, and she in thee
> Calls back the lovely April of her prime,"

which was exhibited at the Royal Academy in 1878, was also among Mr. JOSHUA CLARKE'S collection, and was bought apparently by a member of the family for 68 guineas. The drawings, of which there were about thirty, do not call for special remark, except to mention that a series of ten were by J. M. YOUNGMAN. There were nearly a dozen catalogued as "Foreign Masters," the most important of which was, perhaps, "Waiting for the Tide," by J. H. L. DE HAAS, 60 guineas; and C. KUHN'S "A Girl of Ransau, Tartary," 7½ guineas, may be mentioned as having appeared at the Salon of 1869. The sale attracted many of the late Mr. CLARKE'S friends, to whom a very pleasant and agreeable, as well as an inexpensive, opportunity of obtaining a memento of the departed friend, was thus opened up.

MR. D. MORRIS.—We regret to learn that Mr. D. MORRIS, the Assistant-Director, Royal Gardens, Kew, finds himself compelled by ill-health to betake himself temporarily to a more equable climate than our own. Mr. MORRIS has started for Teneriffe, where, we trust, his health may soon be re-established. We shall hope to be favoured by him with some notes on the vegetation of the island.

EARL'S COURT EXHIBITION, 1893: GARDENING AND FORESTRY.—We have before us the preliminary prospectus issued by Mr. H. E. MILNER, as Chairman; GEORGE CADELL, Vice-Chairman, of the Forestry Section; HARRY TURNER, Vice-Chairman of the Horticultural Section; and G. A. LOVEDAY, Secretary. Gardening and Forestry are to be the objects of the exhibition, in addition to which there will be the attractions of music and illuminations, as well as numerous "side attractions." Fruit trees will be shown in all the stages of growth, from the planting to the bearing; and deciduous and evergreen trees of every description will be arranged in attractive groupings, with a view to showing their adaptability to various situations, and the effect that is to be gained by artistic disposition. Modern gardens, applicable to both mansion and cottage, country and town, will be duly set out, and there will even be specimens of allotment gardens shown under the best treatment. As last year, a considerable portion of the main building will be set apart as an indoor garden, only that the arrangement will be entirely different, and more in accordance with the special objects of the exhibition. A splendid collection of the woods of the world will be shown, and the various methods of preserving and working them will be practically demonstrated. Flower and fruit shows are to be fortnightly events during the season, and prizes of sufficient value to induce all the best growers to compete will be offered. Arrangements have been entered into with the Government of Bulgaria for sending over experts and machinery showing how the far-famed Otto of Roses is produced, from the plucking of the petals to the final distillation, when it forms the most delicate perfume in the world. There will be from twenty to thirty different groups of gardening and forestry exhibits; including the flora and fauna of the forest; indigenous and exotic trees and shrubs; specimens of hybridisation; samples of bosh timber and ornamental woods; pulps, fibres, barks, resins, and oils; garden pottery and statuary; summer-houses, kiosks, and châlets; sporting trophies; and garden and forest literature. The exhibition will open on May 13, and close about the middle of October.

Classification of Exhibits. Gold, Silver, or Bronze Medals, and Certificates will be awarded in the various Groups.

Group 1.—(*a*) Specimens of new and rare flowering trees and shrubs; (*b*) Forest flora; (*c*) Collection of seeds, cones, &c.; (*d*) Forest fauna and entomology; (*e*) Specimens of damage done to timber and growing wood by insects, &c.

Group 2.— Growing Collection of Trees and Shrubs: (*a*) Deciduous and evergreen, indigenous and exotic, in classes; (*b*) Deciduous and evergreen, indigenous and acclimatised, with special reference to the grouping for effect; (*c*) Undergrowth for coverts, &c.; (*d*) Fruit trees, trained.

Group 3.—(*a*) Garden and forest literature; (*b*) Working plans of Gardens, forests, and plantations; (*c*) Valuations and survey of estates; (*d*) Charts illustrative of the geographical distribution of trees, their adaptability to various soils, their rate of growth, &c.; of the sequence of plants, natural or artificial; (*e*) Specimens of fossil trees.

Group 4.—Hybridisation of Plants: (*a*) Specimens of a hybrid, accompanied by the two parent species or varieties, indicating which of these has furnished the pollen. (*b*) Specimens of a hybrid A × B produced by crossing the two species or varieties A and B—the plant A having furnished the pollen; and specimens of a hybrid B × A produced by the crossing of the same species or varieties A and B—the plant B having furnished the pollen. The plants A and B must accompany the hybrids.

Group 5.—Collection of Timber Specimens and Ornamental Woods, Rough and Polished: (*a*) Indigenous; (*b*) Exotic.

Group 6.—Wood-working Machinery; (*a*) Sawing, planing, moulding, lathes, &c.; (*b*) Implements and tools used in gardening and forestry; (*c*) lawn-mowers, rollers; (*d*) Digging and draining tools, axes, pruning tools, pumps, cutlery; (*e*) Appliances for the transport of timber; and (*f*) The transplanting of trees.

Group 7.—Wood Engraving, with Samples of Wood; special attention being given to the supply of Boxwood (Buxus sempervirens) or its substitutes.

Group 8.—(*a*) Wood used for ordnance and small-arms, backing for armour-plates, lance-stocks, &c.; (*b*) Wheels; (*c*) Sleepers and rolling stock of railways, telegraph-poles, &c.; (*d*) Paving or street purposes; (*e*) Mining timber; (*f*) Bent timber.

Group 9.—(*a*) Woods used for parquetry, with examples; (*b*) Mosaic; (*c*) Wood-block flooring; (*d*) Ceilings, wainscoting, and internal wall decorations; (*e*) Household furniture.

Group 10.—(*a*) Fibres; (*b*) Wood-pulp materials used for paper-making; (*c*) Ropes, lines, and twines; (*d*) Resins and oils; (*e*) Dyes and stains; (*f*) Barks; (*g*) Spires.

Group 11.—(*a*) Wood-carving; (*b*) Turnery; (*c*) Decorative painting on wood.

Group 12.—Processes for the preservation of timber: (*a*) To resist wet and dry-rot; (*b*) To resist fire; (*c*) Paints and other wood-preserving compositions.

Group 13.—Fertilisers and Artificial Manures.

Group 14.—(*a*) Garden pottery; (*b*) Statuary vases; (*c*) Edgings, &c.

Group 15.—Miscellaneous accessory Decorations to a Garden.

Group 16.—(*a*) Fancy woodwork; (*b*) Baskets; (*c*) Bamboo canes, Willows, &c.

Group 17.—(*a*) Plant-houses; (*b*) Show and growing-houses; (*c*) Systems of glazing; (*d*) Heating.

Group 18.—(*a*) Fencing; (*b*) Gates; (*c*) Tree-guards.

Group 19.—(*a*) Summer-houses; (*b*) Châlets, kiosks; (*c*) Garden-seats; (*d*) Flower-stands; (*e*) Boats, canoes, &c.

Group 20.—Distillation and Preparation of Scents, and Flowers and Woods used.

Group 21.—(*a*) Settlements in new countries, showing camps and camping contrivances; (*b*) Cultivation of Tea, Coffee, Opium, Cinchona.

Group 22.—(*a*) Sporting trophies; (*b*) Pictures of forest trees.

Group 23.—Any Exhibit not particularised in the above Groups, in furtherance of the objects of the Exhibition, will be admitted.

THE DEVON AND EXETER GARDENERS' ASSOCIATION.—At the last meeting of this Association, an excellent paper was read by Mr. W. SWAN, gardener at Bystock, on "Orchids," a fine display of Orchid blooms being provided by him to illustrate the same.

THE BIRMINGHAM AND DISTRICT AMATEUR GARDENERS' ASSOCIATION has just been formed for the purpose of having lectures, papers, discussions, and exhibitions, and to encourage gardening amongst working-men and those who have only small gardens, and although there are no great restrictions as to membership, there are as to becoming exhibitors, as none who employ professional help, excepting in digging or rough work, or who is professionally engaged in the nursery, seed, or florist trade, will be allowed to compete for prizes. Judging from the rapid increase of members, the society promises to be a large one, and is capable of influencing gardening amongst the operatives and others of a large town like Birmingham.

BIRMINGHAM GARDENERS' ASSOCIATION.—The members of the above, their wives, and lady friends, met under the chairmanship of Mr. B. W. LATHAM, at one of the principal hotels of Birmingham, on the eve of the 8th inst., to the number of 100, when a musical concert was given.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—As an instance of what local societies are able to do in aiding the gardening charities, we are asked to mention that the Reigate and District Chrysanthemum Society has remitted to the Gardeners' Royal Benevolent Institution no less a sum than £136 10*s*. during the four years that it has been established, and has thus been the means of nominating thirteen of its members as life-members of the institution. Mr. JAMES BROWN, the indefatigable honorary secretary of the Reigate society, expresses a hope that kindred societies, if able, may be induced to do likewise, and thus not only add to the funds of an excellent charity, but also benefit their own members by conferring upon them, as funds permit, the privileges of life membership of the institution.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—The monthly meeting of the above was held at the Caledonian Hotel, Adelphi Terrace, Strand, on Monday evening last. The chair was taken at 8 o'clock by Mr. W. P. THOMSON. Seven new members were elected, and one other nominated. Two members only are on the sick fund. The annual meeting will take place at the above hotel on Monday evening, March 13, at 8 o'clock. Mr. ARTHUR VEITCH has kindly consented to preside.

GARDENERS' ORPHAN FUND DINNER.—The secretary of the fund desires us to inform our readers that Baron FERDINAND DE ROTHSCHILD, M.P., has kindly consented to preside at the annual dinner, to be held on Wednesday, March 22, at St. James's Hall, Regent Street.

THE SURVEYORS' INSTITUTION.—The next ordinary general meeting will be held on Monday, February 20, when a paper will be read by Mr. G. M. FREEMAN (Associate), entitled "The Arbitration Act, 1889." The chair to be taken at 8 o'clock.

RAILWAY RATES.—A deputation of over a hundred Members of Parliament waited on Mr. MUNDELLA, the President of the Board of Trade, on

February 15, with reference to the grievance inflicted on traders (especially on agriculturists and gardeners) by the recent action of the railway companies. The deputation met with a very sympathetic reception, and an announcement that, if before Easter the railway companies did not amend their ways, steps would be taken to compel them to do so.

THE HORTICULTURAL CLUB. — The annual dinner was held on Tuesday last at the Club Rooms, Hotel Windsor. Sir JOHN LLEWELYN, Bart., was in the chair, and a larger number of members were present than ever before. The Chairman expatiated on the advantages the Club offered to those whom business or pleasure attracted to horticultural pursuits. The musical arrangements were under the kind direction of Mr. GEO. BUNYARD. Several new members were elected.

PLANT PORTRAITS.

AZALEA (HYBRIDA) DAVIESI, *Gartenflora*, t. 1387.

CHERRY BIGARREAU LEMERCIER, *Bulletin d'Arboriculture, &c.*, January.

DRACÆNA CUPREA, Linden et Rodigas., *Illustration Horticole*, t. 167.—Colour deep purplish-red.

LATHYRUS GRANDIFLORUS, *Garden*, February 4.

ODONTOGLOSSUM HARRYANUM, *Revue de l'Horticulture Belge*, February 1, 1893.

RHODOCHITON VOLUBILE, *Bulletino della R. Società Toscana di Orticultura*, February.

STENANDRIUM (HYBRIDUM) GOOSENSIANUM, *Illustration Horticole*, t. 168 (Acanthaceæ).—A stove shrub with shortly stalked oblong undulate leaves, deep green, with pale yellow variegation. From the same cross, indeed, the same seed-pod, as that from which S. Beeckmanianum was produced.

TRITOMA CORALLINA, Hort. Pynaert, *Revue de l'Horticulture Belge*, February.

WAHLENBERGIA PUMILIORUM, *Garden*, January 28.

AMERICAN AND BRITISH APPLES.

I AM puzzled to account for the prices quoted by Mr. Evans in your issue of February 4, and the adjustment of which will no doubt be a good answer to his puzzle.

Blenheim Orange (good colour), at 5*s.* 6*d.*, and Cox's Orange Pippins, at 6*s.* per bushel, may safely be considered the lowest prices of the season; of course, I do not refer to smalls or seconds.

Of Americans, up to Christmas, the highest price obtained for some very fine Golden Russets was 14*s.* per barrel, actually less than 5*s.* per bushel, and the average price of Canadian and American varieties up to that date would not exceed 10*s.* per barrel. Newtown Pippins, "small size, spotted, and inferior quality," 10*s.* and 11*s.* and not 40*s.* Surely Mr. Evans must know that more than a "few years" are required for a new Orchard of Blenheim or Cox's Pippin to come into bearing in such quantities as would be sufficient to knock out the American and other foreign yearly supply of nearly 2,000,000 barrels, representing the crop of more than 40,000 acres of matured orchards.

During the last ten years, the increase of acreage under orchards has been 25,000 acres, which is not more than sufficient to keep pace with the increasing demand, and nothing in lieu of orchards valueless from age and producing only cider fruit. The 180,000 acres in bearing ten years ago are now getting (a large proportion) very old, and turning out, probably, mostly small and spotted fruit, besides suffering an occasional total failure of crop. To depend on such orchards for the supplies demanded by our great centres of population, would be to greatly disappoint the public, whose taste has been educated up to an abundance of fine fruit from young orchards. It is nonsense to say the public "hanker after that which is grown abroad;" they demand a continuous supply of what they well know to be good, and which in the past has not been obtainable from English growers.

An English orchard in bearing, say fifteen years ago, may well be compared to "an old woman's nicey shop, where a hap'orth of all sorts" could be obtained.

A plantation in the old days was made with the idea entirely of supplying local wants; to follow which on the same lines now would render progress impossible. The fact is, growers seem to be too slow to grasp what our present requirements mean, or they lack the capital; or having the capital, lack the courage to put it into land where they are not secured.

To recommend all new plantations to be of early kinds, and to be sold (or rot) before foreign importations started, would really assist the foreigners to continue to hold our trade, which they are masters of at this moment.

At present, the southern counties of England are specially well placed for competing with the American and Canadian supplies. First, the situation is generally well adapted for the growth of fruit trees, and good cropping of the same; secondly, the Americans and Canadians (the latter to a less degree) have both passed their best days for producing handsome fruit, the effect, no doubt, of aged orchards; thirdly, the cost of freight and carriage to a London market equals 1*s.* 6*d.* per bushel. This cost alone is an advantage in favour of the southern home-grower of at least 1*s.* per bushel, sufficient to cover interest on all outlay in planting. [How about the new railway rates? ED.] If the English growers would only study the tastes of the masses, who consume the bulk of this fruit, some headway would soon be made. We should have very large supplies of large, handsome fruit, selected prime eating, from prime cooking Apples—not mixed, as is too often the case; in fact, until suitable fruit in sufficient quantity is produced at home, the foreigner is bound to hold the trade, the vastness of which can only be realised by a few. A total of one day's sale at port of arrival is often above 30,000 barrels, which is equal to the produce of 500 or 600 acres. And where, pray, is the fear of Tasmanian, New Zealand, or Australian competition? Every bushel of Apples sent from those colonies will cost 8*s.* or more money to put on to our markets.

I note that Sir W. Hart Dyke intends to introduce a Bill for the "Better Regulation and Sale of Foreign Fruits." Except a common complaint among home growers of free importation of foreign fruit and vegetables, never a murmur have I heard, and I question if he can do anything beyond increasing costs, and causing delays in handling the produce, costs in addition to losses through delay, and this, too, without a possible benefit to individuals or the government, or a return for the outlay. If additional costs must be incurred by consignors, why not tax fruit right out, and recoup the Treasury for cost in looking after the entries, which, as many consider, should bear its share of custom-house expenses.

The dealers, wholesale and retail, are equally alive to the kinds of fruit, and whence they come, that are offered by the fruit brokers, but the public, if it be supplied with handsome sound fruit at comparatively low prices, care little where it was grown; and, further, in nine cases out of ten, the foreign fruit offered cannot be produced by English growers at the same time, and in many instances the retailers are most particular in naming the country whence it came, to obtain which facts they often pay a higher price. At the present moment may be seen in Covent Garden English produce packed in foreign packages, with what object I leave those who peruse these lines to judge.

If Sir W. Hart Dyke desires to aid the home growers, a Bill to secure a tenant's invested capital for outlay on land, would do more good than a dozen Bills to regulate sales of imported fruit. *J. B. Thomas, Covent Garden, February* 9, 1893.

FRUIT NOTES.

APPLE HORMEAD PEARMAIN.—This variety does not appear to be widely grown, or, at any rate, to be generally known under its correct name. I observe that it is catalogued by Messrs. Jas. Veitch & Sons who speak highly of it. It is deservedly very popular in this locality, where it is known by the name of Long Pippin, and large trees of it may be found in most of the old orchards on this estate. The greater number of these trees have apparently not been touched by the knife, saw, or hatchet, since they were planted, and yet they seldom fail to bear a good crop of fruit, rivalling by their constancy even the King of the Pippins. The trees are invariably free from canker, and their fruit from mildew and Cladosporium, even in orchards where these parasitic fungi give trouble. I have no experience with it as a pyramid on the Paradise stock, but as a standard upon the Crab it can be highly recommended for planting on heavy clayey loam soils, particularly where the subsoil is a calcareous marl. It is described by Mr. Barron in the *Journal of the Royal Horticultural Society*, vol. x., thus:—"C. (culinary), large, conical, even, greenish-yellow, russetty, brisk flavour, mid-season, first quality; a very handsome Apple." It is in season from October to the end of February, but most briskly-flavoured in December, and it cooks perfectly. Is this Apple synonymous with Horner's Pearmain, which Mr. Cheal recommended at the Conference held at Chiswick in 1888 as one of twenty-four kinds selected for pyramid and bush culture upon heavy soils? *Thos. Coomber, Hendre Gardens.*

PEAR JOSEPHINE DE MALINES.—As a late Pear this is one of the best-flavoured at this part of the winter, and, unlike that other first-class late variety, Winter Nelis, it succeeds equally well when grown as pyramid, bush, or trained tree on a wall. There is one thing that must be observed, and that is to let the fruit hang on the trees as long as possible, even going to the trouble of covering the trees with a fish-net to save the fruit from injury by birds. The foliage is distinct from other varieties of the Pear, which, being small and narrow, and the growth of the tree is weak and irregular, which, in my opinion, is an advantage, as the fruit is greatly benefited by the fuller amount of sunshine which this enables it to enjoy. *R. Milner, Penrice Castle Gardens.*

THE GHENT QUINQUENNIAL.

MANY of our readers are familiar with the Casino at Ghent, the numerous and spacious rooms of which are utilised by the Société Royale d'Agriculture et de Botanique for the purposes of their exhibitions, and of which we give a view from the exterior (fig. 30). Spacious as they are, it is necessary on the occasion of the International Exhibitions every five years to erect supplementary structures, and we are now enabled to place before our readers a view of the principal façade of the annexe now in course of construction by MM. Morial and Tertzweil (fig. 31). This building is 10 mètres in height, 80 mètres in length, and of a width varying from 20 to 40 mètres, the entire space covered being 2625 mètres. Provision has been made for heating the building in case of need. As we have before mentioned, the exhibition opens on April 16, and the jury consists of experts chosen from all nationalities, but with the exception that no resident in Ghent itself can undertake the office. The jury will have plenty to do, for there are no fewer than 660 classes, with three or more prizes in each. The Queen's Medal will be awarded for the best collection of twenty-five stove plants in flower; the Medal offered by the King is to be awarded for the most varied and meritorious collection of Orchids. Other special prizes are offered by the President, Count de Kerchove de Denterghem, Baron Henri de Ranst de Berghem, M. de la Devansaye, MM. De Smet, M. Seidel, M. Benary, the English Van Houtte Committee, and the trustees of the Veitch Memorial. In addition, the Society offers twenty-one "Objets d'Art," six Gold Medals each of the value of 200 francs, twenty-two of 150 francs, ninety of 100 francs, 121 of 50 francs, and 1234 Medals of silver-gilt and silver. Exhibitors from all nations are invited to compete. We are informed that several of our British nurserymen will

enter the lists, so that we anticipate a magnificent and varied show, whilst the hospitality of the Belgians is proverbial, and has but one fault—it errs on the "too much of it" side.

HOME CORRESPONDENCE.

THE ORPHAN FUND ELECTION.—With most of the remarks on p. 175, I cordially agree, but if "only very considerable exertions on the part of candidates' friends will win elections" in the future, I think that we are fast drifting in the wrong direction, and the result will be that the candidates whose friends are the wealthiest will be elected, and those who are worse off, and therefore most in need of assistance, will fail to obtain any or but few. Personally, I object to any canvassing for votes whatever, and have done so from the commencement; it is also quite unnecessary so to do, as a full list of the candidates with all particulars is sent from the office to each subscriber with the voting paper. There are at a rough calculation about 1200 subscribers, if only half of these are applied to by post-cards, it is putting far too much expense on people who cannot afford it, and many of whom are—it is sad to say—only just able to keep themselves and families alive; on the other hand, I suppose the majority of the subscribers appreciate the privilege of voting, and it would not be possible to manage the election on any other system, and to give satisfaction to the supporters of the fund at the same time. The new source of income recommended would probably amount to very much less than "A. D." imagines; at any rate it would not make a "magnificent" addition to the funds. *W. H. Divers, Ketton Hall Gardens, Stamford.*

RAILWAY RATES.—The attempt on the part of the Board of Trade to regulate these has, apparently, largely failed. The "Railway and Canal Traffic Act" was one from which much was hoped; but some of us feel that the decision in the case of the "Liverpool Corn Traders' Association *v.* Great Western Railway Co.," confirmed on appeal, has "knocked the heart out of it." This judgment appears to go entirely contrary to the intention of the law. My special object in writing is to suggest that if all interested in the cultivation of the soil would combine, it ought to be possible to get a law enacted, making it illegal to carry goods at a lower rate for long distances than for short ones. In several of the United States it has been made illegal for a railway company to carry foreign grain, for instance, past a farmer's door at a lower mileage rate than would be charged the farmer for the conveyance of his own produce. *J. Marshall Sturge, Bullesford Gardens, Bewdley.*

JAPANESE IRISES.—The article on, and illustration of, the Japanese Irises in *Gard. Chron.* of Feb. 11, ought to lead to their more extensive cultivation by amateurs. I have long wondered that owners of gardens on damp soils have not planted them on a considerable scale, as the cultivation of the plants is very simple; they appear to be quite hardy, and all that they seem to require is fairly good soil and damp situations. I have grown them for many years at Oakwood in quantity round the ponds, where they have formed one of the principal midsummer ornaments to the garden. Last year, having occasion to take a damp field into the garden, I partially drained it by means of a wide ditch, on the banks of which were planted seedling Rhododendrons, and on the sloping sides, down to the water's edge, about 700 clumps of seedling Japanese Irises; and the field itself, proving wetter than was expected, was planted with between 3000 and 4000 more clumps of the seedling Irises, and according to present appearance there is every probability of my being able, about the end of June, to send you a photograph much in the style of your picture. It was very comfortable to call the comparatively narrow petalled white form Iris lævigata, and to believe it to be the type, and the broader petalled bright-coloured form, Iris Kæmpferi, but I suppose this must now be given up. One great merit of this Iris, from the amateur's point of view, is that its cultivation is inexpensive; the plants seed freely, and seedlings of very many shades of colour bloom in the third year. All our plants were raised from a few imported plants bought long ago. *George F. Wilson.*

TREATMENT OF GOLD FISH.— Will Mr. Chas. T. Druery be kind enough to explain how the confervoid growth would be removed from the well-washed gravel, he mentions in his note in your issue of the 11th? I find that if gravel is placed in the water it very quickly becomes covered with confervoid growth; am I to infer from his article that the gravel is frequently taken out and washed? *M. E. Mills.*

TUFTED PANSIES.—I am very pleased to see your protest against the misleading appellation of Tufted Pansies as applied to Violas; and I have written and protested against it since its introduction. Your remarks, condemnatory of the term, will I trust lead to its obliteration, and that Viola will remain as significant of the smaller-flowered section, in contradistinction to the larger-flowered Pansy. Of course, everybody knows that the Pansy is a Viola tricolor, with its hundreds of varieties, and that we are indebted to Violas cornuta and lutea chiefly for our modern bedding Violas, but these are getting greatly mixed up with the Pansy breed, and an accurate classification of Violas under the heading of Violas and bedding Pansies is almost necessary, but very difficult to do, as some of the cross-breds have the Pansy flower with the Viola foliage and growth. I have at various times been asked to classify them, but knowing how difficult it is to do so correctly, I have declined with thanks. With me, they are classified as Bedding Violas and Pansies; and our splendid race of Pansies as Exhibition, Fancy, and Show varieties, the latter, a very old term used by old florists. *W. Dean.*

ARUM PALÆSTINUM.—I brought three bulbs with me from Jacob's Well, Palestine, six years ago. They have bloomed every year. Two splendid flowers are now nearly gone; three more blooms will be out in a short time, and others later. I have given bulbs to three friends, all of which have bloomed. They increase very rapidly, but the flowers, although as large or larger, are more elongated, and I find require support. The plants also grow taller. The stems of the flowers are a rich dark colour; they have rather the smell of an Apple-room. We constantly passed them in bloom in March and April in riding through the fields. This particular kind is peculiar to Palestine. *C. E., Hawkhurst.*

VINE-DRESSING AND PETROLEUM.—Observing that some of your correspondents are detailing their experience with regard to petroleum dressings on Vines, &c., I desire to give mine. In the first place, I have always understood petroleum to be dangerous if applied carelessly. Nearly twenty years ago I was told that it was a good kind of insecticide if used at the rate of one ordinary wine-glassful to one pailful, or about three gallons of water, and in that diluted state I have washed many kinds of plants and fruit trees, and have never observed any ill-effects when this proportion of petroleum to water was adhered to. In our vineries, Peach-houses, and Fig-house, as soon as the crops are cleared, the trees are invariably washed several times by means of the garden-engine. I should not think of using petroleum as a winter dressing unless mealy-bug was present, and then I prefer to use Fir-tree oil, as being much more effective than the former; neither would I make use of petroleum against red-spider. As a general rule, the washings are afforded at the strength I have described when the foliage is still on the Vines, and are sufficient to destroy red-spider and thrips. *W. A. C.*

THE BARBAROSSA GRAPE.—In reference to the origin of this Grape, as alluded to by Mr. Leach on p. 174, perhaps the following statements may prove interesting. It is correct that the late Mr. John Butcher secured and worked up for sale the original stock of it in this country, and over forty years ago, as I have a perfect recollection of my late father having a young Vine of Mr. Butcher about that time, and with what interest we watched its progress and fruiting. Mr. Butcher was not the original intro-

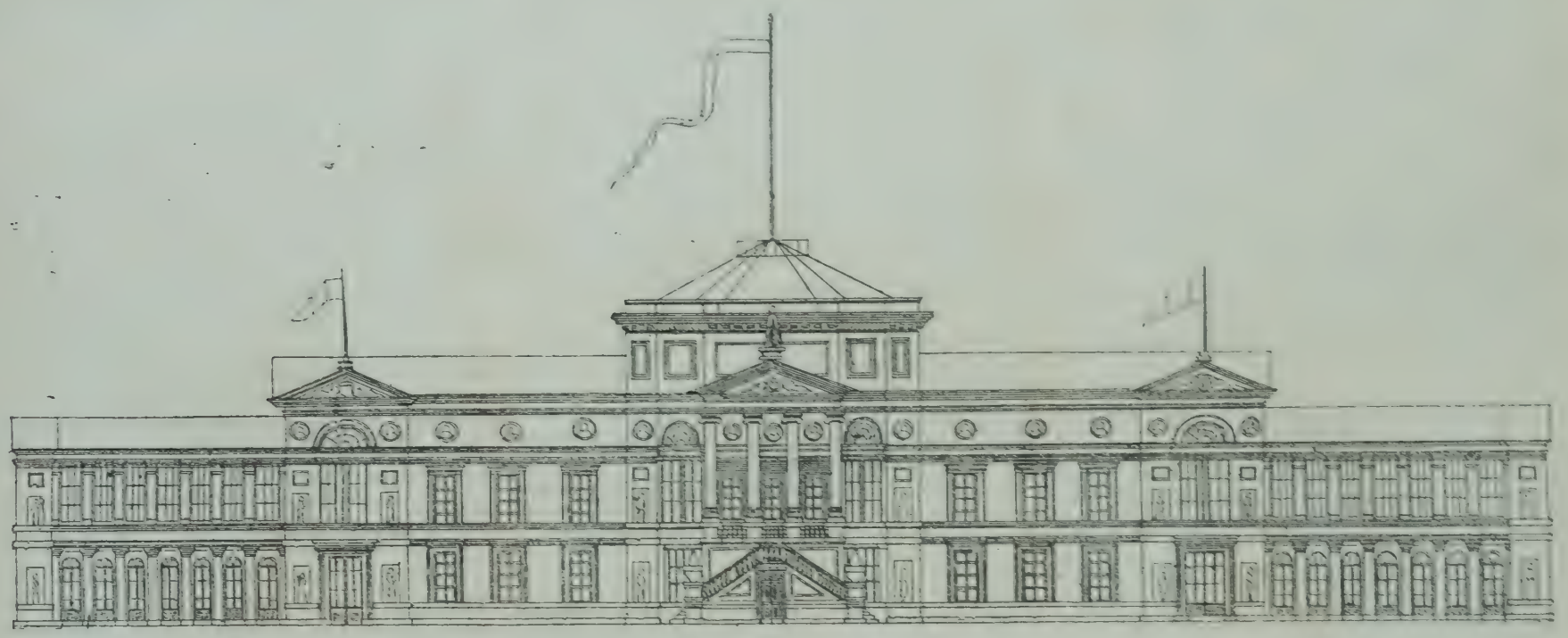

FIG. 30.—PRINCIPAL FRONT OF THE EXHIBITION BUILDINGS OF THE ROYAL AGRICULTURAL AND BOTANIC SOCIETY OF GHENT. (SEE P. 203.)

ducer of it into this country, but procured his stock of cuttings from Clopton House Gardens, about 1 mile distant from Stratford-on-Avon, the residence of the late Mr. Ward (the owner), now the property of Sir Arthur Hodgson, and who brought it from Turkey, where it was said to be much esteemed. In Dr. Hogg's *Fruit Manual* it is remarked that "Gallesius says it is the king of dessert Grapes.") Mr. Ward was very fond of it, and had a whole house of it established several years before Mr. Butcher propagated the variety, as also was his clever old gardener, the late Mr. Bevington, and whom I, as a youth, well recollect once having watched when thinning some fine bunches of this Grape, with much interest, as the pair of scissors—or, rather say, small shears—similar to a pair of sheep-shears, and which I much coveted, as I found upon trial that the operation could be much more expeditiously effected than by the ordinary scissors, owing to the spring in them—they were specially made for the purpose. Regarding the colour of the fruit of the Vines in question, it was always perfectly black, unless indifferently grown and ripened, and the appellation Gros Guillaume used to be considered merely as a subsequent synonym. According to the *Fruit Manual*, the true Barbarossa is not in this country, though one very similar to it is occasionally met with, called Gromier du Cantal, and that the name Barbarossa was given to the Gros Guillaume Grape erroneously. The *Manual's* description of the latter strongly favours this statement, as far as my own experience goes. Mr. Butcher used to send purchasers of the Grape in question over to Clopton to look at the well-coloured crop of fruit. *W. Gardener, Harborne, Birmingham.*

CAUSE OF GOOD FLAVOUR IN GROS COLMAR.—Although no other causes except those I gave have been given up to now, I am glad that I called forth Mr. Castle's very practical letter. One of the chief requisites for good flavour is large-sized berries, and this is got, as Mr. Castle says, by inarching on the Muscat of Alexandria. Mr. William Thomson's and Mr. Spence's Gros Colmar were perfectly finished, and had the "sloe-black" colour. The conservatism of gardeners is shown by the great number of growers who will not have anything to do with Gros Colmar, but still stick to Lady Downe's Seedling. At Hillwood, near Edinburgh, there is a long span-roofed house devoted to Lady Downe's. I never saw Lady Downe's so large-berried as it was here, consequently the berries were much juicier than usual, and the thickness of skin scarcely noticeable. In the same house was an oblong-berried pink Grape, of exquisite flavour, quite distinct from any other Grape. This Grape reminded me of an amusing anecdote. A well-known Scotch gardener (it is a moot point whether he is better as a curler or as a gardener), when he came to his first place in Scotland, found the Black Hamburgh Grapes pink in colour. He lifted the roots and remade the border. He, however, got no thanks at first, for her ladyship said, "What has become of my beautiful pink Grapes? they were so nice," and could hardly be persuaded that they were the same Vines. *Vagabond.*

—— In reply to "Vagabond," I am happy to give my experience as to the effect of inarching these varieties. I find that Gros Colmar on Muscat of Alexandria stock, grown in an inside border, or in pots, succeeds better than on its own roots. The leaves do not curl so much, they suffer less from scorching, and they keep a fine dark green until the Grapes are fully ripe. The sap is therefore perfectly elaborated, and the Grapes are consequently very sweet, and free from the Ivy-leaf flavour so peculiar to the variety when imperfectly ripened or badly grown. There is, however, no Muscat flavour perceptible, but the bunches are rather more tapering than is usual with Gros Colmar. The berries take a fine deep colour and perfect bloom, even where the sun shines directly upon the bunches, but perhaps the best test is that my Grapes thus grown, realise a higher price than Gros Colmars grown on own roots. It is highly interesting to observe that the Gros Colmar branch increases in thickness at a much greater rate than the stem and branches of the Muscat stock, which, it is evidently starving, as the Muscat Grapes upon the inarched Vine are much inferior to those produced upon the other Vines in the same house. The poor flavour of ordinary market Gros Colmar Grapes is due to crowded vineries, insufficient light and ventilation, and the too abundant use of cow and horse manure, with their scalding ammoniacal exhalations. I have discarded these for inside borders, and use only Thomson's Vine Manure, ashes from rubbish-heap, bone-meal, siftings from old mortar and brick-rubbish, and fibrous yellow loam. I am thus able to keep the borders clean and open to the sun, so as to receive and reflect its beams through the atmosphere of the vinery. Gros Colmar requires sun-heat as well as fire-heat, and a long time to ripen. *W. R., Streatham Hill.*

Fig. 31.—Ghent Quinquennial: façade of annexe to the exhibition buildings. (see p. 203.)

SOCIETIES.

ROYAL HORTICULTURAL.

February 14.—Rarely have we seen a better display during the winter months than that brought together at the Drill Hall, James Street, Westminster, on this occasion, which may be attributed to the mildness of the weather, and also to the increased interest taken in these gatherings, and to the occurrence of the annual meeting on the same day. This latter meeting is commented on at p. 200. Orchids were numerous, and included some promising hybrids, in several genera, whilst some groups of plants from nurserymen and amateurs attracted considerable attention. Fruit in quantity was staged by the trade as well as by several amateurs, the collection of Oranges exhibited by Messrs. Rivers, being especially noteworthy.

Floral Committee.

Present: W. Marshall, Esq. (in the chair), Messrs. H. Herbst, Owen Thomas, G. Stevens, C. T. Druery, W. Furze, J. Jennings, H. H. D'Ombrain, C. J. Salter, P. Barr, C. Noble, H. Turner, J. Fraser, G. Gordon, C. E. Shea, J. D. Pawle, G. Paul, W. H. Williams, R. Owen, F. Ross, C. Jefferies, W. Bain, T. Baines, H. B. May, G. Nicholson, and E. Mawley.

A pretty group of New Holland plants were from Messrs. Hugh Low & Co., Clapton, and included Eriostemons, Ericas, Genistas, the beautiful Pimelea spectabilis, Acacia Drummondi, A. armata, A. cordata, Chorozema Lowii (as free-flowering as ever), Correa cardinalis and C. magnifica, Diosma capitata, and the ever sweet-scented Boronia megastigma (Silver Banksian Medal).

Mr. J. Miller, gr. to Lord Foley, Ruxley Lodge, Esher, was awarded a Silver-gilt Flora Medal for a pretty and creditable group of miscellaneous plants in which were Phaius grandifolius, Cœlogyne cristata (well-flowered but not a specially good variety), Calanthe vestita lutea oculata, Cypripedium insigne, Thyrsacanthus rutilans, Calla æthiopica, Ferns, &c.

A group of Cœlogyne cristata, including the varieties C. c. maxima, C. c. Lemoniana, and the Chatsworth, was from Messrs. Paul & Son, Cheshunt. Also some forced plants of Lilac, including L. alba grandiflora, Marie Lesgrange, Matthien Dombasle (mauve double), and Madame Abel Chatenay (double white). This group, which included some plants of Lachenalia aurea, L. luteola, and the fine hybrid L. Nelsoni, was awarded a Silver Flora Medal.

From the gardens of the Hon. P. C. Glynn, Rook's Nest, Godstone (gr., Mr. J. Friend), came a collection of Camellia blooms, amongst which were some nice ones of Camellia fimbriata; a magnificent branch of Acacia dealbata, covered with bloom, came from this garden (Bronze Flora Medal).

Messrs. E. D. Shuttleworth & Co., Peckham Rye, and Fleet, Hants, brought a group of foliage and flowering plants, including Dracæna Lindeni, Crotons, Palms, Lily of the Valley, some Azalea mollis, &c.; also some blooms of Narcissus, which had been forced in pots, amongst which were N. Countess of Annesley, poeticus, and p. ornatus, Ard Righ, Emperor, Henry Irving, Telamonius flore-pleno, albicans, &c., (Bronze Flora Medal). A group of Cyclamens in variety, well-flowered, and of good strain, were from Messrs. Charles Turner & Co., Royal Nurseries, Slough (Bronze Flora Medal).

Mr. W. H. Perkins, gr. to Viscountess Ham-

bledon, Greenlands, Henley-on-Thames, sent eight plants of Amaryllis, in as many varieties, new and of much merit. The Committee gave an Award of Merit to a very handsome dark crimson variety called the Hon. W. H. D. Smith, which had thrown two very strong spikes of bloom. The Hon. Mrs. W. Codrington is but little inferior, and of similar colour, though not quite so deep. A good variety, belonging to the mottled or flaked section, is Viscountess Hambledon, and the Hon. Miss Smith had good blooms, with the inside base of greenish-white, and the upper part of petals coloured brick-red—somewhat singular-looking.

Messrs. W. Cutbush & Son, Highgate, London, N., had a group of Dracænas, including D. superba, D. elegantissima, D. Bella, D. Mrs. Freake (a narrow-leaved variegated plant), and D. angustifolia; also a group of well-grown plants of Erica Wilmoreana (Vote of Thanks).

Messrs. Robert Veitch & Sons, Exeter, sent a plant of Asparagus retrofractus arboreus, and two plants of Arum palæstinum, which was figured in our columns on January 28 last.

Messrs. Garaway & Co., Clifton Nurseries, near Bristol, sent a few plants of Primula, Garaway's White Perfection.

Chrysanthemums still linger with us, and Mr. Robert Owen, Maidenhead Nursery, obtained an Award of Merit for a large Japanese Beauty of Castle Hill. The petals are narrow, and the centre (which is not particularly good, as shown) is of light chestnut, falling still paler towards the circumference. Another one from Maidenhead was New Year's Gift, Japanese, white, with pale lemon centre.

Mr. S. Mortimer, Swiss Nursery, Rowledge, Farnham, showed a group of cut blooms of Chrysanthemum Golden Gem (Vote of Thanks).

Orchid Committee.

Present: Dr. Maxwell T. Masters, F.R.S., in the chair; and Messrs. J. O'Brien (Secretary), Sydney Courtauld, E. Moon, J. Douglas, F. Sander, Rev. E. Handley, C. Pilcher, E. Hill, H. Low, H. M. Pollett, W. H. White, T. W. Bond, T. Statter, T. B. Haywood, G. R. Le Doux, and H. Williams.

A very fine show of Orchids was got together, and a great number of exhibits were submitted to the scrutiny of the committee.

Sir Trevor Lawrence, Bart., Burford, Dorking (grower, Mr. W. H. White), sent a fine hybrid Cypripedium concolor × Lawrenceanum, with flowers somewhat resembling those of C. Marshallianum, the whole flower creamy-white, tinged with rose. The foliage is marbled dark green and ivory-white (Award of Merit). From the same gardens also came a curious slender Maxillaria and Masdevallia Schroderiana.

Messrs. Jas. Veitch & Son sent a fine new Hybrid Phaius, P. amabilis (grandifolius ♀, tuberculosus ♂). It had much of the beauty and the dwarf stature of P. tuberculosus. Sepals and petals white, tinged with rose on the face; lip ample and crimped, claret-coloured, with darker lines on the whitish lens, which is yellow on the outside (First-class Certificate). Messrs. Veitch also exhibited Cypripedium Winnianum × (villosum × Druryi), which was given an Award of Merit; and their charming violet-tinted Epidendrum Endresio-Wallisii (Wallisii ♀, Endresii ♂), which had previously received a First-class Certificate.

Messrs. B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, had an extensive and showy group of fine Orchids, remarkable among them being grand specimens of some three dozen species and varieties of Cypripediums. Some of the more striking were C. Morganiæ, C. Dauthierii striatum ×, C. Sallierii aureum ×, C. nitens superbum ×, C. Amesianum ×, and their noble C. Pitcherianum ×, Williams' var. Other fine things were Cattleya Trianæ alba, a fine form of Odontoglossum blandum aspersum, some good Lycaste Skinneri, Ada aurantiaca, &c. (Silver Flora Medal).

Messrs. F. Sander & Co., St. Albans, had a select group of new and rare Orchids, the most striking of which was a fine pan of Dendrobium Owenianum × (Linawianum majus × Wardianum), a grand hybrid, of noble flower and free habit. The flowers, which are borne in bunches on long foot-stalks, are nearly 4 inches across, all the segments broad and flat. The sepals and petals are white, heavily tipped with rosy-crimson; lip with reddish-brown marking on a yellow disc at the base; the remaining portion white, tipped with rosy-crimson, like the other segments. It was raised by Norman C. Cookson, Esq. (First-class Certificate). Another good hybrid was the dwarf Lælia Maynardii × (pumila Dayana × dolosa), which had the sepals and petals marked with bright rose colour, the crimped labellum dark reddish-purple (Award of Merit). Other fine things in Messrs. Sander's group were Dendrobium Sanderæ (nobile albiflorum × heterocarpum); the handsome Dendrobium nobile Amesiæ, white with purple eye (Award of Merit); the pretty pale pink-coloured D. nobile Ballianum; the true Lælia anceps Schroderiana, Phalænopsis Sanderiana, Lycaste Skinneri alba, L. S. rosea, L. S. picturata, and L. S. leucoglossa, all very handsome forms (Silver Flora Medal).

Messrs. Hugh Low & Co., Clapton Nurseries, had a fine group, consisting chiefly of Phalænopsis; among which was the remarkable pure white P. Schilleriana vestalis (First-class Certificate).

There were also some well-bloomed plants of Saccolabium bigibbum and other things (Silver Flora Medal).

Messrs. Pitcher & Manda, the United States Nurseries, Hextable, Swanley, had a group, consisting of a number of species and varieties of Cypripediums; their C. Wallaertianum pallidum × being very distinct; also the varieties of C. Godseffianum ×, C. Boxallii, C. Juno ×, and C. gemmiferum were very fine (Silver Banksian Medal).

Messrs. F. Ross & Co., nurserymen, Merstham, exhibited Cymbidium grandiflorum (Griffith) (Hookerianum), a very fine form of that which was illustrated in *Gardeners' Chronicle*, February 27, 1892, p. 267, from another plant shown by the same firm. It is a noble plant, and the facility with which Messrs. Ross flower it does away with the imputation that it is a shy bloomer (First-class Certificate).

Mr. Wm. Whiteley, Hillingdon Nurseries, Uxbridge (manager, Mr. G. Bethell), sent the very beautiful and perfectly formed Cattleya Trianæ, Hillingdon variety all the floral segments of which are broad, the petals and lip beautifully crimped, the front of the lip is very large and rounded, and of a rich claret-crimson colour (Award of Merit).

C. J. Lucas, Esq., Warnham Court, Horsham (gr. Mr. Duncan), sent Angræcum hyaloides, A. polystachyum, and cut flowers of several good forms of Cattleya Trianæ.

G. R. le Doux, Esq., Langton House, East Molesey, had a bright little group of very good varieties of Cattleya Trianæ, that named C. T. Florence Le Doux, which had white sepals and petals faintly tinged with lavender-blue, and an intensely dark crimson-coloured lip (Award of Merit). A very finely-flowered plant of Odontoglossum cirrosum, Le Doux variety, and another of Cochlioda vulcanica grandiflora likewise received Awards of Merit, and the group a Silver Banksian Medal.

E. G. Wrigley, Esq., Victoria House, Dunkinfield (gr., Mr. Harris), sent Cattleya Trianæ alba, and a plant of the same, which was bought under another name, was exhibited by Chas. Ingram, Esq., Godalming (gr., Mr. T. W. Bond). J. Crispin, Esq., Fishponds, Bristol, staged a group of cut flowers of some two dozen varieties of Cypripediums (Bronze Medal). Messrs. John Laing & Son, Forest Hill, sent a plant of an extraordinary form of Dendrobium crassinode, with rather slender stems nearly 3 feet long.

Henry Little, Esq., The Barrons, Twickenham, sent a form of Cypripedium Leeanum ×; Mr. H. A. Tracy, Orchid Nursery, Amyand Park Road, Twickenham, a fine variety of C. Lathomianum ×; Messrs. W. L. Lewis & Co., Southgate, the curious little Habenaria cinnabarina, Rolfe; Chas. Winn, Esq., The Uplands, Selly Hill, Birmingham, Cypripedium "The Duke" × (=Stonei × barbatum grandiflorum), a stately flower, resembling some of the best forms of C. euryandrum ×. Thos. Statter, Esq., Stand Hall, Whitefield, Manchester, staged a plant of Cypripedium Daviesianum × (Boxalli atratum × Argus Moensii), a richly-spotted hybrid of the C. vernixium × section, in which the shining, nearly black spots visible on the petals extend almost to the tips. Mr. Statter also showed another hybrid of the C. Crossianum × section. F. W. Moore, Esq., Curator, Royal Botanic Gardens, Glasnevin, Dublin, sent cut spikes of Epidendrum xanthimum, Eria (Tænia) barbata (Botanical Certificate), a very curious species with attenuate, brown-striped flowers; and Diuris maculata (Botanical Certificate), a singular yellow-green and brown terrestrial Orchid. R. Brooman White, Esq., Arddarroch, Garelochead, N.B., sent flowers of a Cattleya, called C. Clæsiana, but which resembled a poor form of that known in gardens as C. amethystoglossa.

Fruit Committee.

Present: Philip Crowley, Esq., in the chair; and Messrs. G. Norman, J. Smith, H. Balderson, F. Q. Lane, J. Hudson, G. Wythes, G. Reynolds, W. Bates, J. W. Laing, A. Dean, J. Wright, W. Warren, J. Cheal, T. J. Saltmarsh, A. Veitch, P. C. M. Veitch, H. J. Pearson, A. H. Pearson, J. McIndoe, John Lee, T. F. Rivers, G. W. Cummings, and Arnold Moss.

Messrs. Rivers & Sons, Sawbridgeworth, had a small collection of Apples, of first-rate quality, mostly from orchard-house cultivation. There were Bismarck, Nancy Jackson, Wadhurst Pippin, King of Tomkin's County, Flower of Herts, Reinette Noir, Cox's Orange Pippin, Bijou, Jupp's Surprise, Reinette Dorée, &c. (Silver-gilt Knightian Medal). The same firm also contributed a collection of Orange fruits, which through the wonderful fresh and cleanly appearance of each of the first-rate fruits, did not fail to command attention and admiration. They had been taken off the plant with a few leaves attached, and these added much to their appearance. There were Seville, Whites, Long, Bittencourt, Maltese Oval, Maltese Blood, St. Michael's, Sustain, and St. Michael's Egg, beside the variegated-foliaged Orange, which produces rather small pale yellow fruits; also the Silver Orange, Dom. Louise Orange, and the Perambuco Orange (Silver Gilt Knightian Medal).

Mr. G. W. Cummins, gr. to A. H. Smee, Esq., The Grange, Wallington, staged a creditable collection of sixty varieties of Apples. The most noticeable were Cox's Orange Pippin, Pine-apple Russet, Blenheim Orange, King of the Pippins, Rosemary Russet, Bismarck, Bauman's Red Winter Reinette, Waltham Abbey Seedling, Margil, Court Pendu Plat, and Worcester Pearmain (Silver-gilt Knightian Medal).

A very large collection of Apples, consisting of some 106 dishes, was staged by Messrs. J. Cheal & Son, Crawley. The fruits were good, and represented most of the best varieties suitable for late winter and spring use. Two new ones were included, the plants of which are to be sent out in the autumn. One called Armorel, is described as a first-class flavoured fruit; it is rather small, and of pale yellow, nearly covered with dark russet. Atalanta is a medium-sized kitchen Apple. Others specially worthy of note were Cox's Orange Pippin, King of the Pippins, Swedish Reinette, Lord Derby, Lady Henniker, Annie Elizabeth, Alfriston, Lane's Prince Albert, Bess Pool, Blenheim Orange, Waltham Abbey Seedling, and Court of Wick. A few Pears were also included, such as Belle William, Marie Guisse, Chas. Cognée, Verulam, Catillac, &c. (Silver-gilt Knightian Medal).

Mr. Jno. Miller, gr. to the Lord Foley, Ruxley Lodge, Esher, showed a collection of fruit, including Grape Black Alicante and a number of dishes of creditable Apples (Bronze Knightian Medal). A box of good Mushrooms and some fruiting wood taken from Peach trees in houses and outside came from the same exhibitor.

Mr. W. H. Bannister obtained an Award of Merit for Apple Standard Bearer, showing three fine fruits. Another seedling Apple came from Mr. Jno. Clarke, Saffron Walden.

Mr. W. Roupell, Harvey Lodge, Roupell Park, staged six varieties of Apples, grown within the 5 miles radius, which went to prove that much can be done even within such a short distance of the metropolis, with energy and skill. The varieties were Smart's Prince Arthur, Beauty of Kent, Melon Apple, The Queen, Newton Wonder, and Bauman's Red Winter Reinette.

A box of Cape Peaches was exhibited by the Cape Fruit Syndicate, per P. A. Molteno, Esq. (Vote of Thanks). Three baskets of excellent Mushrooms were staged by Mr. Jas. George, 14, Redgrave Road, Putney, S.W., as packed for market; and another box of Mushrooms came from Messrs. R. & J. White, Camberwell. Mr. Laxton, Bedford, sent some Broccoli, Chou de Bedford.

EDINBURGH BOTANICAL.

February 9.—The fourth meeting of the fifty-seventh session of this society was held on the above date in the rooms, 5, St. Andrew Square, Dr. D. Christison, President, in the chair.

Mr. Lindsay, Curator of the Botanic Gardens, exhibited pots of the following plants flowered in a cold frame—Saxifraga Burseriana and Saxifraga Burseriana multiflora, both of which, but especially

the latter, formed very showy objects with their large pale flowers. He also exhibited pots of Saxifraga imbricata and Crocus chrysanthus in fine flower. Cut branches of Garrya elliptica, Hamamelis japonica, Jasminum nudiflorum, and Iris stylosa, all flowering in the open air at the Royal Botanic Garden, were laid on the table.

A branch of Ulmus campestris, showing an extraordinary development of cork in the form of large wings running along the sides of the twigs, and sent to the Society by Mrs. Astell, of Dorchester, was exhibited by Mr. Lindsay.

He also showed to the Society a short branch of Pinus sylvestris, bearing an abnormal number of cones closely crowded together below a small tuft of needles at the upper end of the branch, which grew at Blair Athole, and had been presented to the museum at the Royal Botanic Gardens, by J. E. Thomson, Esq., South Clerk Street, Edinburgh.

Professor Balfour exhibited two sections of a stem of Cytisus Laburnum, which showed three small stems of Ivy running up the hollow centre. The Laburnum had become decayed in the core, forming a hollow, which communicated with the exterior by a single long slit-like aperture, and it was through this that the Ivy had entered.

Mr. Terras read to the Society the first of a series of papers on the "Morphology and coarse anatomy of the British Leguminosæ." He took for his subject the common Whin, Ulex europæus, and with the aid of limelight views of the plant, described the various modes of branching and forms of leaves to be found in this common shrub. In the discussion which followed the reading of this paper, it was stated that the seeds of the common Whin contained the same alkaloid cytisine as that found in the seeds of the Laburnum, and that they should therefore be considered as poisonous.

Mr. R. Lindsay, Curator, read the report on the temperature and vegetation of the Royal Botanic Garden for January. During the earlier part of that month severe frost prevailed, but a change set in on the 15th, after which the temperature rose steadily to the close of the month, when fairly mild and genial weather prevailed. Falls of snow occurred frequently during the first half of the month. The thermometer was at or below freezing-point on eighteen mornings, indicating collectively 100° of frost for the month, as against 136° for the corresponding month last year. The lowest reading was registered on the morning of the 6th, when the glass went down to 9°, or 23° of frost, the lowest point reached this winter so far. No other very low readings were registered during the month, the lowest being on the 3rd, 24°; 5th, 22°; 7th, 22°; 12th, 23°. The lowest day temperature was 32°, on on the 2nd and 5th, and the highest 55° on the 31st of the month.

Of the forty selected plants where dates of flowering are annually recorded by the society, the following came into flower, viz., Dondia Epipactis on January 16, Eranthis hyemalis January 25, Galanthus plicatus January 28, G. nivalis January 30. At the same date last year only one had flowered. On the rock garden thirteen plants came into flower, as against seven last January, viz., Andromeda floribunda, Colchicum crociflorum, Erica herbacea alba, Hepatica angulosa, H. triloba vars., Helleborus purpurascens var., Helleborus torquatus, Primula variabilis, Saxifraga Burseriana, Synthyris reniformis, and three of the selected plants just mentioned. Among hardy shrubs, the most conspicuous in blossom are Jasminum nudiflorum, Garrya elliptica, Hamamelis japonica, and the autumn-flowering variety of Daphe Mezereon. The russet-brown tints of Biota orientalis, which were so prominent a feature last month, have already undergone a change. The foliage is now almost green, the transition having taken place much earlier than usual.

SCOTLAND.

ORCHIDS AT OSBORNE HOUSE, EDINBURGH.

Mr. McKelvie makes a specialty of Vandas, one house being entirely devoted to them. A Vanda suavis was 6 feet high; and a V. tricolor superba was almost as tall. Three other varieties of Vanda tricolor are grown, V. t. Veitchii, V. t. Hamilton Palace var., V. t. Dalkeith Palace var. The last mentioned, which was in flower, has a purple labellum longer and the crimson spots larger than the type. The Indian species, Vanda cœrulea and V. Denisoniana were also represented by fine plants. The house next to this one was filled with Cypripediums, some of which were in flower. A specimen of C. Stonei platytænium had ten growths upon it; Mr. White, of Ardarroch, offered a very large sum of money for this plant. Another noticeable species was C. O'Brienianum. Of other species I may mention Epidendrum ciliolare, Dendrobium Hilli, which had grown to a great size; also Cymbidium Mastersii, a winter-flowering species. One plant of Cymbidium Lowii had twelve flower-spikes upon it; and a fine bright flowering mass of Dendrobium thyrsiflorum quite enlivened the last house. The conservatory is quite unique for so small a house. On the pillars are Acacia Weismanii and A. pinifolia. On one of the stages are large specimens of Rhododendrons, including R. Walkeri, R. fragrantissimum, a seedling; and R. Nuttalli. Palms occupied the centre, tall well-developed examples of Phœnix canariensis and Kentia australis being perhaps the most noticeable. At the house end is a fernery, and a small tank for aquatics with a bottom of conglomerate or pudding stone. The Camellia-house is a misnomer, for it is devoted to Rhododendrons. This is the house in which is growing R. McKelviæ; it was raised seventeen years ago, is pure white in colour, and often 6 inches across. The late Mr. McKelvie was offered seventy guineas for it, but preferred to keep the plant intact. Mr. Findlay, the gardener, is equally at home with Orchids and plants. *Vagabond.*

The New Park for Aberdeen.

The scheme for the proposed park at Hilton, Woodside—the large and thriving district lately taken into Aberdeen under the City of Aberdeen Extension Act, has been drawn up by Mr. Dyack, Burgh Surveyor, of Aberdeen. It will be a little over 13 acres in extent, situated on a commanding position. It consists of a central area of 4 acres, laid out in grass, with ornamental grounds, the whole being surrounded with trees and shrubs. The estimated cost is £3200.

COLONIAL NOTES.

HARDINESS OF EUCALYPTUS GLOBULUS AND E. COCCIFERA.

A note appeared in one of the New York gardening publications recently, setting forth the failure of a test for hardihood with seedlings of Eucalyptus globulus and E. coccifera. As these trees grow so rapidly, and are so very distinct in character, I think they are worth planting in the south of England; even though they get frozen every few years (say eight or ten), but they will attain a large size in that period of time. The experiments at Kew should be repeated with these supposed hardy types. I have not been in communication with the Gardens since the retirement of Sir Joseph Hooker, but perhaps some one there will see this note in your columns, and pardon me for any seeming want of courtesy. Kew is not Tasmania, and I do not see how it could be expected that young soft seedlings would survive an English winter. Unripened Eucalyptus wood will not endure 1° of frost. Young trees of 12 or 14 feet high are often killed back for 3 feet or more, with the thermometer barely touching 32° Fahr., when they are growing in swampy places. On hill sides they often escape, simply because there is less frost, and the wood is better ripened. It is well known that woody trees will stand considerable frost. I have had one out here which stood 22° Fahr. I then took it in, and wintered it out of pure pity, although I had to cut off 5 or 6 feet to house it. Try again, and keep the young plants in pots until they are strong and woody. *James MacPherson, Tasmania.*

Gardening in Sierra Leone.

From private sources of information, I learn that the European residents at this station are woefully deficient in fresh vegetables of all kinds, that forage grasses are not grown there, hence baggage animals have not been introduced; most of the carrying trade being done by the native, and other negroes of the place. The soil is described as a light reddish sandy loam, and water is tolerably abundant near the barracks. The climate is said by residents to be by no means so bad now as was formerly the case, and some of the English officers are anxious to obtain Tomatos, Lettuce, and other salads, as well as fresh culinary vegetables, as some relief from the eternal tinned goods which at their best are but a poor substitute for a fresh supply. Unfortunately, there appear to be no Government gardens at Sierra Leone, as there are at Lagos and the Gold Coast, so that for the time being everything depends on private effort. If this should meet the eye of any gardening resident in the tropics, especially in Tropical Africa, I should be glad of any information as to the best kinds of vegetables and forage grasses for Sierra Leone. Of course, I know that actual trial only, on the spot, will settle the point satisfactorily, but any practical hints will meanwhile be helpful and welcome. Unfortunately there are no Chinamen in the colony, or they would soon settle this matter of fresh vegetables, as they do wherever they are colonists. *F. W. Burbidge*, 91, *Haddington Road, Dublin.*

A South African Nursery.

When Messrs. Smith commenced business some ten years ago, the student of horticultural history in this colony, had he been asked for counsel, would have given them *Mr. Punch's* celebrated advice. He would have said "Don't; see the fate of others who have gone on this mad venture." But Messrs. Smith's faith, pluck, energy, perseverance, unity, and capacity, have been rewarded, for they have to-day probably the largest nursery establishment in South Africa—certainly in the eastern province. Starting in Port Elizabeth, the poverty of the soil, with limited water supply, soon proved insufficient to enable them to cope with the growing demand for cut flowers, fruit trees, &c. Gardens were taken in Uitenhage, a town 20 miles distant, which proved so advantageous, that last year the whole nursery was removed thereto, leaving a capable florist behind to execute orders for the numerous customers here. Uitenhage is a veritable oasis in the desert. It is surrounded by mountainous hills, and is, therefore, free from the devastating winds so prevalent in South Africa; the soil is mostly a deep rich yellow loam, and from ever-flowing springs on the hills is water sufficient for irrigation—the very *sine quâ non* of successful gardening here. The Oak trees in this favoured town remind one of an English park. It may be said that the streets are a rendezvous of the trees of both hemispheres, for the Oak, the Acacia, the Grevillea, the Gum, and the Fig bow to each other guided by the breeze. You in England would like to see these growing in the streets along with Oaks, but we appreciate most the Oaks. You would be delighted to see the hedges of Pomegranate, bushes of Plumbago, with their exquisite flowers hanging so gracefully, and everywhere, where there is bush, the Ivy-leaved Geranium. It is delightful to us, but we would rather make a pilgrimage to see a Hawthorn bush.

Although glasshouses are indispensable, it will be obvious, they are not so to such a large extent as in England. Messrs. Smith Bros'. houses, frames, and plant shelters occupy a considerable space of ground, and the packing-shed, seed-store, and office are commodious, light, airy, and good enough for the Queen. Everything that is wanted for the garden can be purchased here—not only seed to sow, but implements to till the soil. Seeing the squares from whence Roses and fruit trees have been taken during the planting season to execute "esteemed orders," one exclaims with Dominie Sampson, "prodigious"! At the time of my visit, Roses were blooming in great profusion. The spring is the great Rose season, but there are always Roses, dense hedges of Reine Maries, Cloth of Gold, Madame Berard, &c, over a hundred yards long respectively,

and literally a mass of flowers. The climbing Teas and hybrid Teas give the most satisfactory results as a rule, but there are a few marked exceptions. The three above mentioned are infallibly good growers here. Of the H.P.'s, Messrs. Smith Bros. find Charles Darwin incomparable. My delight on first seeing the Cloth of Gold in this colony was unbounded. The Rose of all Roses, Maréchal Niel, does fairly well, but, of course, is not quite so robust as the others.

I need hardly add that forest trees are grown largely in this nursery. These are grown, as your readers are doubtless aware, in tins; pots are made about 6 × 4 × 6 inches from tin and zinc linings of packing-cases; two plants are dibbled in from the seedling bed, and are considered ready for planting when 18 inches high. These are generally Pines, Gums, Cypresses, and Beefwoods; P. pinaster, P. halapensis, P. insignis, and Cupressus macrocarpa are great favourites. Carnations also receive great attention. I saw an immense bed of seedlings, the seed of which came from all parts of the world. Although considerably hampered by the well-intentioned but ineffectual phylloxera regulations, causing all soil to be washed off the roots of imported plants at the landing places, new things are imported when practicable.

Messrs. Smith Bros. have also gardens devoted to market gardening, the produce of which is sent to Kimberley, a distance of nearly 450 miles, and to the "Bay" market. In nearly every newspaper in South Africa, Smith Bros. advertise. Their well-ordered establishment and well-directed enterprise have already achieved great results, and promise to achieve greater. *C. E. B., Port Elizabeth.*

BIRMINGHAM BOTANICAL GARDENS.

THIBAUDIA MACRANTHA.—A flowering specimen of this seldom-seen handsome East Indian plant is now in bloom here, and is a pretty interesting object. A coloured illustration is to be seen in the *Botanical Magazine* for 1851, wherein it is reported that the plant first flowered in 1850 in Messrs. Veitch & Son's establishment, from seed sent home from the Kola Mountains, Moulmein, by Mr. Thomas Lobb. The plant, an evergreen, has a somewhat straggling habit, and it is of easy cultivation, with large lanceolate leaves, and the flowers, of a pleasing colour, are produced on the old wood, but not in the axils of the leaves. The colour of these peculiar-shaped tubular flowers is of a creamy-white tint, streaked with pink and yellow at the base and apex.

MINIATURE AZALEA MISS BUIST.

A plant richly deserving attention, from those especially who grow for market and decorative work, is the above-named, one of the smaller-flowered hybrids of the amœna strain. It is very free-blooming, and a plant in these gardens is now literally covered with numbers of pure white flowers, which are a little larger than amœna.

CALLICARPA PURPUREA.

Every winter this handsome decorative plant is to be seen in great perfection here, and just now several fine specimens are in perfection of berry in the aquatic stove. The plants were cut back last spring to within 2 to 3 feet of the pot, and allowed to break and mature the growth, and they now have pendent shoots from 4 to 5 feet long, the greater portion of which is clothed with clusters of handsome silvery-tinted purple berries. Young shoots strike freely in the spring, and the plant thrives in a mixture of loam, peat, and sand.

CAMELLIA RETICULATA.

A fine specimen in a very large pot of this grand old Camellia, introduced from China in 1824, is now in bloom, and is in admirable health. The plant is about 10 feet high and 12 feet through, and the flowers are very fine. A fine collection of Camellias is grown here, and most of them are now in bloom, and the plants are in a very healthy condition. *W. D.*

ENQUIRIES.

"He that questioneth much shall learn much."—BACON.

Can anyone give the author of the following line, in your Answers to Correspondents? "Why dies the man whose garden Sage affords"? *Vagabond.*

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees — a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending February 11.	Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1893.	Below 42°, difference from Mean since January 1, 1893.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1893.	Total Fall since Jan. 1, 1893.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1893.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	3 +	9	23	+ 3	+ 41	12 +	34	7·5	12	13
1	3 +	10	26	— 9	+ 31	3 +	29	3·1	26	17
2	1 +	9	28	— 9	+ 29	2 —	23	1·9	32	18
3	1 +	13	36	— 10	+ 72	1 —	29	2·6	38	20
4	2 +	15	28	— 1	+ 42	1 —	27	2·6	35	20
5	2 +	16	26	— 17	+ 77	1 —	26	2·8	32	17
6	3 +	18	10	+ 12	+ 11	9 +	30	4·9	26	20
7	2 +	12	19	+ 5	+ 22	3 +	26	2·9	20	15
8	2 +	25	8	— 5	+ 34	3 +	26	4·2	32	25
9	3 +	24	7	+ 11	— 22	6 +	32	4·5	22	16
10	3 +	29	1	+ 3	— 16	0 aver	29	5·3	26	19
*	2 +	30	0	+ 5	+ 14	1 —	30	3·7	35	21

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E. 4, Midland Counties; 5, England, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; (* Channel Islands.)

THE PAST WEEK.

THE following summary record of the weather for the week ending February 11, is furnished from the Meteorological Office:—

"The *weather* after being fair and colder than of late during the first day or two, became mild and unsettled, with frequent and rather heavy falls of rain in the western and northern districts, and slight falls in the east. A good many intervals of fine bright weather were experienced however in almost all parts of the kingdom.

"The *temperature* was again above the mean, the excess ranging from 1° in 'England, E. and N.E.,' to 3° in 'Ireland and Scotland.' The highest of the maxima were recorded either on the 7th or 10th, when they varied from 56° in 'England, S.,' and 55° in 'England, E.,' to 51° in 'England, N.E.,' and 50° in 'Scotland, W.' The lowest of the minima were registered on the 6th, and ranged from 20° in 'England, S.,' and 21° in 'England, E.,' to 31° in 'Scotland, W.,' 32° in 'Ireland, N.,' 34° in the 'Channel Islands,' and 36° in 'Ireland, S.'

"The *rainfall* was greatly in excess of the mean in 'Scotland, N. and W.,' and to a less extent in 'Scotland, E.,' 'Ireland, N.,' and in the western parts of England. Over eastern, central, and southern England, and in the 'Channel Islands,' the fall was a little less than the normal, while in 'Ireland, S.' it just equalled it. In isolated localities in the north of England some large amounts were recorded; thus, at Aysgarth (Yorkshire) as much as 2 inches fell between the 7th and 10th.

"The *bright sunshine* exceeded the mean in all districts, the percentage of the possible duration ranging from between 32 and 38 in most parts of 'England,' to 22 in 'Ireland, N. and England, N.W.,' and to 12 in 'Scotland, N.'"

MARKETS.

COVENT GARDEN, February 16.

[We cannot accept any editorial responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. ED.]

NEARLY all classes of goods reaching us lighter, consequently prices generally very firm. Several consignments of Cape fruit to hand, especially Peaches of indifferent quality, being clingstones. *James Webber, Wholesale Apple Market.*

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum, per doz. bl.	2 0	4 0	Narcissus, various,		
Azalea, dozen sprays	0 6	0 9	French, doz. bun.	2 0	6 0
Bouvardias, per bun.	0 6	1 0	Orchids:—		
Carnations, 12 blms.	2 0	4 0	Cattleya, 12 blms.	6 0	12 0
Chrysanthemums, p. doz. bunches	4 0	9 0	Odontoglossum crispum, 12 blms.	2 0	6 0
Cyclamen, doz. blms.	0 6	0 9	Pelargoniums, scarlet, p. 12 bun.	6 0	9 0
Daffodils, dble., doz. blooms	0 5	0 9	12 sprays	1 0	1 6
— single do.	0 4	1 6	Primroses, doz. bun.	1 6	3 0
Eucharis, per dozen	4 0	6 0	Primulas, double	0 6	1 0
Gardenias, per dozen	12 0	24 0	Roses, Tea, per dozen	2 0	4 0
Heliotropes, per doz. sprays	0 6	0 9	— coloured, dozen	3 0	6 0
Hyacinths, Roman, doz. sprays	0 6	1 0	— yellow (Maréchals), per doz.	4 0	9 0
— dozen spikes	3 0	6 0	— red, per dozen	4 0	9 0
— French, 12 bun.	0 6	1 0	— (French) p. doz.	1 6	4 0
Lilac, white French, per bunch	4 0	5 0	Snowdrops, doz. bun.	1 0	3 0
Lilium Harrisii, doz.	8 0	10 0	Tuberoses, 12 blms.	1 0	1 6
Lily of the Valley, doz. sprays	0 6	1 0	Tulips, red, doz. bm.	0 6	0 9
Maiden Hair Fern, 12 bunches	6 0	9 0	— white, doz. blm.	1 6	2 0
Marguerites, p. doz. bunches	4 0	6 0	— yellow, doz. blm.	1 0	1 6
Mignonette, 12 bun.	3 0	6 0	Violets, Parme French per bunch	2 6	3 6
Mimosa, French, bun.	1 0	1 6	— Czar, French, per bunch	2 0	2 6
			— small French, p. doz. bunches	2 0	3 0

ORCHID-BLOOM in variety not in quantity.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arums, dozen pots	12 0	18 0	Ficus elastica, each	1 6	7 6
Azalea, per doz.	24 0	42 0	Genista, per doz.	10 0	15 0
Adiantum, per doz.	6 0	12 0	Hyacinth, doz. pots	8 0	12 0
Aspidistra, per doz.	15 0	30 0	Lilium Harrisii	24 0	36 0
— specimen, each	7 6	21 0	Lily of the Valley, 12 pots	12 0	18 0
Cineraria, per doz.	8 0	12 0	Marguerite, per doz.	6 0	12 0
Cyclamen, doz.	9 0	18 0	Mignonette, doz. pots	6 0	12 0
Cyperus, per dozen	4 0	10 0	Palms, various, each	2 0	10 0
Dracæna, each	1 0	5 0	— specimens, each	10 6	84 0
Erica, various, doz.	9 0	18 0	Solanum, per doz.	9 0	12 0
Ferns, various, doz.	4 0	9 0	Tulip. per doz. pots	6 0	9 0
Ferns, small, per 100	5 0	8 0			

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples, p. half-sievel	0	3 6	Lemons, per case	12 0	20 0
— Nova Scotia, per barrel	10 0	17 6	Pine-apples, St. Michael	4 0	6 0
Cobs, per 100 lb.			Oranges, Florida, per case	10 0	16 0
Grapes, per lb.	0 6	3 3			

VEGETABLES. — AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Beans, French, lb.	1 6	2 0	Mushrooms, punnet	2 0	
Beet, red, per dozen	2 0	3 0	Mustard and Cress, punnet	0 4	
Carrots, per bunch	0 4	0 6	Parsley per bunch	0 3	0 6
Cauliflowers, each	0 3	0 6	Seakale, per basket	2 6	
Cucumbers, each	0 9	1 6	Shallots, per lb.	0 6	
Endive, per dozen	2 0	3 0	Tomatos, per lb.	1 0	1 6
Herbs, per bunch	0 9	1 0	Turnips, per bunch	0 4	0 6
Lettuces, per doz.	1 6	2 0			

POTATOS.

Markets since last report have been sluggish, with a downward tendency in prices.

NEW POTATOS.—Arrivals are gradually increasing, and prices vary from 10s. to 14s. for small, and 16s. to 24s. for the larger samples. *J. B. Thomas.*

SEEDS.

LONDON: *Feb.* 15.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that, as might be expected, there is now a seasonable wholesale business doing. The tone all round exhibits remarkable strength. Red Clover seed especially is getting into narrow compass. Alsike, White, and Trefoil show no alteration. Spring Tares being almost unobtainable and much wanted, have suddenly jumped up several shillings per quarter. Winter Vetches are also eagerly inquired for. For White and Scarlet Runner Beans there is an improved sale. Rapeseed is somewhat dearer. In Linseed likewise the tendency is upwards. Peas and Haricots move off slowly on former terms. Mustard without alteration.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 80s. to 112s.; do., inferior, 70s. to 75s.; hay, best, 80s. to 112s.; do., inferior, 65s. to 75s.; and straw, 28s. to 44s. per load.

Answers to Correspondents.

TO OUR READERS.—*The Editor begs leave to solicit from the readers and contributors to the Gardeners' Chronicle:—*

Short Practical Notes on Cultural Matters;

Early Intelligence of Local News likely to be of general interest;

Notes and Memoranda useful to the Trade;

Specimens of New or Interesting Plants, Fruits, &c.;

Drawings or Photographs of Gardens, Trees, Flowers, &c., and which if suitable for reproduction will be utilised so far as possible.

AFRICAN FLORA: *J. P.* There is no one book devoted to the flora of Africa. What a book it would be! If you mean South Africa, there is Harvey and Sonder's *Flora Capensis*, unhappily incomplete. For tropical Africa there is Oliver's *Flora of Tropical Africa*, also unhappily incomplete. Egyptian plants are described in Boissier's *Flora Orientalis* (five volumes); and there are various French treatises in which the flora of Algeria is dealt with in part. The flora of Morocco is treated of by the late John Ball in one of the volumes of the Journal of the Linnean Society.

APPLE TREE PRUNING: *E. W.* Not too late in the season to do some amount of pruning, the bulk of it being deferred to late autumn. What may be done now is to cut out, down to the older wood, all small useless or cankered shoots about the middle of the head, and the weaker of the intercrossing minor branches: the forked ends of branches reduce to one shoot, reserving the best placed and if possible the straightest and strongest. Make the stem clear of growths; and if the tree be mossy, syringe quicklime made into whitewash over the whole. Fork up the soil a few inches deep, and pour diluted manure water from the farmyard over the area. Do not mulch unless the soil is very light, sandy, or dry.

BOOKS: *P. J. G. Primer of Botany* (Hooker), 1*s.*; *Botany for Beginners* (Masters), 2*s.* 6*d.*; *Plant Life* (Masters), 2*s.* 6*d.*; *Popular Gardening* (Fish), four vols., £1 5*s.*; *Epitome of Gardening* (Moore and Masters), 3*s.* 6*d.*; *Agriculture* (Fream), 2*s.* 6*d.* We do not know, but we suppose the prices are about those given.

CŒLOGYNE SPIKES FAILING: *T. G. K.* It may have been that a temporary fall of the temperature through draught or other cause has obtained, but it is impossible for us to attribute the cause, not being acquainted with all the circumstances. One thing is certain, that there has been error in temperature or in the application of water.

CREEPER IN SHADE: —. Aristolochia Sipho; Ivy, any variety of strong growth.

CURRANT BUD MITES: *S. K.* The too well-known mite (Phytoptus ribis). Cut off all the shoots and burn them. Spraying with sulphate of copper, or Paris Green (poison), in the proportion of 1 ounce to 12 gallons of water, is recommended by the Board of Agriculture, London, S.W., which has just published a leaflet on the subject, which we recommend you to procure.

DENDROBIUM SPECIOSUM: *H. Bailey.* A grand spike of the variety Hilli, for figure of which see *Gardeners' Chronicle*, January 27, 1877. We had unfortunately omitted to notice your flower in an earlier issue.

GARDENING FOR MARKET: *S. H. O.* It would be prudent on your part to first ascertain if the landlord would permit his land to be used for growing things for sale. Remember that he can, if he so pleases, claim all buildings whose foundations are constructed in the soil, and are attached, the superstructure to the foundation, by bolts or screws. Also all trees and shrubs not way-going stock. Hot-water boilers and pipes are counted among trade utensils, and belong to the tenant. You cannot make him compensate you for anything he may claim as belonging to the freehold. Before doing anything with the land commercially, consult a solicitor.

INSECTS: *K. T. G.* The smaller insect is a weevil, Otiorhynchus sulcatus; the other a young Blatta blackbeetle. Methods of capture often given in these pages.

JUDAS TREE OF BOURBON: *O.* A question was asked, some time since, as to what tree was meant under this appellation. We now learn that it is Cossignia borbonica of De Candolle.

NAMES OF PLANTS: *Gardener.* 1, Herniaria glabra; 2, Saxifraga hypnoides; 3, Antennaria dioica; 4, probably Sedum hispanicum. The specimens are in such bad state, that we cannot name them with certainty. Certainly it is better to take up and transplant every year, but it is not absolutely necessary if the bed is in fair condition.—*H. T.* 1, Cattleya Trianæ; 2, not sent; 3, Eupatorium grandiflorum album; 4, not recognised.—*F. M.* Agrostes nebulosa, or near ally.—*J. R.* Probably a light form of Dendrobium taurinum. From whence was it imported?—*H. M.* We think the appearance of withering on the flower-spikes of your Phaius has been caused by some check, and not by disease in the plant. A cold current of air, or a sudden fall in the temperature of the house, might cause it.—*F. G.* One of the forms of Odontoglossum Andersonianum, known as O. hebraicum.—*W. H. W.* 1, Polypodium Phymatodes; 2, Blechnum occidentale; 3, one of the old forms of white Camellia japonica; 4, 4, Polypodium tenericaule; 5, Onychium japonicum; 6, Davallia polyantha.—*D. R.* 1 and 2, forms of Dendrobium lituiflorum; 3, Oncidium excavatum; 4, Saccolabium violaceum; 5, Dendrobium Pierardii; 6, Dendrobium undulatum.—*C. R.* Lopezia racemosa.

PRUNING FRUIT: *H. Schwarz.* The best book for you is *The Scientific and Profitable Culture of Fruit Trees*, by M. Du Breuil. Crosbie, Lockwood, & Co., 7, Stationers' Hall Court.

PUBLICATIONS: *M. W., Galicia. Rosarian's Year-Book; Garden*, 37, Southampton Street, Strand, London; *Gardening World*, 1, Clement's Inn, London; *Journal of Horticulture*, 171, Fleet Street, London; *Gardening Illustrated*, 37, Southampton Street, Strand, London.

THE PLANTER'S FRIEND: *E. & W. Hackett, Adelaide, South Australia.* In reply to an enquiry in your issue of November 5, 1892, by Messrs. C. Platz & Son, respecting "Planter's Friend," we send you the following:—"Planter's Friend is a species of Sorghum, which is largely cultivated in this colony, as well as New South Wales and Queensland, for summer fodder. It does not grow so high as the Sorghum saccharatum, but produces a much larger quantity of leaves, which are valuable for ensilage, &c., and are much liked by cattle and horses, being rich in saccharine matter."

VARIEGATED BRUSSELS SPROUTS: *J. F.* This is an uncommon form. It might be worth trying to perpetuate it. Can you send a stem with head and sprouts for our inspection?

VINE ROOTS: *W. H. N.* No; there is no trace of the Vine-disease (Phylloxera) in the roots sent. They are quite dead, but this is entirely the result of bad draining. If you intend to plant a Peach tree, it would be well to remove the present border soil, and see that the drainage is rendered efficient.

WEEVILS IN ORCHIDS: *W. H.* There are two or three species too common in gardens, and this is one of them.

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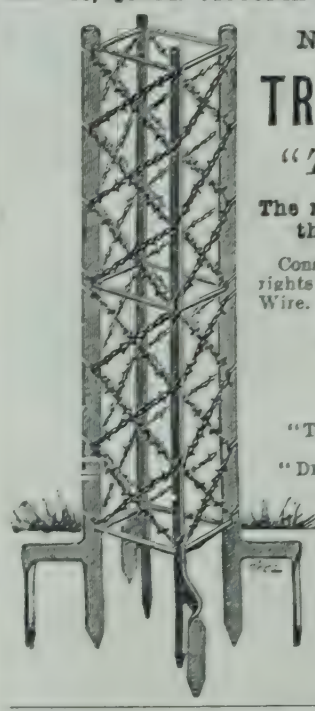

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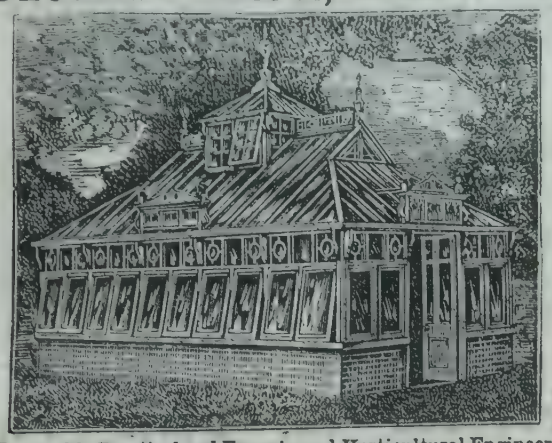

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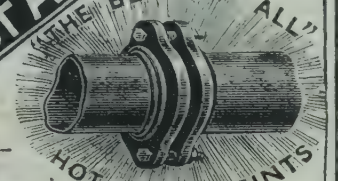

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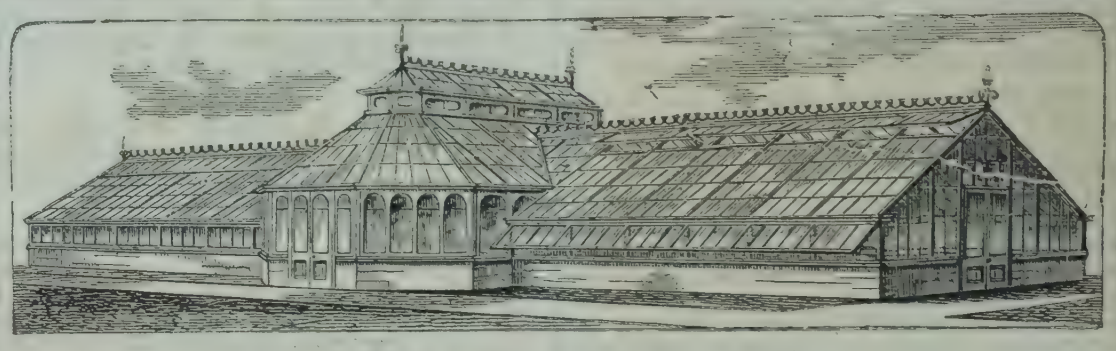

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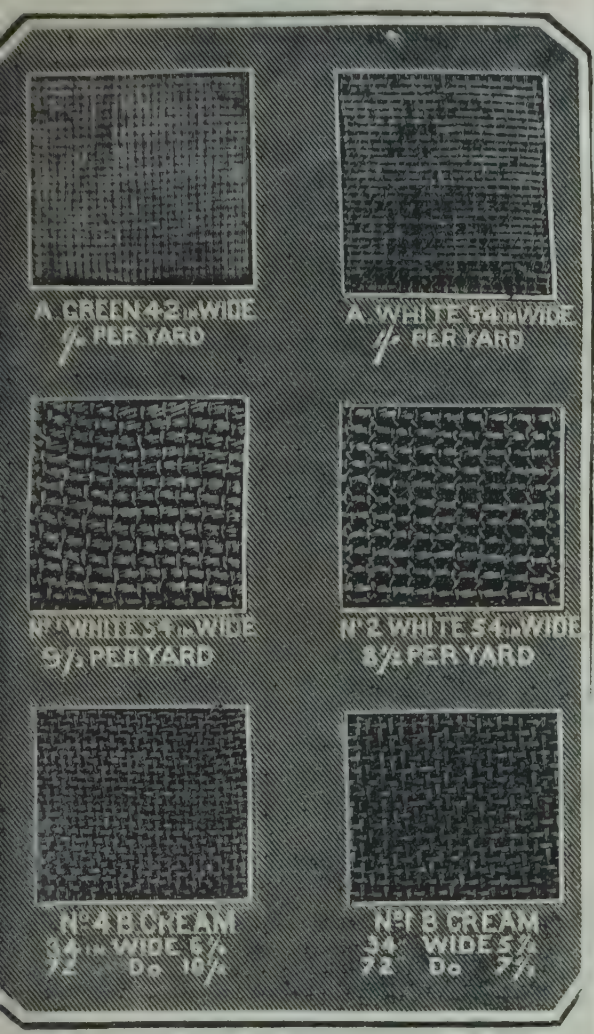

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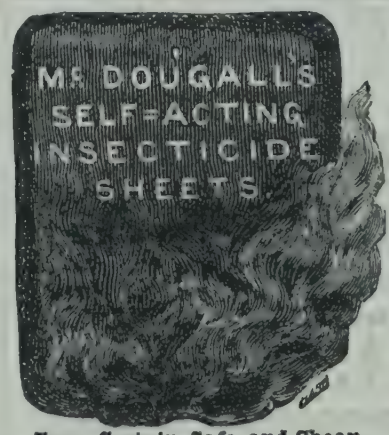

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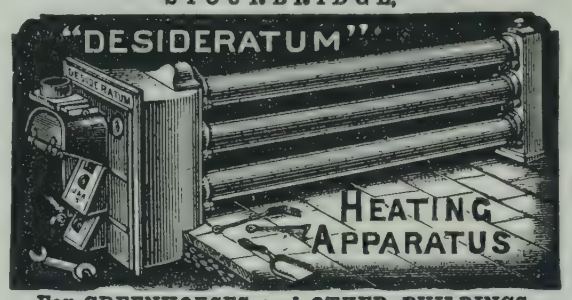

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HAWKINS' "PERFECTION," or DRY SYSTEM of GLAZING is the best. No skilled labour required to fix Glass or Paint, no Exit of Hot Air, no Drip, and much cheaper than any other. Sample double frame, 8 feet by 6 feet, with 2 Lights, painted 3 coats and glazed, for 45*s.* Note the marvellously low price for the following substantially constructed Houses—100 feet by 15 feet, £80; 60 feet by 15 feet, £60; 25 feet by 10 feet, £27. Several Second-hand Houses very cheap; 1000 extra strong lights, 6 feet by 4 feet, painted and glazed, £7 per dozen, worth double; less for large quantity. Do not build Glasshouses without first getting estimate (free) from
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Beware of imitations.

ORCHID PEAT; Best Quality; BROWN FIBROUS PEAT for Stove and Greenhouse use. RHODODENDRON and AZALEA PEAT. Samples and Prices of WALKER AND CO., Farnborough, Hants.

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GARDENING APPOINTMENTS.

MR. CHAS. FERGUSON, lately Head Gardener at Cally, Gatehouse, as Head Gardener to JOHN STIRLING, Esq., Fairburn, Ross-shire.

Mr. J. W. THOMPSON, for the past eight years Head Gardener at Ferney Green, Bowness, Windermere, Westmoreland, as Head Gardener to J. W. H. BARRATT, Esq., Holywatti, Coniston, Lancashire.

Mr. MELVILLE, formerly of Spring Grove House, Isleworth, as Head Gardener to Lord CAMOYS, Stonor Park, Henley-on-Thames, after March 1.

Mr. F. BENNETT, until recently Foreman in the Gardens at Clifton Hall, Nottingham, as Head Gardener to Miss BARLOW, Titan Barrow, Bath.

Mr. WILLIAM RIGG, for the past two years Foreman at Canford Manor Gardens, as Gardener to Lord CLONCURRY, Lyons, Hazlehatch, co. Kildare.

Mr. W. A. GILBERT, late Head Gardener to Mrs. LLOYD, Crickhowell, S. Wales, as Gardener to W. BOWERS, Esq., Caverswall Castle, near Stoke-on-Trent.

Mr. CHARLES PLEASANTS, for the past five years Foreman at Dynham Park Gardens, High Barnet, Herts, as Head Gardener to THOS. PENRICE, Esq., Kilverough House, Swansea.

CATALOGUES RECEIVED.

POPE & BERGMANN, Quedlinburg, Germany—General Catalogue.
WM. SAMSON & CO., 8 and 10, Portland Street, Kilmarnock—Seeds and Plants.
W. L. LEWIS & CO., Chase Side, Southgate, London, N.—Orchids from the Blenheim collection.
VILMORIN ANDRIEUX ET CIE., 4, Quai de la Mégisserie, Paris—Seeds, Strawberries, Flowering Bulbs, &c.
JAS. YATES, 29, Little Underbank, Stockport—Vegetable and Flower Seeds.
PITCHER & MANDA, United States Nurseries, Short Hills, N.Y.—Seeds, Plants, and Bulbs.
J. E. BARNES, 9, Exchange Street, Norwich—Seeds, Tubers, Garden Requisites, &c.
H. S. THOMPSON & SONS, Wimbledon, Surrey—Garden Seeds and Requisites.
W. LOVEL & SONS, Driffield, Yorkshire—List of Strawberry Runners.
TAYLOR & THOMPSON, 23, Duke Street, Bishopsgate, London—Garden Seeds and Horticultural Sundries.
W. THOMPSON, 34 and 36, Tavern Street, Ipswich—Flower Seeds.
LOUIS VIEWEG, Quedlinburg, Prussia—Seeds and Plants.
DEBENHAM, TEWSON, FARMER & BRIDGEWATER—February List of Land and Estate Sales.
ROBT. VEITCH & SON, Exeter—Seeds, &c.
JONES & SON, Shrewsbury—Seeds.
DICKSON, BROWN, & TAIT, 43 and 45, Corporation Street, Manchester—New Farm Seeds.
H. CANNELL & SONS, Swanley, Kent—Floral Guide of Plants for 1893.

ORCHID GROWER.—The applications for this situation have been so numerous, that R. J. M. is unable to reply to each separately, and desires to state the place is NOW FILLED.

WANTED, as HEAD GARDENER, a thorough good all-round Gardener. Married, no objection to one or two children. Scotch preferred.—Apply, by letter, stating all particulars, to W., 28, Sackville Street, Piccadilly, W.

WANTED, AT ONCE, a HEAD WORKING GARDENER.—Married; must have highest references. —Apply to A. W. HEBER PERCY, Esq., Dalham Estate Office, Gazeley, Newmarket.

WANTED, SINGLE-HANDED GARDENER.—Wages, one guinea a week. Must have good character from last situation.—Write, stating age, to B. W. 492, Messrs. Deacon's, Leadenhall Street, E.C.

WANTED, a SECOND GARDENER, for Out-door Garden. A man of country experience, well up to his work, and able to use the Scythe. Must be married, the wife to attend to gate, and both be of the Church of England. Young children objected to. A middle-aged couple eligible. Wages, £1 a week, with Lodge. Apply by letter, giving all particulars, to B., Messrs. James Veitch & Sons, Royal Exotic Nursery, Chelsea, S.W.

WANTED, for Derbyshire, a SECOND GARDENER, with good experience and excellent character, without encumbrance preferred. Churchman. Wife to attend Lodge Gate. House, gas, and coals provided.—State age, wages, and all particulars, by letter only, to S. P., Mr. J. C. Perfect, Stationer, Burton-on-Trent.

WANTED, IMMEDIATELY, as GARDENER, a respectable young Man, in the Gardens, and to do odd jobs; must be very good Mower with Scythe and Machine. Will live in the house, wages £18 all found.—Mrs. KEMBALL COOK, Stanmore Park, Stanmore.

WANTED, a young MAN, to take charge of a Horse and Trap and Drive, spare time to be employed in the Garden, Inside and Out. Bothy on place. Must have good references.—Apply, stating wages required, &c., to GILBERT DAVIDSON, Ammanford, R.S.O., S. Wales.

WANTED, a young MAN, with not less than three years' experience in the Seed Trade, willing to help in Fruit and Flower Department in a First-class Country Shop. Good reference. Wages 18s. to commence. —Apply, F. J. M., Messrs. Hurst & Son, 152, Houndsditch.

WANTED, a practical FOREMAN, in a large Market Garden. No Glass. With a knowledge of Farm Stock.—R. WILLARD, Eastbourne.

WANTED, as WORKING FOREMAN, a thorough practical MAN, competent in Mushrooms and Market Garden work. Market Nursery experience indispensable. State particulars, and wages required, to ASHTON KEYNES, Park Lane, Tottenham.

WANTED, a thoroughly experienced FOREMAN, for the Furnishing Department of a high-class London Nursery. A middle-aged man, of good address, to wait upon Ladies and Gentlemen at their houses, and competent to give Estimates, and to suggest improved ideas in the art of Floral Displays. To the right man this will prove a permanent and lucrative situation.—Apply, in first instance by letter only, to KENTIA, care of Messrs. Osman & Co., 132, Commercial Street, London, E.

WANTED, a FOREMAN, for a Market Nursery, with thorough knowledge of Grapes, Tomatos, Cucumbers, Chrysanthemums, Bulbs, Ferns, &c. Good wages to capable man.—ORCHARD CO., Scotby, Carlisle.

WANTED, a FOREMAN, for a small Outside Nursery, well up in Bedding, Grafting, and Outside work. Wages, 20s. per week to commence with.—Apply, FREDK. PERKINS, Regent Street, Leamington.

WANTED, a PROPAGATOR, used to General Inside Work. ALSO, a young MAN, used to Cucumbers, &c., Potting and Watering.—Apply, stating wages required, to WALSHAW AND SON, Scarborough.

WANTED IMMEDIATELY, a young MAN, experienced in General Nursery Work under Glass.—State age, experience, and wages required, to PENNELL AND SONS, Nurseries, Lincoln.

WANTED, good INDOOR MAN, General Soft-wooded Stuff; also a First-class SHOPMAN, good Arranger for High-class Florist Shop.—Particulars to ENGLISH, Nurseryman, Clevedon.

WANTED, an industrious young MARRIED MAN, well up in Flower and Kitchen Gardens; to live in lodge. Good references required.—Address, stating age and all particulars, GARDENER, Ivy Cottage, Crayford Hill, Crayford, Kent.

WANTED, a MARRIED COUPLE to live in Laundry; Wife must be a good Laundrymaid, and the Husband to Assist in Garden. The rooms are furnished, and fuel found. Wages for the two £1 to £1 5s. per week.—Apply by letter, giving particulars of service and reference, to B., James Veitch & Sons, Royal Exotic Nursery, Chelsea, S.W.

WANTED, a young MAN, experienced in Market Nursery, and to act as FOREMAN, &c.—Apply, stating age and reference, to C. L., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, for a permanent place, TWO young MEN for the Houses—one for Palms, Fern Growing, &c.; the other for General Stuff. Wages 18s. per week.—Apply, by letter only, to W. CLEMENTS, Florist, Church End, Finchley, N.

WANTED, SEVERAL energetic MEN, in a large Market Nursery.—Preference given to those with a Knowledge of Cucumber, Tomato, and Grape Culture. Wages commencing, £1 per week.—Apply, stating age and experience, to GUIVER, BROS., AND LAWSON, Durant's Nurseries, Ponder's End, Middlesex.

WANTED, EIGHT or TEN active MEN, chiefly for the Tomato-houses.—JOHN ROCHFORD, Turkey Street, Waltham Cross.

WANTED, FOUR or FIVE MEN in the Cucumber and Tomato Houses. Quick at their work. —Apply, stating wages, to ARTHUR MATTHEWS, Nurseries, Waltham Cross.

WANTED, SEVERAL MEN, accustomed to Market Nursery Work. Wages, £1 per week. Apply to MANAGER, Whiteley's Nurseries, Hillingdon Heath, near Uxbridge.

WANTED, a young MAN, used to Potting and Watering, one from a Nursery preferred.—Apply, H. ROSE, Oakfield Nursery, Hampton.

WANTED, a strong active young Man as JOURNEYMAN, second of three; one used to Cut Flowers and Table Decoration. Wages, 17s. per week, with Bothy.—Apply, with copies of testimonials, to J. BOTTRELL, Sudbury Hall, Derby.

WANTED, JOURNEYMEN, used to Fruit and Flower Growing for Market.—State experience and wages to FOREMAN, Turnford Hall Nurseries, Broxbourne, Herts.

WANTED, a strong, active, and intelligent young MAN for the Houses, Roses, Palms, Ferns, &c. Wages, 15s. per week.—Apply to W. RUMSEY, Joyning's Nurseries, Waltham Cross.

WANTED, a young MAN, quick at Potting, and a good hand at Cucumbers, Tomatos, and make himself generally useful. Must be steady, state wages, and have good references.—T. OAKMAN, Ponder's End.

WANTED, an IMPROVER, for Inside and Outside Work; must have had experience.—Apply, sending references, to A. W. HEBER PERCY, Esq., Dalham Estate Office, Gazeley, Newmarket.

WANTED, a strong, willing YOUTH, about 16, for Vineries. Bothy.—W. INNES AND CO., Sunny Hill Vinery, Littleover, Derby.

Shopman.

WANTED, IMMEDIATELY, young MAN, as SHOPMAN. State age, experience, wages, &c.—BIRD AND VALLANCE, Nurseries, Downham, Norfolk.

WANTED, a JUNIOR ASSISTANT.—Seeds and Bulbs. State wages asked, experience, age, and full particulars.—GEORGE ROSE, Great Charlotte Street, Liverpool.

To Florists.

WANTED, a young LADY, to take Charge of Cut Flower Department.—Apply, stating experience and salary, to J. HENDERSON AND SONS, 3, Lincoln Place, Dublin.

WANTED, AN IMPROVER.

Must have personal character, and be well recommended.
Required:—Intelligence, desire to learn, good beginner's knowledge of General Nursery Work.
May prove a good opening for a Youth.
Apply, stating age, experience, and small wages to start,
To the CHAIRMAN,
Albert Nurseries,
Peckham Rye, London, S.E.

Read this carefully, and look at our Advertisements; you will save yourself trouble.

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ALBERT NURSERIES,
PECKHAM RYE, LONDON, S.E.; and FLEET, HANTS.
Also COVENT GARDEN FLOWER MARKET.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. *on Wednesday will, in all probability, be held over to the next week.*

GARDENERS.—Our complete and extensive register of GARDENERS OPEN FOR ENGAGEMENT is at the service of any Lady or Gentleman wishing to secure the services of trustworthy reliable men.—DICKSONS AND CO., 1, Waterloo Place, Edinburgh. Established over a Century.

To Noblemen and Gentlemen requiring Land Agents, STEWARDS, BAILIFFS, or GARDENERS.

JAMES CARTER AND CO. have at all times upon their Register reliable and competent MEN, several of whom are personally well known to Messrs. Carter. Enquiries should be made to 237 and 238, High Holborn, W.C.

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character, and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—
F. SANDER AND CO., St. Albans.

THOMAS BUTCHER can recommend several HEAD and UNDER GARDENERS of first-rate character and proved ability. Gentlemen seeking such may have particulars free.—Apply to THOMAS BUTCHER, Seed Merchant and Nurseryman, Croydon.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. All particulars on application.
Telegraphic and Postal Address—"DICKSONS, CHESTER."

GARDENER (HEAD).—W. B. FISHER, Gardener to the Earl Cawdor, Stackpole Court, Pembroke, will be pleased to recommend Charles Davis to any Lady or Gentleman who is in want of a first-class man.

GARDENER (HEAD); age 30.—J. DUMBLE, Gardener to Sir Charles Philipps, Bart., Picton Castle, Haverfordwest, is desirous of recommending his General Foreman, H. Butcher, to any Lady or Gentleman requiring a thoroughly competent man. He has a good knowledge of the different branches of Gardening, is well acquainted with the Cultivation of Fruit (Indoor and Out), Flowers and Vegetables, is also a good hand at Table Decorations.

GARDENER (HEAD); two children, age 14 and 11.—G. J. CLOKE, Gardener to Sir W. Rose, Bart., begs to offer his services to any Lady or Gentleman. Thoroughly practical. Leaving through no fault, with five and a half years' good character and testimonials.—Moor Park, Farnham, Surrey.

GARDENER (HEAD), where two are kept.—Good references; four years in present situation under Glass.—H. POLAND, 3, Belle Vue Crescent, Clifton, Bristol.

GARDENER (HEAD); age 28, married when suited.—H. SAWYER, Head Gardener, Loseley Park Gardens, Guildford, can confidently recommend his Foreman, George Cheal, who has been with him three years, to any Lady or Gentleman requiring a steady, industrious, all-round man.

GARDENER (HEAD); age 36.—E. G. TAYLOR, Gardener, Manor House, Alton, Hants, knowing of a really practical Working Gardener who could Manage a good Establishment, not afraid of work, would be glad to give particulars to any Lady or Gentleman.

GARDENER (HEAD), where one man or lad is kept.—Middle-aged, married, no family; understands Vines, Cucumbers, Tomatos, Fruit Trees, Flower and Kitchen Garden. Ten years in last place. Good Character.—G. CHILTON, Lodge, Heacham, King's Lynn, Norfolk.

GARDENER (HEAD).—J. BEESLEY, Gardener to Lord Ashcombe, Denbies, can recommend his Foreman as a good practical Man. Good testimonials.—F. WELLS, 29, Hampstead Road, Dorking.

GARDENER (HEAD); age 36, married.—A. BURGESS, Grove Park, Kingsbury, N.W., begs to offer his services to any Lady or Gentleman requiring a practical Head Gardener. Twenty-one years' experience (seven and a half years as Head) in the Growing of Pines, Vines, Melons, Cucumbers, &c., also Forcing in all branches.

GARDENER (HEAD), where three or more are kept.—Mr. F. PERRY, Head Gardener to Captain J. E. P. Spicer, M.F.H., wishes to recommend his Foreman, C. Horn, who has been with him for the last four years. Can be well recommended.—Spye Park, Chippenham.

GARDENER (HEAD), where three or more are kept; married, without encumbrance.—A LADY having given up her estate, wishes to recommend her Head Gardener, who has been with her for fourteen years, as a good practical working Gardener; has had charge of Vineries, Peach-house, Stove, Orchid-house, Greenhouses, &c.—G. GREEN, The Lodge, Dulwich Hill House, Denmark Hill, S.E.

GARDENER (HEAD).—Middle-aged, married; practical in all branches. Good Orchid Grower. Twenty-five years in last situation; left through death.—C. FENN, Fern Cottage, Cromwell Road, Walthamstow.

GARDENER (HEAD), where four or more are kept.—Age 35; has had thorough experience in all branches. Can Manage Small Farm if desired. Excellent testimonials.—Apply to J. CHEAL AND SONS, Nurseries, Crawley.

GARDENER (HEAD), where several are kept. Age 44, married; long practical experience in good establishments. Highest references, and ten years' character from last employer.—H. COOK, Box Hill, Dorking.

GARDENER (HEAD); age 35, married.—Mr. R. C. KINGSTON, Steward to Christopher Sykes, Esq., Brantingham Thorpe, Brough, E. Yorks, can with confidence recommend a thoroughly practical man, conversant with the requirements of a good establishment, and all things appertaining to Horticulture, an excellent Orchid Grower and General Plantsman, Land and Stock if required. Highest possible character.

GARDENER (HEAD WORKING), where two or more are kept.—Age 31, married when suited; ten years' experience in large establishments in all branches. Good character and testimonials.—T. B., 30, Bloomfield Road, Bromley, Kent.

GARDENER (HEAD WORKING).—Fourteen years' practical experience in Vines, Melons, Cucumbers, Tomatos, Stove and Greenhouse Plants, Flowers, Fruit, and Kitchen Garden. Good character.—C. HOWELL, West Hill House, Gravesend.

GARDENER (HEAD WORKING).—Age 36, married, one child. Twenty years' experience in all its branches. Four years in present situation. Satisfactory reason for leaving.—GEO. McLEOD, The Gardens, Observatory House, Honor Oak Park, S.E.

GARDENER (HEAD WORKING, or good SINGLE-HANDED).—Age 38, married. Good character. Twenty years' experience in growing Grapes, Peaches, Cucumbers, Stove and Greenhouse Plants, Flower and Kitchen Garden. — WHITE, Furzdown Cottages, Mitcham Lane, Streatham, S.W.

GARDENER (HEAD WORKING), or FOREMAN, in a good establishment.—Age 27; thoroughly experienced in all branches. Highly recommended.—J. S., Frenchay, Bristol.

GARDENER (HEAD WORKING); age 28.—Mrs. LEVESON-GOWER, Bell Hill, Wokingham, will be pleased to highly recommend her Foreman, who has been in her employ for the past eight years, to any Lady or Gentleman in want of a thoroughly reliable Gardener.—Apply as above, or to C. RYDER, The Gardens, Bell Hill, Wokingham.

GARDENER (HEAD WORKING).—A thorough practical man in all branches, where two or three more are kept. Has had first-class practice in several places in Scotland and England. Can produce most satisfactory testimonials from former and present employers.—M. W., 3, St. George's Terrace, Percival Street, Peterboro'.

GARDENER (HEAD WORKING). — Age 27; thoroughly experienced in all branches. Can be highly recommended by present and previous employer. Clergyman desires to find situation for the above.—Rev. ROBERTS, Blackwater, Hants.

GARDENER (HEAD WORKING).—Age 30; thoroughly practical in Growing Fruit, Flowers, and Vegetables. Can be highly recommended by present and previous employers.—C. TINDALL, The Gardens, Monk's Orchard, Beckenham, Kent.

GARDENER (HEAD WORKING), where another is kept.—Age 33: eight years' experience, both Inside and Out. Good references from previous employers.—ALBERT SNELLING, 26, Stamford Terrace, Stamford Hill, London, N.

GARDENER (HEAD WORKING), where two or more are kept.—Age 32, married, one child (age 5).—Experienced in all branches, including Orchids.—H. WEEKS, Upper Long Ditton, Surrey.

GARDENER (HEAD WORKING).—Age 27, married when suited. G. JACKSON, Claydon, Winslow, Bucks, is open to re-engage with any Lady or Gentleman requiring the services of a trustworthy practical man. Excellent characters.

GARDENER (HEAD, or SINGLE-HANDED).—Age 23, married; knowledge of Orchids Twenty years' experience; ten years in present situation. Total abstainer.—ROGERS, 50, Newington Green Road, London, N.

GARDENER (good SINGLE-HANDED), or with one or more under.—Age 26, married, no children; understands Greenhouses, Vines, Peaches, Melons, and Flower and Kitchen Gardens. Three years' character. Wife can Manage Poultry, Dairy, or Laundry. State wages. — F. BRANCH, Knightons, Dunsfold, Godalming.

GARDENER (good SINGLE-HANDED).—Age 28, single; eleven years' experience; steady, willing, and industrious. Four and a half years last place. Excellent references.—UNWIN, 18, Selwyn Terrace, Barton Road, Cambridge.

GARDENER (SINGLE-HANDED), or otherwise.—Age 27, married, no family. Nine years' practical experience Inside and Out. Highly recommended. Excellent testimonials.—GARDENER, Penlee House, Tregony, Cornwall.

GARDENER (SINGLE-HANDED or SECOND).—Age 32, single; has lived in a Gentleman's House; four years' reference.—F. FAIRWEATHER, 25, William Street, Ipswich, Suffolk.

GARDENER (SINGLE-HANDED, or UNDER).—Age 27; two years' character from present situation.—G. S., 26, Woodcote Place, West Norwood.

GARDENER (SINGLE-HANDED, or where help is given).—Age 28, single; fourteen years' experience in Growing Flowers, Fruit, and Vegetables. Two years in present place, and six years previous.—C. GIBBONS, Grove Park Gardens, Kingsbury, Middlesex.

GARDENER (SINGLE-HANDED), or Otherwise.—Age 31, single; eight years' good character for the general routine of Fruit, Flowers, and Kitchen Garden work. At liberty on February 18.—A. MOORE, Ruscombe, near Reading, Berks.

GARDENER (good SINGLE-HANDED, or with help).—Age 23; abstainer; thoroughly practical in all branches; seven and a half years' experience; highest testimonial from present employer. Understands cows.—T. Y., The Cottage, Gainsborough Road, Leytonstone, E.

GARDENER (SINGLE-HANDED), or where help is given.—Age 24, married; nine years' experience in Fruit and Plant Houses, and Flower and Kitchen Garden. First-class references from past and present employers. Abstainer.—P. DOIG, Asfordby, Melton Mowbray.

GARDENER (SINGLE-HANDED, or where help is given).—Age 24; abstainer. Three years' good character.—G. H. PATTINSON, Pen Moel, near Chepstow, Glos.

GARDENER (SINGLE-HANDED), or where help is given. Six years' good character.—J. GRIFFITHS, Burcher Court, Titley, R.S.O., Herefordshire.

GARDENER.— Good single-handed Place. Age 27, single. Eight years' good experience Inside and Out; good characters.—F. COOK, Chessington, Surrey.

GARDENER (SECOND, or SINGLE-HANDED), where help is given.—Age 25, single; good experience in Glass, Flower and Kitchen Garden. Good character.—A. D., Prospect, Pewsey, Wilts.

GARDENER (SECOND), where three or four are kept.—Age 28; single. Four years in last place Inside and Out. Good character.—A. CHAPMAN, 3, Lewis Road East, Loughborough Junction, S.E.

GARDENER (SECOND). — Age 24; nine years' experience Inside and Out.—Mr. J. ATKINSON, Matfen Hall Gardens, Newcastle-on-Tyne, wishes to recommend T. Haggitt as above.

GARDENER (SECOND).—Age 25; good knowledge of work, Inside and Out. Excellent character.—A. P., The Gardens, Ulcombe Place, Staplehurst, Kent.

GARDENER (SECOND, or SINGLE-HANDED). —Age 26; experienced in Flowers, Fruit, and Vegetables. Four years' good character from last place.—W. KEEN, Roe Green, Kingsbury, Middlesex.

GARDENER (SECOND), where three or four are kept.—Married, no family. Fourteen years' experience Inside and Out; good references. Abstainer.—G. PLUMB, 48, Lisburne Road, South Hampstead.

GARDENER (SECOND).—Age 27; twelve years' good experience in all branches; three years' good character. Disengaged.—A. B., 103, Lordship Lane, S.E.

GARDENER (SECOND, or good THIRD), Inside preferred.—Age 22, single; eight years' experience. Four and a half years' good character. Disengaged.—G. L., Elmfield Cottage, Bickley, Kent.

GARDENER, where another is kept, or good SINGLE-HANDED.—Age 27, single; thirteen years' practical experience in all branches. Eighteen months excellent character.—W. G., The Gardens, Portly, Caterham, Surrey.

GARDENER, in good Establishment.—Age 22. Eight years Inside and Out. Three years' excellent character. Quick and active. Total abstainer. London preferred.—A. HUNTLEY, New Town Hever, Edenbridge, Kent.

GARDENER; age 30, married.—A GENTLEMAN can thoroughly recommend a Gardener he has employed for four years. Understands Flower and Kitchen Garden and Greenhouse. Would make himself useful.—F. DEADMAN, Russell House, Grange Road, Sutton, Surrey.

GARDENER (UNDER). — A young man requires situation as above. Experienced Inside and Out. Nursery or private.—H. JOHNSON, Barrick Yard, Chalfont St. Peter's, Bucks.

GARDENER (UNDER) seeks situation in a private Establishment or Nursery.—Age 19; four and a half years' experience; good reference.—S. HILL, Aspenden, Huntingford, Herts.

GARDENER (UNDER). — Age 18; three years good character.—Apply, O. DENYER, Blithbury, near Rugeley.

GARDENER (UNDER), Inside, or Inside and Out.—Age 25; good character.—W. TITCOMB, The Gardens, Frensham Place, Farnham, Surrey.

ORCHID GROWER or FOREMAN.—Age 24, single; thoroughly experienced in all branches. First-class testimonials.—J. P., 5, Park Row, Cottingham, Hull.

GARDENER, BAILIFF, or MARKET GARDEN FOREMAN.—Age 39; thoroughly handy man. Accustomed to Cropping and Management of Land, Breeding and Rearing Stock, Timber and Plantation Work, &c. Wife Dairy or Poultry. Highest references from Officer's family.—E. M., 3, Portland Cottage, Shirley Warren, Southampton.

GARDENER (UNDER).—Age 22, single.—A. B., William Hubbard, Market Gardener and Florist, Old Catton, Norwich, Norfolk.

GARDENER (UNDER), where several are kept.—Age 20; four years' experience. Good character. Bothy preferred.—C. I., 1, Greenford Road, Sudbury, Middlesex.

MANAGER.—ADVERTISER is open to treat with a Gentleman contemplating growing largely for Market, Grapes, Peaches, Mushrooms, Cucumbers, Tomatos, Roses, Carnations, Chrysanthemums, Palms, Ferns, Cut Flowers, &c. Well up in Horticultural Building. First-class Trade connection. Highest references.—ALICANTE, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

MANAGER. — The Advertiser is open to engage as Manager for an extensive Market Establishment where Grapes, Tomatos, Cucumbers, Ferns, &c., would be a leading feature. Could undertake the Laying-out and Working up of a New Estate. Good practical experience.—Particulars in confidence from H. CANNELL AND SONS, Swanley, Kent.

ORCHID GROWER, or GARDENER (HEAD).—Age 30, married, one child; practical man in all branches. Good character and testimonials.—H. R., 15, Barnfield Road, Upper Norwood.

ROSE GROWER (Indoors) and PROPAGATOR of Clematis, Ivies, &c.—Twelve years' experience in First-class Establishments. Good references.—G. D., 10, Mill Place, Altrincham.

PROPAGATOR and GROWER.—Age 27; Tomatos, Cucumbers, Ferns, Palms, Stove, Soft-wooded and General Market Pot Stuff, Wreaths, and Crosses. Good Salesman. Ten years' experience.—W. W. W., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

TO THE TRADE.—Advertiser, age 31 (German), seeks re-engagement as FOREMAN or PROPAGATOR and GROWER. Thoroughly experienced in Soft and Hard-wooded Plants, Cut Flowers, and the general routine of the Trade.—Address, K. N., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FOREMAN (Inside); age 24.—Ten years' experience. Three years in present situation.—Mr. LAMBERT can recommend A. Bye as above.—A. BYE, Powis Castle Gardens, Welshpool.

FOREMAN, in a good Establishment. — Age 26. Well up in Forcing Fruits, Flowers, Plants, &c. Good references. Abstainer.—A., Waldeck Cottage, West End, Esher.

FOREMAN or PROPAGATOR—Age 28; well up in all Market Plants, Cut Flowers, Ferns, Vines, Tomatos, Cucumbers, &c.—H., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FOREMAN, or good SECOND, Inside preferred.—Age 26; twelve years' experience; two years in present situation. Recommended by present employer. Excellent character.—J. HOLMAN, Weston Park, Stevenage, Herts.

FOREMAN; age 26.—Mr. HARMAN, The Glebe Gardens, Grove Hill, Denmark Hill, will be pleased to recommend his Foreman, who has been with him two years. Twelve years' experience in Fruits, Plants, Orchids, and general Garden Work. Previously at Clare Lawn and Handcross Park.

FOREMAN, or SECOND.—Age 28, married; thirteen years' experience Inside and Out. Abstainer. Excellent characters.—G. ROBINS, 3, Lyndhurst Cottages, Worpoles, Isleworth.

FOREMAN.—Married; twenty years' experience in producing large quantities of Cut Flowers and Plants for Market, such as Chrysanthemums, Bouvardias, Double Primulas, Pelargoniums, Roses, Palms, Ferns, Eucharis, &c. Excellent references.—FOREMAN, 14, Hartfield Crescent, Wimbledon.

FOREMAN; age 26.—Mr. J. READ would be glad to recommend his present Foreman, who is wanting a change, having been at Bretby three years.—J. READ, Bretby Park Gardens, Burton-on-Trent.

FOREMAN.—Age 27; twelve years' experience. Excellent testimonials from previous employers.—FOREMAN, The Gardens, Lilford Hall, Oundle, Northampton.

FOREMAN; age 24.—Mr. CLINGING, Head Gardener, Sanderstead Court, Croydon, can with confidence recommend a young man as above. Thoroughly understands Vines, Peaches, and Plants. Has been with me three years.—Address as above.

FOREMAN, where four or five are kept.—Age 22; abstainer. Can be well recommended.—Apply, first, to GARDENER, Ickworth Park, Bury St. Edmunds.

FOREMAN, or SECOND.—Married. Mr. HUTT, The Gardens, Egwood, Titley, Herefordshire, will be pleased to recommend John Drew as above. Ten years experience.

FOREMAN, or JOURNEYMAN (First), in a good establishment.—Age 22; eight years' experience, one year as Foreman in present situation. Good references.—J. CULLING, Thornham Hall, Eye, Suffolk.

FOREMAN, in a good establishment.—Age 25; ten years' experience; reliable testimonials from previous and present employers. — T. H. BOLTON, The Gardens, Milnerfield, Bingley, Yorks.

FOREMAN, PROPAGATOR, or GROWER. —Experienced Working Man of good character. State wages, &c.—C. WOODS, Balcombe, Sussex.

FOREMAN, or JOURNEYMAN (FIRST), in a good establishment.—Age 23; nine years' experience. Good testimonials.—J. SHILTON, 33, Blanche Street, Roath, Cardiff.

FOREMAN, or good SINGLE-HANDED.—Age 28, single; well up all round. Life trade experience. Good references and recommendations.—T. ROGERS, Church Street, Wetherby, Yorks.

FOREMAN, or JOURNEYMAN (FIRST).—Age 21; seven years' experience. Excellent references. Abstainer.—Mr. PORTER, The Gardens, Studley Castle, Redditch, would be pleased to recommend G. Cave, as above.

FOREMAN, in a good establishment.—Age 26; good experience in Plant and Fruit Culture. Two years in present situation, five previously. Highly recommended.—F. SHURVELL, The Gardens, Pepper Arden, Northallerton.

FOREMAN, in the Houses, in a good private Establishment, where several are kept.—Age 26. Has been Foreman twice previous.—J. S., 10, Bury Street, Fulham Road, Chelsea, S.W.

FOREMAN.—Age 27; thirteen years' experience. Good references.—H. D., 42, Main Street, Stapenhill, Burton-on-Trent.

FOREMAN, in good Establishment; age 26; total abstainer; highly recommended.—Mr. JEFFREY, Harewood House Gardens, Leeds, can thoroughly recommend Harry Fox, who was General Foreman two years with him at Caversham Park, Reading; two years Foreman previous with Mr. Ford, Wexham Park, Slough.—HARRY FOX, Cobham, Surrey.

FOREMAN, PROPAGATOR, or GROWER for Market. Could Manage branch Nursery, and take charge of Jobbing. Age 31. Thoroughly practical.—C., 59, Nightingale Road, Wood Green, N.

JOURNEYMAN, Inside preferred.—Age 21; four years' experience. Good character.—E. W., Arborfield, near Reading, Berks.

JOURNEYMAN, in the Houses.—Age 22; six years' experience under Glass. Mr. D. TULEY, Head Gardener, Brookman's Park, Hatfield, Herts, would be pleased to recommend a young man as above.

JOURNEYMAN, in the Houses, under a Foreman.—Age 21; can be well recommended.—J. PANTLING, Mabel Villa, Worthington Road, Surbiton, Surrey.

JOURNEYMAN, in the Houses.—Age 20; eight years' experience, excellent character.—H. WARREN, The Gardens, Frank's Hall, Farningham, Kent.

JOURNEYMAN (Inside), under a Foreman.—Age 21; six years' experience; good character; bothy preferred. Disengaged.—F. SIMPSON, Farnham Castle, Farnham, Surrey.

JOURNEYMAN, in a good establishment.—H. ROGERS, Rendlesham Gardens, Woodbridge, would be pleased to recommend E. Ireland. Two years' excellent character from present situation.

JOURNEYMAN (Inside), in a good establishment.—Age 20; five years' experience. Two years present place, three years previous. Bothy preferred.—JOSEPH SMITH, 31, Comyn Street, Leamington.

JOURNEYMAN (THIRD), Inside, or Inside and Out.—Age 22; nine years' experience. Good character.—W. BOULTON, Newbold-Revel Gardens, Rugby.

JOURNEYMAN, in a good establishment.—Age 20; three years in Orchids and two years in Plants and Fruit. First-class references.—M. REYNOLDS, Aubrey Cottage, Notting Hill Grove, Kensington, W.

JOURNEYMAN (Inside), under a Foreman.—Age 20; six years' experience. Well recommended. Suburbs preferred.—S. SEAL, Iscoed Gardens, Ferryside, Carmarthenshire.

JOURNEYMAN (FIRST), Plants preferred, or FOREMAN.—Age 24; ten years in good private establishments. Last place as above.—H. HARRIS, Rydes Farm, West Clandon, Guildford, Surrey.

JOURNEYMAN, in the Houses, in a good Establishment.—Age 21; seven years' experience. Excellent character.—J. SELLWOOD, 14, Endsleigh Road, Ealing Dean, W.

JOURNEYMAN, or GARDENER (SECOND), Inside, or Inside and Out, where not less than five are kept.—Good reference. Eight years' experience.—W. DUDNY, Barrow Hill, Henfield, Sussex.

JOURNEYMAN, under a Foreman.—I can with confidence recommend C. Bennett for the Houses. Seven years' experience Inside and Out.—HEAD GARDENER, Sterte Lodge, Poole, Dorset.

JOURNEYMAN (Inside, or Inside and Out); age 21.—T. LUPTON, The Gardens, Brockley Hill House, Stanmore, can with confidence recommend T. Carr as above. Sober, steady, and very industrious. Twelve months' good character. Five years' good reference.

JOURNEYMAN, in the Houses, under a Foreman; age 23; six years' experience in good Gardens; bothy preferred.—ERNEST BENNETT, Coughton Hill, Redditch.

JOURNEYMAN (FIRST), in the Houses.—Age 27; eight years' experience under Glass in a good establishment. Good character.—G. OSBORNE, Turnpike Road, Hacheston, Wickham Market, Suffolk.

JOURNEYMAN, Inside.—Age 20; six years' experience. Two years' excellent character, four years previous. Abstainer. Midlands preferred.—T. GILL, Newland, Sittingbourne, Kent.

JOURNEYMAN (SECOND), in the Houses.—Age 18; four years' experience. Good character. S. TROTT, Yew Tree Cottage, Crawley, Sussex.

JOURNEYMAN, in the Houses, under a Foreman.—Two years in present place, and four previous in Nobleman's Garden. Excellent character.—HOBBS, Canwell Hall Gardens, Tamworth.

JOURNEYMAN.—Age 23; has had good experience in Growing Fruits and Plants, and in general Indoor Work. Can be well recommended.—A. WEST, Timberland, Lincoln.

JOURNEYMAN, Inside; age 21.—J. TRIGGER, Milton Park Gardens, Peterborough, can highly recommend John Samworth as above. Five years' experience.

JOURNEYMAN.—I can, with confidence, recommend a young Man, who has been employed here for the last five years, for either Inside or Out.—JAMES SMITH, Wotton Gardens, Aylesbury.

JOURNEYMAN (FIRST), in a good establishment.—Age 23; nine years' experience. Good references.—C., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

JOURNEYMAN, in a good establishment, Inside and Out, under Foreman preferred.—Age 21; present situation three years. Good reference.—A. HUCKLE, Holly Cottage, Stratford Road, Hendon.

JOURNEYMAN.—To assist in Houses. Bothy preferred.—T. CHURCH, Grove Gardens, Cookham.

JOURNEYMAN, in the Houses.—Age 21; seven years' experience in good establishments. Excellent characters. Bothy preferred.—H. JENKINSON, The Gardens, Wentworth Castle, Barnsley, Yorks.

JOURNEYMAN, Inside and Out.—Mr. LOCKIE, Oakley Court Gardens, Windsor, can highly recommend a strong, active, and willing young man, age 23. Ten years' experience, mostly in Kitchen Garden. Highly recommended, and abstainer.

JOURNEYMAN (FIRST) in the Houses, or SECOND in a good establishment (age 22).—Mr. DRINKWATER, The Gardens, Withnell Fold, Chorley, Lancashire, can with confidence recommend E. Davies as above. Two years in present situation.

JOURNEYMAN, in the Houses.—Age 19; three years' experience. Good reference from present and previous employer.—W. HORTON, Marian Lodge, Little Gaddesden, Herts.

JOURNEYMAN (FIRST), in a good establishment.—Mr. LAWSON, Dorfold Gardens, Nantwich, can with confidence recommend G. Smith (age 24); three years in present situation.

JOURNEYMAN, Inside, or Inside and Out.—Age 21; seven years' experience. Good references. Abstainer.—J. WIGGINS, The Gardens, Elsham House, Grantham.

JOURNEYMAN, in a good establishment.—Age 20; six years' experience in the General Routine of Gardening. Good reference from present and previous employers.—W. CHILDS, Ashridge Gardens, Berkhampsted, Herts.

JOURNEYMAN.—Age 20; four years' experience, one year in last situation, three in previous. Excellent character from last and previous employers.—Disengaged.—A. HINCHLIFFE, Jowitt House, Cawthorne, Barnsley.

JOURNEYMAN (FIRST), in the Houses, under Foreman.—Age 23; three and a half years in present situation. Bothy. Wants change.—W. CRAVEN, Little Dalby Hall Gardens, Melton Mowbray.

JOURNEYMAN (FIRST), in the Houses.—Age 24; nine years' experience. Can be well recommended from present and previous employers.—B., Ivy Cottage, Millfield Lane, Highgate, N.

JOURNEYMAN.—Age 21; steady, trustworthy, and obliging. Full particulars from Mr. F. CLIPSTONE, Head Gardener, Dingley Park, Market Harboro', Northamptonshire.

IMPROVER, in the Houses.—Age 21; five years' experience, Inside and Out. Good character.—R. C., Little Marlow, Bucks.

IMPROVER, in a Private Garden.—G. PILLER, Gardener, Fairy Hill, Swansea, Glamorgan, wishes to recommend a youth, age 19. Four years' experience, Inside and Out.

IMPROVER, in a Market Nursery.—Age 18; used to Growing Ferns, Cut Flowers, Cucumbers, Tomatos, &c. Three years' character.—F. CROWDER, Westbourne, Emsworth.

IMPROVER, under Glass, in a good Establishment.—Age 21. Would pay premium if required. Three years' experience Inside and Out. Good character.—A. EASTAFF, Singlewell, Gravesend, Kent.

IMPROVER, Inside, or Inside and Out; age 22.—G. NORRIS, Stone Park, Greenhithe, would be pleased to recommend G. Smith, who has been with him two years and nine months, to any Gardener requiring a steady, obliging and respectable young Man.

IMPROVER, in a large Garden, under Glass.—Young man (age 20). Premium paid, if required.—J. EVETTS, Castle Green, Kenilworth, Warwickshire.

TO GENTLEMEN or NURSERYMEN.—Situation wanted by a thoroughly practical man; life-experience in every Department, with Nurserymen and Gentlemen. Married, no family. Could take charge of a Home Farm. Good references.—A. B., Anderson's Nursery, Teddington.

TO GARDENERS, &c.—Situation wanted under a Foreman in the Houses in a Private Nursery.—Age 23; eight years' experience; two years and four months in last place.—H. LORD, 32, Rushmore Street, Leamington.

TO GARDENERS, &c.—A young Man (age 23, single), has been used to the Pleasure Grounds and Kitchen Garden. Good character from last place.—RALPH, Mr. Martin, Albion Cottages, West Hill, Epsom.

TO GARDENERS.—A young Man (age 22), seeks a situation under a good Foreman, in a Gentleman's Garden. Five years' general experience; two years in present situation.—W. OATEN, Hill House Garden, Esher, Surrey.

TO GARDENERS.—Situation wanted in the Garden by a young MAN, where two or three are kept.—Five years' good character.—Apply, C. PARSONS, Kingston-by-Sea, near Brighton, Sussex.

TO GARDENERS.—Advertiser (age 20) seeks situation, Kitchen Garden preferred. Good references from last and previous situations.—G. H., The Chestnuts, Weybridge, Surrey.

TO GARDENERS and OTHERS.—A young Man, age over 19, seeks a situation, Inside, or Inside and Out. Four years' experience.—H. RANSON, Mill Cottage, Fleet, Hants.

TO NURSERYMEN.—Advertiser, age 23. Good experience in Vines, Roses, Chrysanthemums, Cut Flowers, and General Work for Market.—W. R., 3, Rollo Road, Hextable, Swanley, Kent.

TO NURSERYMEN.—A young man, well-up in Palms, Stovehouse Plants, and Cut Flowers, wishes situation at once.—O. L., 5, Chesterfield Terrace, Underhill Road, East Dulwich, S.E.

TO NURSERYMEN.—A young Man (age 21) seeks situation in a Market Nursery; three and a half years with Toddington Orchard Co.—E. TROUGHTON, Nurseries, Newtown, Winchcombe, Glos.

TO SEEDSMEN.—A young Man (age 20) seeks situation in a Seed Business. Six years' experience with Sutton & Sons. Used to Serving at Counter.—HOLLAND, 67, Donnington Gardens, Reading.

TO HORTICULTURISTS.—Wanted, occupation for a young Gentleman (age 21) in the neighbourhood of London. As he is epileptic, kind treatment is most essential. Board (if any) would be paid for; also small premium if results satisfactory. Later on, a small Capital could be advanced in a well-established Business. State full particulars to L. W., 73, Ravensdale Road, Stamford Hill, N.

SALESMAN.—Situation wanted; six years' experience in West End Florist's. Thoroughly acquainted with Palms, Ferns, and other plants. Good references. Moderate salary.—G. PAMPHILON, 10, Palace Street, Buckingham Gate, S.W.

SHOPMAN, or MANAGER.—Age 28; experienced in Wreaths, Bouquets, Seeds, Plants, Bookkeeping, &c. London and Provincial experience. Good Salesman. Excellent references.—FLORIST, 14, Lamotte Street, Jersey.

SHOPMAN (ASSISTANT).—Age 26; ten years' good all-round experience. Good references.—EDWARD WOOLLAM, 59, Skipworth Street, Leicester.

CLERK (CORRESPONDING, &c.).—Married; Many years' experience in several of the largest and best Nurseries. Thorough knowledge of practical Botany and Horticulture.—First-class testimonials.—B. G., Samuel Wylie, Esq., 13, St. Andrew Square, Edinburgh.

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TO FLORISTS.—A young Lady, well up in all branches, desires re-engagement. First-class references.—FLORIST, 14, Clarendon Road, West Green, Tottenham.

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They are the first, foremost, and best in the world.

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HER MOST GRACIOUS MAJESTY THE QUEEN on numerous occasions,
HIS ROYAL HIGHNESS THE PRINCE OF WALES,
THE KING OF THE BELGIANS.
The Late EMPEROR OF THE FRENCH. The EMPEROR OF RUSSIA,
And most of the NOBILITY, CLERGY, and GENTRY of the United Kingdom.

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Upwards of 195,000 of these Machines have been Sold since they were first introduced in the year 1856,
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SINGLE-HANDED SILENS MESSOR LAWN MOWER,
With Improved Steel Chains and Handles.

To cut 6 in., can be worked by a Lady ...	£1	15	0
To cut 8 in., do. do.	2	10	0
To cut 10 in., do. by a strong youth	3	10	0
To cut 12 in., do. by a man ...	4	10	0
To cut 14 in., do. do. ...	5	10	0

We are the only makers of Lawn Mowers appointed by Royal Warrant to Her Majesty the Queen, and His Royal Highness the Prince of Wales.

DOUBLE-HANDED LAWN MOWER.

To cut 16 inches, can be worked by one man on even lawn ...	£6	10	0
To cut 18 inches, do. man and boy...	7	10	0
To cut 20 inches, do. do. ...	8	0	0
*To cut 22 inches, can be worked by two men	£8	10	0
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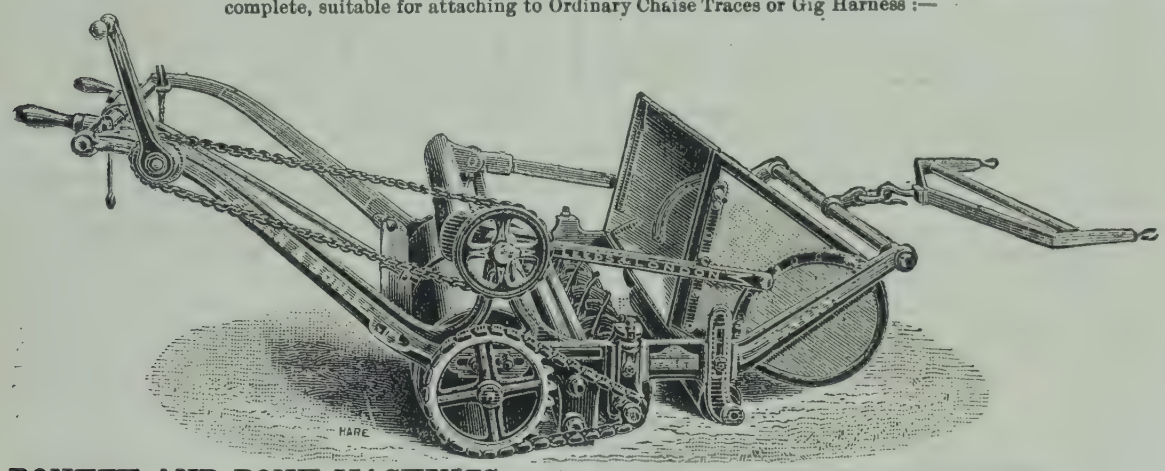
* If made stronger, suitable for Donkey, 30*s.* extra.

These Mowers are the "Ne Plus Ultra" and "Acme" of perfection of all Lawn Mowers extant.

Prices of Donkey, Pony, and Horse Machines, including Patent Self Delivery Box, or Side-delivery, with Cross-stay complete, suitable for attaching to Ordinary Chaise Traces or Gig Harness :—



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To cut 26 inches	£14	0	0
To cut 28 inches	16	0	0
To cut 30 inches	18	0	0
Leather Boots for Donkey	1	0	0
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To cut 30 inches	£22	0	0
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The 26 and 28 inches can easily be worked by a Donkey, the 30 inches by a Pony, and the larger sizes by a Horse; and as the Machine makes little noise in working, the most spirited animal can be employed without fear of it running away, or in any way damaging the machine. Packing Cases as per List, except when for export.

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Diam.	Length	£	s.	d.
16 in. by 17 in. ..	—	2	5	0
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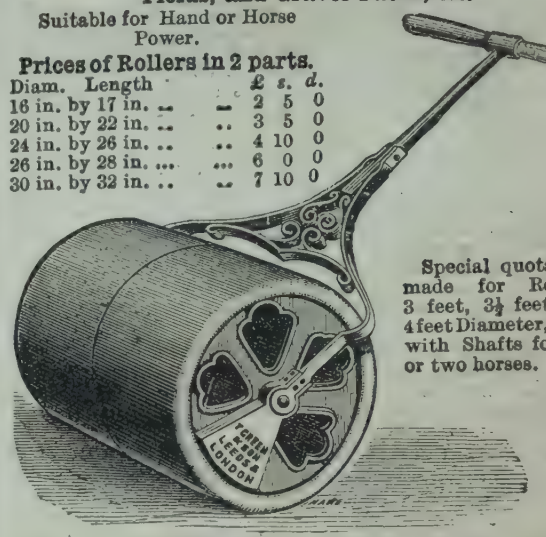
24 in. by 26 in. ..	..	4	10	0
26 in. by 28 in. ...	...	6	0	0
30 in. by 32 in. ..	..	7	10	0



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Size and Price, 7 inches wide, 7 ins. diam., **£1 16s.** Packing Case, 3*s.*

Specially designed to meet a want which has long been felt in cutting the overhanging grass on the edges of walks, borders, flower-beds, &c., and do away with the tedious operation of cutting with shears.

☞ **A very useful and serviceable Machine.**

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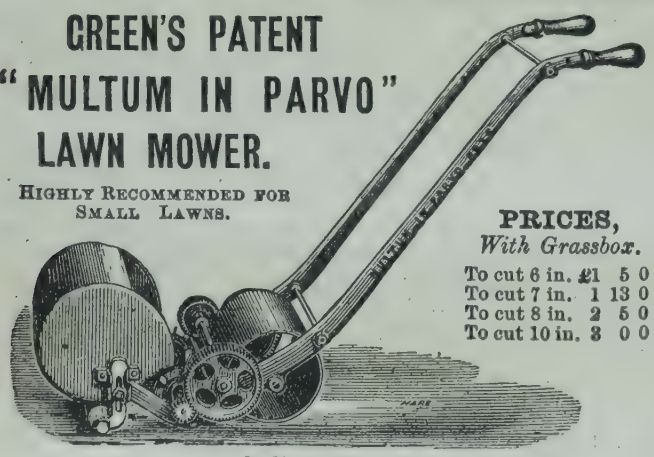
HIGHLY RECOMMENDED FOR SMALL LAWNS.

PRICES,
With Grassbox.

To cut 6 in.	£1	5	0
To cut 7 in.	1	13	0
To cut 8 in.	2	5	0
To cut 10 in.	3	0	0



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Small Bag of Marking Composition, 9*d.*

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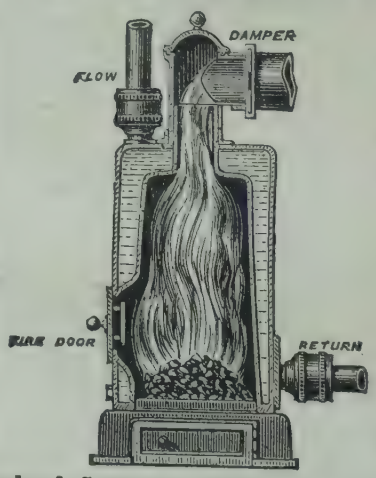

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CONTENTS.

Araucaria imbricata ... 232
Belgian notes 230
Broccoli, the preservation of 230
Cattleya labiata 235
Currant-bud mite ... 232
Cymbidium grandiflorum 235
Eucalyptus coccifera, hardiness of 237
Flowers, frozen, from New Zealand 234
Galanthus Fosterii ... 237
Gold fish, treatment of 237
Grape Gros Colmar ... 238
Grape Muscat Champion 238
Label, Wood's plant ... 238
Leaf-mould 227
Lilies *versus* Roses ... 227
Manure, liquid, in Paris market gardens ... 232
Michaelmas Daisies ... 228
Notes, a traveller's ... 228
Nursery Notes—
Pearson, J. & R. & Sons, Nottingham ... 236
Pansies, "tufted" ... 238
Peach buds dropping ... 238
Phaius tuberculosus ... 234
Plants new or noteworthy—
Crocus Tauri var. melanthorus 226
Cypripedium Alfred Bleu 226
Dendrobium × Owenianum 226
Plants, new, continued—
Dendrobium rubens ... 226
Galanthus Elwesii var. robustus 226
Galanthus byzantinus 226
Oncidium Saintlegerianum 227
Phaius amabilis × ... 226
Roses 225
Societies—
Brussels Orchidéenne 233
Linnean... 232
Manchester Royal Botanic and Horticultural Orchid Show... 234
National Auricula and Primula 235
National Carnation and Picotee 235
National Chrysanthemum 239
Royal Horticultural ... 238
Scottish Horticultural Association ... 234, 239
Wolverhampton Horticultural 234
Veitch Memorial Fund . 233
Week's work—
Flower garden, the ... 231
Fruits under glass ... 231
Hardy fruit garden ... 231
Kitchen garden ... 231
Orchid-houses, the ... 230
Plants under glass ... 231
Wistaria sinensis in Japan 232

ILLUSTRATIONS.

Label, Wood's Patent Zinc 236
Phaius amabilis × 229
Phaius tuberculosus 237
Wistaria sinensis in Japan 233

"GARDENERS' CHRONICLE."

LARGELY INCREASED CIRCULATION.

IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper, Increased to the extent of* **75 per cent.**

Advertisers are reminded that the "Chronicle" circulates among ALL *classes of gardeners and garden-lovers at home and abroad, and is preserved for reference in all the principal Libraries.*

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Per Packet, 1*s.*
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ORCHIDS.—Many rare and choice Cattleyas, Dendrobiums, Cypripediums, &c., always in stock. Inspection invited. Please write for LIST.
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Pandanus Veitchii.

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H. AND F. SHARPE have forwarded their SPECIAL PRICED LIST of SEED POTATOS to their Customers and others in the Trade, and will thank those who have not received it to inform them, and a further copy will be posted.
SEED GROWING ESTABLISHMENT, WISBECH.

Established 1810.

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J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings. Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W.

THOMSON'S MANURE.—The sale of this Manure is steadily increasing, and it can be had as formerly of all the leading Nursery and Seedsmen in the United Kingdom.
London Agent, Mr. JAS. GEORGE, 14, Redgrave Road, Putney.
Agent for Channel Islands, Mr. J. H. PARSONS, Guernsey.
Sole Makers, WILLIAM THOMSON AND SONS, Limited, Tweed Vineyard, Clovenfords.

SALES BY AUCTION.

Wednesday Next.

500 Choice named Standard, Dwarf, and Climbing ROSES, 200 FRUIT TREES, 300 lots of BORDER PLANTS, HARDY ORNAMENTAL TREES, SHRUBS, &c., 5000 LILIUM AURATUM, and other LILIUMS from Japan; Home-grown LILIUMS, DAHLIAS, BEGONIAS, IRIS, Choice and Rare BULBS, GLOXINIAS, TUBEROSES, ANEMONES, SPIRÆA JAPONICA, LILY OF THE VALLEY Crowns, FREESIAS, &c.

MR. J. C. STEVENS will SELL the above by AUCTION at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, March 1, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

Thursday Next.

30,000 fresh Seeds of COCOS WEDDELLIANA, just received; 50,000 best Berlin LILY OF THE VALLEY, Crowns and Clumps; an importation of LILIUMS from Japan, comprising 5000 Lilium auratum, L. Krœtzerii, L. speciosum, album and rubrum, &c., SACRED LILIUMS, HOME-GROWN LILIUMS, 1000 SPIRÆA JAPONICA, choice GLADIOLI, 10,000 FREESIA REFRACTA ALBA, TUBEROSES, 1000 ANEMONE FULGENS, Collection of STOVE and GREENHOUSE PLANTS, IRIS, &c.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, March 2, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

Thursday, March 9.

SPECIAL SALE OF ORCHIDS in FLOWER and BUD.

MR. J. C. STEVENS begs to announce that he will hold his next SPECIAL SALE of ORCHIDS in FLOWER and BUD, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY, March 9, and will be glad to receive LISTS from GENTLEMEN desirous of DISPOSING of PLANTS.

Monday Next.

200 Dwarf ROSES, choice HARDY PERENNIALS, New CARNATIONS, CALLA COMPACTA NANA, GLADIOLI in variety, Hardy CLIMBERS, RUBUS LACINIATUS, SEAKALE, Exhibition and other varieties; MONTBRETTIAS, English-grown LILIES in great variety, 10,000 LILY OF THE VALLEY (Berlin Crowns), Single and Cactus DAHLIAS, HYACINTHUS CANDICANS, ANEMONES, PEARL TUBEROSES, &c.

MESSRS. PROTHEROE and MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, February 27, at 12 o'clock.

On view morning of Sale, and Catalogues had.

Tuesday Next.

ODONTOGLOSSUM CRISPUMS, finest forms; also a splendid lot of Spring-flowering ORCHIDS, and Orchids in flower, from Messrs. F. Horsman & Co; 100 lots of CYMBIDIUM LOWII, CYPRIPEDIUM SPECIES, and DENDROBIUM BRYMERIANUM; 100 lots of Established and Semi-established ORCHIDS, from a well-known grower, in splendid condition, specially suitable for Gentlemen forming collections.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, February 28, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Wednesday Next.

DIRECT IMPORTATION of 100 CASES of JAPANESE LILIES, for absolute SALE, without the least reserve.

3370 LILIUM AURATUM,
Including 270 largest Bulbs.
920 ,, CORDIFOLIUM.
650 ,, SPECIOSUM RUBRUM.
3384 ,, ,, ALBUM.
120 ,, BROWNII.
100 ,, AURATUM WILLEI.
270 ,, ,, PICTUM.
660 ,, ,, MACRANTHUM.
300 ,, EXIMEUM.

Just received from Japan in splendid condition.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY, March 1, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Wednesday Next.

DIRECT IMPORTATION.
FOR UNRESERVED SALE.

58 TREE FERNS from New Zealand, including Cyathea medullaris, C. Cunninghami, C. dealbata, and Dicksonia squarrosa.

2500 LILIUM HARRISII.
1200 CYCLAMEN HEDERÆFOLIUM.

MESSRS. PROTHEROE AND MORRIS will include the above in their SALE on WEDNESDAY, March 1.

On view morning of Sale, and Catalogues had.

Wednesday Next.

100 Standard and 500 Dwarf ROSES, English-grown; AZALEA INDICA, in flower; DRACÆNAS, PALMS, and FICUS, from Belgium; Climbing, Perpetual, and Moss ROSES; an extra choice strain of named single BEGONIAS, from a well-known Amateur; 600 mixed BEGONIAS and GLOXINIAS; 2700 GLADIOLUS FLORIBUNDUS; Cactus and Single DAHLIAS; gigantic Bulbs of LILIUM CANDIDUM, 2½ feet in circumference; 9200 clumps of LILY OF THE VALLEY, also Berlin Crowns in quantity; 30 fine Bulbs of LILIUM NEILGHERRENSE, 160 HYACINTHUS CANDICANS, ANEMONES in great variety, 2000 American PEARL TUBEROSES, &c.

MESSRS. PROTHEROE AND MORRIS will include the above in their SALE on WEDNESDAY NEXT, March 1, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

CHINESE AND JAPANESE GOODS, consisting of fine Satsuma Ware Vases, Jars, and Covers, Tête-à-tête Sets, Bowls, Lacquered Trays, Cabinets and Baskets, fine Embroidered Folding Screens, Chinese Gongs and Stands, pair of large Canton Blue and White Jars and Covers, Metal Trays and Boxes, Bronze Vases and Jars, Vases and Covers in different Wares, Condiments and Preserved Ginger; and about 200 Lots of BENARES WARE, consisting of Tea and Coffee Pots, Vases, Trays, Shields, Spells, Indian Silk Table Covers, and Antimacassars, &c,

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY and THURSDAY, March 1 and 2, at half-past 12 o'Clock each day.

On view day prior and mornings of Sale. Catalogues had of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Thursday Next.—Special Sale.

600 Lots of HARDY PLANTS and BULBS, including Phlox, Hollyhocks, Pæonies, Carnations, Cannas, Climbers, Lily of the Valley, Dahlias, Perennials, named and mixed Begonias and Gloxinias, Pyrethrums, Delphiniums, 50 lots of Choice Greenhouse Ferns and Decorative Plants, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, March 2, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Tuesday, March 7.

IMPORTANT SALE of JAPANESE and other LILIES, BEGONIAS, TUBEROSES, GLADIOLUS and other BULBS, from a large London Seedsman, lotted specially to suit Private Buyers.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY, March 7.

Catalogues will be ready in due course.

Wednesday, March 8.

30,000 SEEDS PHŒNIX RUPICOLA.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY, March 8, 30,000 SEEDS of PHŒNIX RUPICOLA, just received in excellent condition. This is one of the most elegant and graceful of Greenhouse Palms, being exceptionally valuable for every Decorative purpose.

On view morning of Sale, and Catalogues had.

Highly Important Sale of Established Orchids.

The Duplicates of nearly all the choicest things in the Celebrated

PICKERING LODGE COLLECTION,

ABSOLUTELY WITHOUT RESERVE.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions from George Hardy, Esq., to SELL by AUCTION, on the premises, Pickering Lodge, Timperley, near Manchester, on WEDNESDAY and THURSDAY, March 8 and 9, at half-past 12 o'Clock, each day, a PORTION of this FAMOUS COLLECTION of ORCHIDS, the whole being in a high state of cultivation. A List of the Principal Plants appeared in the *Gardeners' Chronicle* for February 18 last.

Catalogues are now ready, and may be had of Mr. HOLMES, on the Premises; or of the Auctioneer, 67 and 68, Cheapside, London, E.C.

The Celebrated Fernside Collection of Orchids.

SECOND PORTION.

ABSOLUTELY WITHOUT RESERVE.

PRELIMINARY NOTICE.

MESSRS. PROTHEROE AND MORRIS are favoured with Instructions, from H. M. Pollett, Esq., to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY, March 15, at half-past 12 o'Clock precisely, the SECOND PORTION of this CELEBRATED COLLECTION of ESTABLISHED ORCHIDS.

Catalogues, with thirty-five Coloured Plates of some of the principal Odontoglossums, are now ready and can be had, price 2*s.* 6*d.* each, of Messrs. Protheroe & Morris, Horticultural Auctioneers and Valuers, Central Auction Rooms, 67 and 68, Cheapside, London, E.C.

Friday Next.

NEWLY-IMPORTED ORCHIDS,
From Messrs. Charlesworth, Shuttleworth & Co., Bradford and Clapham.
IMPORTANT SALE.

MESSRS. PROTHEROE AND MORRIS are instructed to SELL by AUCTION, at their Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, March 3, at half-past 12 o'Clock, Valuable Newly-imported ORCHIDS. Particulars have not arrived in time for publication in this advertisement, but the plants will be fully described in Catalogues, which will be posted as usual.

On view morning of Sale, and Catalogues had.

N.B.—There will also be included 50 Lots of ESTABLISHED ORCHIDS from a private collection, amongst them Cœlogyne cristata alba, Dendrobium nobile nobilius, Cœlogyne Lemoniana, Saccolabium bellinum, Vanda Denisoniana, and others.

The Quorn House Collection of Orchids.

LOUGHBOROUGH.

Also the COLLECTION of PITCHER PLANTS, probably the finest in Europe.

Highly important CLEARANCE SALE, by order of W. E. J. B. Farnham, Esq. Without the slightest Reserve.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION, on the Premises, Quorn House, Loughborough, on TUESDAY, April 11, and following days, at 12 o'Clock precisely each day, the whole of this far-famed COLLECTION of ESTABLISHED ORCHIDS, splendidly grown, and containing many rarities. A list of the principal plants appeared in last week's *Gardeners' Chronicle*.

Catalogues are being prepared, and may be had in a few days.

The Royal Nurseries, Harborne Road, Edgbaston,
BIRMINGHAM.

CLEAR OUT UNRESERVED SALE of the whole of the PALMS and DECORATIVE PLANTS, fine specimens of KENTIAS, SEAFORTHIAS, ARECAS, PHŒNIX, and others, up to 15 feet; by order of Messrs. Hewitt & Co., who are giving up furnishing, and want the room for the growth of cut flowers.

MR. THOMAS B. JAMES has received instructions from Messrs. Hewitt & Co., to SELL by AUCTION, without the least reserve, on WEDNESDAY NEXT, March 1, at 11 o'Clock A.M., their entire Collection of PALMS and other DECORATIVE PLANTS at the above Nursery, comprising 800 Palms (in variety), Dracænas, Crotons, Aspidistras, Ferns, Pot-Roses, 400 Pelargoniums, &c; upwards of 5000 Plants.

On view two days previous and morning of Sale; Catalogues of Messrs. Hewitt & Co., Solihull and Birmingham; and of the Auctioneer, 12, Bull Ring, Birmingham.

Castle Nursery, Brox, Ottershaw, near Chertsey,
SURREY.

MESSRS. WATERER AND SONS are instructed to SELL by AUCTION, upon the Premises as above, on TUESDAY, February 28, 1893, at 11 for 12 o'Clock, the well-grown NURSERY STOCK, comprising Border Shrubs, green and variegated Hollies, 2 to 4 feet; 2000 Caucasian Rotundifolia, Portugal and common Laurels, 1000 Aucubas, 1000 Cupressus Lawsoniana, English Yews, Thuja Lobbii, American Arbor-vitæ, Abies Douglasii, Lilacs, Irish Ivies, Berberis, Ovalifolium Privet, green and variegated Box, Rhododendrons, Birch, Mountain Ash, a number of dwarf and standard Roses, 1500 Pot Shrubs, Scarlet Thorns, strong Quicks, &c.

May be Viewed three days prior to the Sale, and Catalogues may be obtained upon the Premises, and of the Auctioneers at either of their Offices, at Chertsey, Weybridge Station, and opposite the station entrance, Walton-on-Thames.

Nursery, or Nursery and Florist's.

WANTED to RENT, or PURCHASE RIGHT OUT, at moderate price. Near London preferred.—Send full particulars, in strict confidence, to ROBERT HILL, 5, Adelaide Street, Strand, W.C.

TO LET, a Small NURSERY.—Apply to E. BLAND, Primrose Nursery, Fordham, Cambs.

TO LET.—ST. ANDREW'S NURSERY, Deal; Seven Glasshouses, with or without Stock. Apply to M. LANGLEY, High Street, Deal.

NURSERY TO LET, Penkhull, near Stoke-on Trent, compact, plenty of Glass, Seed-house, Stable, &c. Dwelling-house. Rent low. Apply—
G. H. JONES, Park Lodge, Stone, Staffs.

To Nurserymen, Horticulturists, and Market GARDENERS.

TO LET, or SELL, with Immediate Possession, HOUSE and large GARDENS, with six Hothouses, Warehouses, Stabling and conveniences, at low Rent. Half a mile from Railway, and close to navigable River. Plants, Stock-in-Trade, &c., can be taken to or not, at option of Tenant.—Apply, WALLER AND TOMLINSON, Auctioneers, Thorne, Doncaster.

Priory Nursery, Acton Lane, Middlesex.

TO BE LET, part of remaining Grounds, in portions, or as a whole (nearly 3 acres), having about Eighteen large Greenhouses, in good working order, near to four railway stations, and London Markets. An uncommon opportunity to Tomato and Cucumber Growers, &c.

Apply, on the Premises, or of Mr. HORSNAIL, 96, Newgate Street, City, London.

EXCELLENT SITE for NURSERY!!—Eight-roomed House, Coach-house, Stable, and Shed, with about 3½ acres of rich Garden Land (Freehold), in the favourite neighbourhood of Hampton, for Sale, on exceedingly favourable terms; or would be Leased.

Apply Mr. F. G. HUGHES, The Estate Office, Hampton-on-Thames.

TO BE SOLD, by Private Treaty, the WHITTINGTON ROAD MARKET GARDEN PROPERTY, with excellent Greenhouses, all in good working order, and good Dwelling House.—For particulars, apply to—
WILLIAMS AND NICHOLSON, Salop House, Oswestry.

NURSERY and FLORIST'S for SALE, London. Flowers, Tomatos, Cucumbers, Mushrooms. Splendid chance for retired or working gardener. Four Greenhouses. Rent £10. Price, £150 all at. Marvellous Bargain.—HILL AND CO., 5, Adelaide Street, Strand, W.C.

FOR SALE.—A SMALL NURSERY, 12 miles from London, S.W.R. Grows chiefly Cut Flowers for the West-End. Would suit a Beginner. Been built seven years. Owner retiring.—Apply, A., Mr. Bastow, 8, Sloane Square, Chelsea, S.W.

Pine-Apple Nursery, Maida Vale.

TO BE SOLD, by Private Treaty, the magnificent WINTER GARDEN and CONSERVATORY, erected at a considerable expense.

Particulars of Messrs. PROTHEROE AND MORRIS, 67 and 68, Cheapside, London, E.C.

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To Nurserymen and Others.
BOROUGH OF EAST RETFORD.
SEALED and ENDORSED TENDERS, to reach the undersigned, not later than Four o'Clock on the Seventh day of March Next, are invited for the Supply and Delivery of TREES AND SHRUBS FOR PLANTING THE CEMETERY EXTENSION. The plans, specifications, and quantities are now lying for inspection at the office of
J. D. KENNEDY, Borough Surveyor,
East Retford, Feb. 22.

FEBRUARY 14, 1893.
TO MESSRS. SUTTON AND SONS,
SEEDSMEN, READING.
GENTLEMEN,—We regret that we have INFRINGED YOUR COPYRIGHT in a certain Illustration of a Residence, Tennis Lawn, and Garden, and beg to offer you our APOLOGY for having done so. We desire to state that the infringement was quite unintentional on our part, as we obtained the electro from a firm who had, we believed, the right to supply it, and we used this electro in perfect ignorance that the illustration was your Copyright. We thank you for your consideration in not taking legal proceedings against us, and we undertake not to repeat the infringement of this or any other illustration of yours. We further authorise you to publish this letter, and shall be pleased to pay any reasonable expense you have been put to in the matter.—Yours truly,
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N.B.—Winner of our own Queen's Cup at the International Exhibition at Hamburg; Gold Medals in Paris, Brussels, Holland, &c., and the leading prizes for Grapes for many years in Great Britain and Ireland.
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The above offered cheap, to clear.
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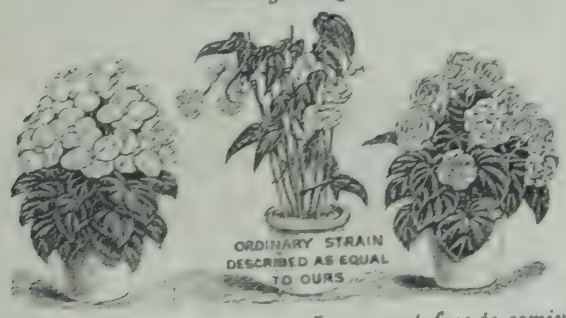

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EXHIBITION OF GARDENING and FORESTRY.

The Exhibition will Open on the 13th of May, and Close about the middle of October.

Exhibits have been promised by the British and several Foreign Governments, and the most prominent Horticulturists and Foresters have expressed their desire to help.

FORTNIGHTLY FLOWER SHOWS
WILL BE HELD, COMMENCING ON 13TH MAY.
For particulars see Special Schedule.

CLASSIFICATION of EXHIBITS,
Medals, and Certificates will be awarded.

Group 1.—Gold, Silver, and Bronze Medals and Certificates.—(*a*) Specimens of new and rare flowering trees and shrubs; (*b*) Forest flora; (*c*) Collection of seeds, cones, &c.; (*d*) Forest fauna and entomology; (*e*) Specimens of damage done to timber and growing wood by insects, &c.

Group 2.—Gold, Silver, and Bronze Medals and Certificates.—Growing Collection of Trees and Shrubs: (*a*) Deciduous and evergreen, indigenous and exotic, in classes; (*b*) Deciduous and evergreen, indigenous and acclimatised, with special reference to the grouping for effect; (*c*) Undergrowth for coverts, &c; (*d*) Fruit trees, trained.

Group 3.—Gold, Silver, and Bronze Medals.—(*a*) Garden and forest literature; (*b*) Working plans of Gardens, forests, and plantations; (*c*) Valuations and survey of estates; (*d*) Charts illustrative of the geographical distribution of trees, their adaptability to various soils, their rate of growth, &c.; of the sequence of plants, natural or artificial; (*e*) Specimens of fossil trees.

Group 4.—Gold and Silver Medals.—Hybridisation of Plants. (*a*) Specimens of a hybrid, accompanied by the two parent species or varieties, indicating which of these has furnished the pollen. (*b*) Specimens of a hybrid A × B produced by crossing the two species or varieties A and B—the plant A having furnished the pollen; and specimens of a hybrid B × A produced by the crossing of the same species or varieties A and B—the plant B having furnished the pollen. The plants A and B must accompany the hybrids.

Group 5.—Gold and Silver Medals.—Collection of Timber Specimens and Ornamental Woods, Rough and Polished: (*a*) Indigenous; (*b*) Exotic.

Group 6.—2 Gold, Silver, and Bronze Medals.—Wood-working Machinery; (*a*) Sawing, planing, moulding, lathes, &c.; (*b*) Implements and tools used in gardening and forestry; (*c*) lawn-mowers, rollers; (*d*) Digging and draining tools, axes, pruning tools, pumps, cutlery; (*e*) Appliances for the transport of timber; and (*f*) The transplanting of trees.

Group 7.—Gold Medal.—Wood Engraving, with Samples of Wood; special attention being given to the supply of Boxwood (Buxus sempervirens) or its substitutes.

Group 8.—Gold, Silver, and Bronze Medals.—(*a*) Woods used for ordnance and small-arms, backing for armour-plates, lance-stocks, &c.; (*b*) Wheels; (*c*) Sleepers and rolling stock of railways, telegraph-poles, &c; (*d*) Paving or street purposes; (*e*) Mining timber; (*f*) Bent timber.

Group 9.—Two Gold, Silver, and Bronze Medals.—(*a*) Woods used for parquetry, with examples; (*b*) Mosaic; (*c*) Wood-block flooring; (*d*) Ceilings, wainscoting, and internal wall decorations; (*e*) Household furniture.

Group 10.—Silver and Bronze Medals.—(*a*) Fibres; (*b*) Wood-pulp materials used for paper-making; (*c*) Ropes, lines, and twines; (*d*) Resins and oils; (*e*) Dyes and stains; (*f*) Barks; (*g*) Spices.

Group 11.—Gold and Silver Medals.—(*a*) Wood-carving; (*b*) Turnery; (*c*) Decorative painting on wood.

Group 12.—Gold, Silver, and Bronze Medals.—Processes for the preservation of timber.—(*a*) To resist wet and dry-rot; (*b*) To resist fire; (*c*) Paints and other wood-preserving compositions.

Group 13.—Silver and Bronze Medals.—Fertilisers and Artificial Manures.

Group 14.—Silver and Bronze Medals.—(*a*) Garden pottery; (*b*) Statuary vases; (*c*) Edgings, &c.

Group 15.—Silver and Bronze Medals.—Miscellaneous accessory Decorations to a Garden.

Group 16.—Silver and Bronze Medals.—(*a*) Fancy woodwork; (*b*) Baskets; (*c*) Bamboo canes, Willows, &c.

Group 17.—Gold, Silver, and Bronze Medals.—(*a*) Plant-houses; (*b*) Show and growing-houses; (*c*) Systems of glazing; (*d*) Heating.

Group 18.—Gold, Silver, and Bronze Medals.—(*a*) Fencing; (*b*) Gates; (*c*) Tree guards.

Group 19.—Gold, Silver, and Bronze Medals.—(*a*) Summer-houses; (*b*) Châlets, kiosks; (*c*) Garden-seats; (*d*) Flower-stands; (*e*) Boats, canoes, &c.

Group 20.—Gold, Silver, and Bronze Medals.—Distillation and Preparation of Scents, and Flowers and Woods used.

Group 21.—Gold and Silver Medals.—(*a*) Settlements in new countries, showing camps and camping contrivances; (*b*) Cultivation of Tea, Coffee, Opium, Cinchona.

Group 22.—Gold and Silver Medals.—(*a*) Sporting trophies; (*b*) Pictures of forest trees.

Group 23.—Gold and Silver Medals.—Any Exhibit not particularised in the above Groups, in furtherance of the objects of the Exhibition, will be admitted.

All exhibits must be submitted to the approval of the Executive, who retain the absolute right to admit only such exhibits as they may approve, to appoint Judges, and award the Medals and Certificates. The Judges will be instructed to recommend additional medals should they think any exhibit worthy of special distinction; and the right is also reserved to withhold medals offered in any group should the Judges determine that the exhibit is not sufficiently meritorious. Application Forms, copies of the Rules and Regulations, and all particulars, can be obtained on application to the Secretary.

H. E. MILNER, Chairman.

GEORGE CADELL, (late) Indian Forest Department, Vice-Chairman of Committee, Forestry Section,
HARRY TURNER, Royal Nurseries, Slough, Vice-Chairman of Committee, Horticultural Section.
G. A. LOVEDAY, Earl's Court Exhibition, S.W., Secretary.

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FINE STURDY PLANTS.

A large quantity, established in Pots.

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LARGE SHRUBS, &c.—Arbor-vitæ, American, 1½ to 2 feet, 12*s*. per 100; do., 3 to 3½ feet, 20*s*. per 100; Aucuba japonica, variegated and green, 1 foot, 25*s*. per 100; Berberis aquifolia, 2 feet, 10*s*. per 100; B. Jamesonii, 2 feet, 20*s*. do.; Box Tree, 1½ to 2 feet, 12*s*. per 100; 2 to 3 feet, 20*s*. do.; B. japonica, 10 inch, 20*s*. do.; Cotoneaster microphylla, 2 feet, 10*s*. per 100; C. Simonsii, 2½ to 3 feet, 10*s*. do.; Dogwood, 2 feet, 10*s*. per 100; Escallonia macrantha, 2 feet, 24*s*. per 100; Grevilinea littoralis, 10 inch, 30*s*. per 100; Laurel, Colchic, 1½ to 2 feet, 12*s*. per 100; 2 to 2½ feet, 14*s*. do.; 3 to 3½ feet, 20*s*. do.; rotundifolia, 1½ foot, 13*s*. per 100; 2 to 2½ feet, 16*s*. do.; Portugal Laurel, 1½ to 2 feet, 20*s*. per 100; 2 to 2½ feet, 24*s*. do.; Rhododendron ponticum, 1½ foot, 22*s*. per 100; 2 to 2½ feet, 27*s*. do.; 3 feet, 40*s*. do.; 3½ to 4 feet, 80*s*. do.; Veronica Traversii, fine, 1 foot, 20*s*. per 100; Yews, English, 1½ foot, 24*s*. per 100; 2 to 2½ feet, 35*s*. do.; Abies Douglasii, 9 to 12 inches, 10*s*. per 100; 1 to 1½ foot, 16*s*. do.; 1½ to 2 feet, 25*s*. do.; Araucaria imbricata, 2 to 2½ feet, 24*s*. per doz.; 3 to 3½ feet, 36*s*. doz.; 4 to 4½ feet, 48*s*. doz.; Cedrus deodara, 2 feet, 8*s*. doz.; Cupressus macrocarpa, 2 feet, 30*s*. per 100; spring-moved C. Lawsonii, 2 to 2½ feet, 20*s*. do; 3 to 4 feet, 30*s*. do.; 4 to 5 feet, 40*s*. do.; C. striata, 3 to 3½ feet, 40*s*. do.; Erecta viridis, 2 to 2½ feet, 30*s*. per 100; 3½ to 4 feet, 40*s*. do.; Picea nobilis, 1½ to 2 feet, 6*s*. per 100; P. Nordmannia, 2½ feet, 18*s*. do.; 3 to 3½ feet, 24*s*. do; Retinospora plumosa, 2½ feet, 30*s*. per 100; 3 to 4 feet, 50*s*. do.; R. squarrosa, 2½ feet, 30*s*. per 100; 3 to 3½ feet, 60*s*. do.; Thuia, 1½ to 2 feet, 12*s*. per 100; 3 feet, 30*s*. do.; 4 to 5 feet, 50*s*. do.; 6 feet, 80*s*. do. Fine Thuiopsis dolabrata, 2 feet, 30*s*. per 100; 2½ feet to 3 feet, 70*s*. do.; 4 to 4½ feet, 30*s*. per dozen,
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FOREST TREES, &c.—Alder, 2 to 3 feet, 16*s.* per 1000; 4 to 5 feet, 25*s.* per 1000. Ash, common, 1½ to 2 feet, 12*s.*; 2 to 3 feet, 16*s.*; 3 to 4 feet, 20*s.* Beech, 1½ feet, 14*s.*; 2 feet, 16*s.*; 2½ to 3 feet, 20*s.*; 3 to 4 feet, 24*s.* Chestnut, Horse, 2 to 3 feet, 20*s.* per 1000. Spanish Chestnuts, 1½ to 2 feet, 16*s.* Larch, 12 to 15 inches, 14*s.*; 1½ to 2 feet, 20*s.*; 2 to 2½ feet, 26*s.* Spruce Fir, 12 to 18 inches, 14*s.*; 1½ to 2 feet, 16*s.* Scotch Fir, 2-yr. tr., 18*s.* Silver Fir, 3-yr. tr., 20*s.* Hazels, 2 to 3 feet, 20*s.* Oak, 2 feet, 16*s.*; 2½ to 3 feet, 20*s.* P. austriaca, 2-yr. tr., 16*s.* P. Laricio, 2-yr. tr., 20*s.* Privets, Oval, 2 to 2½ feet, 26*s.* Sycamore, 2 feet, 12*s.*; 2½ feet, 16*s.*; 4 to 5 feet, 4*s.* per 100; 6 to 7 feet, 7*s.* per 100; 12 feet, fine, 24*s.* per 100. Thorns, 12 to 18 inches, 6*s.*; 2 feet, 8*s.*; 2½ feet, 10*s.*; 3 feet, 12*s.*; 3½ to 4 feet, 14*s.*; 4 to 5 feet, 22*s.*

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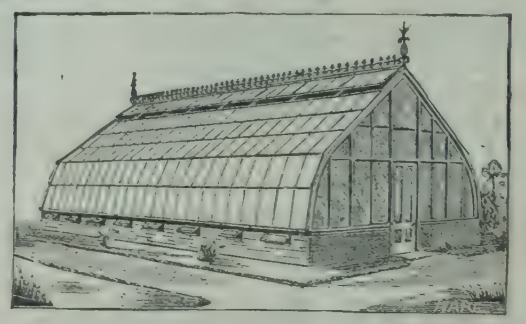

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"Major FOSTER has much pleasure in stating that the vineries and forcing-houses which were erected by Mr. Helliwell in 1884, continue to give perfect satisfaction, both to himself and his gardener."

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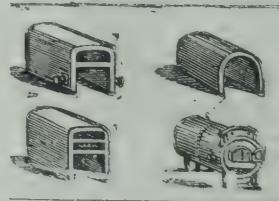

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SPECIAL OFFER OF FINE BULBS.

7s. 6d. per dozen; 50s. per 100. Post-free for Cash.

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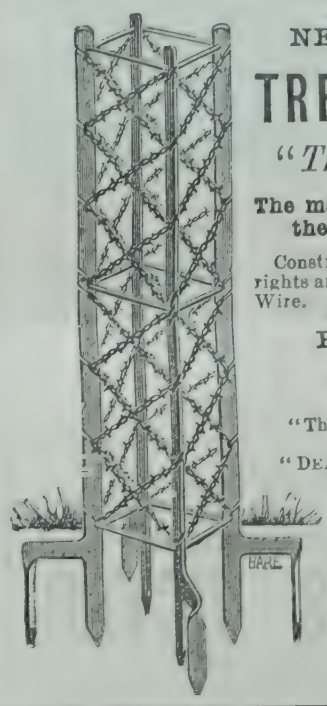

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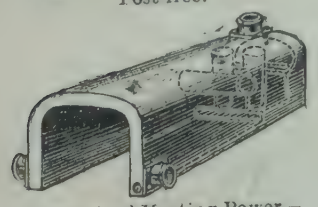

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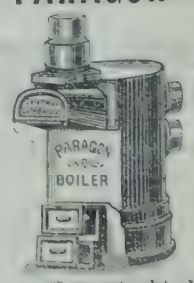

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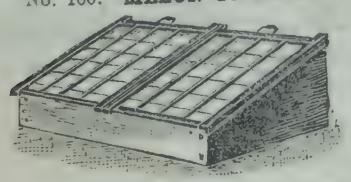

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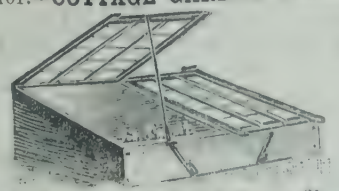

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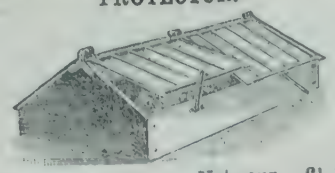

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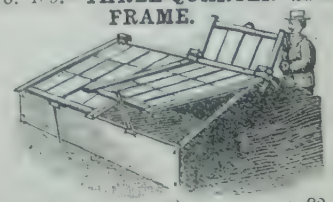

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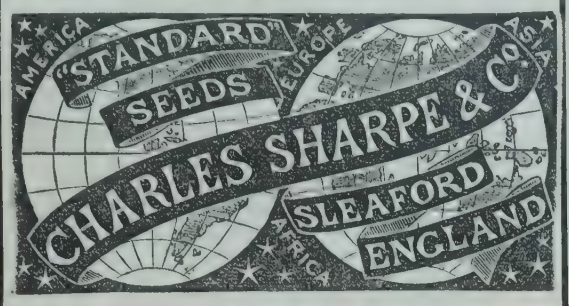

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THE
Gardeners' Chronicle.
SATURDAY, FEBRUARY 25, 1893.

ROSES.

THE period of the year at which we are now arrived, is one that occasions many searchings of heart to the Rose grower, whether he be one who grows for exhibition or for his own home pleasure, for he has to look on his garden and see what harm the winter, which he fondly hopes is now past, may have done him, and especially will his anxiety be increased if he be a grower of Tea Roses; for, notwithstanding all that has been said of them, they are unquestionably more tender than the bulk of hybrid perpetuals. I say the bulk, for there are some, especially those which give evidence of a good deal of Tea-blood in them, which are quite as easily affected by frost; while there are others naturally weak which succumb to a good many causes, amongst which frost may be reckoned as one, I mean such Roses as Xavier Olibo, Horace Vernet, &c.

We had two exceptionally hard winters in the years 1890—91, and 1891—92; and many Rose growers have told of the desolation amongst a great many of their plants, especially the Tea Roses; the loudest wail came from East Anglia, where the destruction amongst Teas especially was very severe. The past winter, if we may use that term, has not been so severe, but when the temperature falls, as it has done in many places, to 12°, a Rose-grower naturally looks for some damage; happily, the low reading was not of long duration, and I am hopeful from looking at my own small Rose garden, and from what I hear of some of my friends, that the damage has not been very great, but I daresay we shall hear more of this by-and-by.

The appearance of my own Rose garden, and that of many others at the present time, is more like that of a farmyard than a garden; the long litter that was placed round the plants in the autumn has had, by the heavy rains and sun, all the shorter material beaten down, and the long strawy part is very much in evidence—and here, I think, it had better be left for two or three weeks longer, in fact, until the time for pruning comes on. It is, perhaps, not likely that we shall have very severe frosts now, but still the protection will be not without its use, and it cannot very well interfere with the plants, as, unless any exceptional weather comes on, there is not likely to be any starting of the buds. When I say not much damage was done, I ought to have excluded budded plants, for a neighbour (Mr. Foster) told me that he had lost five out of six of his buds.

PRUNING.—Although it will in most places be too soon to commence the work of pruning—than which there is nothing more important, and one on which the well-being of the plants depend more than on anything else—it is early yet, but perhaps before these lines appear, the time will be at hand

*

and therefore, taking time by the forelock, I proceed to make some remarks as to what I consider the most important points. There are some persons who advocate what is called hard-pruning, and some who do not; but nothing can be more incorrect than to suppose that either one system or the other is the universal rule on the subject. It is worse than useless, for it is positively harmful, to take a pruning-knife and go through a collection of Roses and apply the same hard and fast rule to all, even to all of one class, say, hybrid perpetuals, for what would be good for one would be injurious to another. It is, I think, a very fair rule to lay down, that the stronger-growing the plant, the less pruning does it require, and the weaker the growth, the harder the pruning; for, of course, the object is to induce growth, and if we take such varieties as Etienne Levet or Madame Clemence Joigneaux, the result of hard-pruning is that the plant starts off at once for vigorous growth, to the consequent loss of bloom. There are, too, amongst the H.P.'s some which are almost summer Roses, such as Madame Gabrielle Luizet, and like them, do not require much pruning; while, on the other hand, Roses of weak and delicate growth, like Horace Vernet, Xavier Olibo, Lady Mary Fitzwilliam, Duke of Wellington, and, it may be, Gustave Piganeau (although it is hardly fair to decide about that yet), require to be cut very close, in order to induce that growth which the more vigorous kinds are inclined to give. By hard-pruning, I mean to about three or four eyes. As I have before stated, my plan is to cut out, early in October, all the bloomed wood which is perfectly useless for another year's blooming, and to leave only the vigorous shoots, on which we depend for the next year's bloom; this allows a freer circulation to the wood that is left, and besides it makes the work of pruning more easy at a time of the year when there is so much to be done. In all cases it is advisable to, if possible, cut the shoot at an eye which points outward. Of course, this system of pruning is not designed for the purpose of making pretty bushes, but of getting the best blooms possible.

This pruning, as far as the hybrid perpetuals is concerned, had better be done in March, the time of the month varying according to the locality; in cold climates and heavy soils, it will be better to defer it until later in the month. It is with them as with fruits, and a few hundred yards may make all the difference, just as is the case with Hops. I have two Hop gardens in my mind now, which are only separated by the width of a road; but while one is about the best in the parish, the other was grubbed because crop after crop failed. As a general rule, about the middle of March is the best time, but each grower will be regulated by local circumstances.

With regard to Teas, it will be necessary in passing to consider their wants also: some varieties, like Marie van Houtte or Madame Lambard are such vigorous growers that they may be treated like the strong-growing hybrid perpetuals, and not be pruned hard; while others, such as Comtesse de Nadaillac, weaker growers, must be pruned hard. Here, again, the judgment and experience of the grower must be brought to bear on his plants; the middle of April will, in many localities, be about the best time for pruning this class, and position and elevation will be large factors in the matter.

When all the pruning is over, my plan is to make up the beds for the summer; for this purpose all the long litter which has been used for protection is taken away, and the very short is gently forked into the beds, which are afterwards worked over with the fork and made tidy. Of course, the exhibitor will hold up his hands at such a practice; he will say, what about the nutriment the Roses all require during the summer to get fine blooms? I do not care for extra blooms, and therefore prefer seeing the Rose-beds neat and well-arranged. Exhibitors often at this season put a fresh mulching of manure, so as to give greater vigour to the plants, and thereby produce good fat buds for exhibiting. I am content with giving mine liquid-manure, and if the weather be dry, a good soaking of water two or three times a week.

I have said nothing of the summer Roses, many of which are once more coming into favour; but in truth, with the exception of cutting any straggling branches and shortening very lightly the flowering shoots, they do not require the knife. The same may be said of the single Roses, which are now coming so much into fashion; very beautiful they are, if evanescent—a fault which they recompense by their large quantity of bloom and the great space many of them cover. *Wild Rose.*

New or Noteworthy Plants.

PHAIUS AMABILIS ×, *new garden hybrid* (Grandifolius ♀, tuberculosus ♂).

Yet another valuable addition to our garden Orchids has flowered with the raisers, Messrs. Jas. Veitch & Son, Royal Exotic Nursery, King's Road, Chelsea, and has been awarded a First-class Certificate by the Orchid Committee of the Royal Horticultural Society. As is usual with these hybrids, the plant itself is in appearance fairly intermediate between the two parents indicated above; that is to say, the habit of P. amabilis × is much dwarfer than that of P. grandifolius, and the pseudobulbs have more of the fusiform character of those of P. tuberculosus. The plant first flowered had an inflorescence of four flowers borne on a scape about 1 foot in height, and for the size and form of the flower the accompanying illustration (fig. 32), will give sufficient indication, while a reference to the illustration of P. tuberculosus (fig. 35, p. 237), will show the main points of difference between it and the new variety. P. amabilis × has white sepals and petals tinged with rose on the face; lip claret-coloured, with darker purplish lines on a whitish ground at the base inside, the base of the labellum being yellow on the outside. As will be seen, the edge of the labellum is beautifully crimped, and the whole flower has a very attractive and distinct appearance. *James O'Brien.*

Galanthus byzantinus, *Baker, n. sp.**

This new Snowdrop is intermediate between G. plicatus and G. Elwesii. It has glaucous leaves broadly channelled down the face, with distinctly reflexed edges, as in the former and inner perianth-segments marked with green, not only at the top, but also on the lower part of the back, as in the latter. The few flowers that I have seen are smaller than in some of the many forms of Elwesii, but the size of the flowers is of no value as a specific character in Snowdrop, and there seem to be large-flowered forms and small-flowered forms of all the known species. I think I saw the present plant last year, but the specimens were poor. This spring I have had good specimens sent by Mr. James Allen, with whom it flowered the first week in February at Shepton Mallet, and by Messrs. T. S. Ware & Co., with whom it flowered the second week in February at Tottenham. It grows freely, and I believe there is already a good stock of it in the country.

Bulb middle-sized, globose. Leaves at the flowering time shorter than the scape, 3 inches broad, glaucous on both sides, especially beneath, broadly channelled down the face, the margins as in the Crimean Snowdrop distinctly and permanently recurved. Scape slender, half a foot long; spathe linear, deeply channelled down the face; pedicel as long as or shorter than the spathe. Ovary obovate, hardly at all glaucous. Outer segments of the perianth oblong, convex on the back, ¾ inch long, ⅓ inch broad. Inner segments of the perianth half as long as the outer, obovate-cuneate, deeply emarginate with a green horseshoe-shaped mark round the sinus, the edge of the lobes rather reflexed and crisped, and another green blotch covering the lower part of their back. Stamens much shorter than the inner segments; anthers orange, very apiculate.

* *Galanthus byzantinus*, Baker, n. sp.—Bulbo globoso; foliis glaucis facie late canaliculatis marginibus recurvatis; ovario obovoideo viridi; perianthii segmentis exterioribus oblongis dorso convexis, segmentis interioribus duplo brevioribus apice profunde emarginatis lobis quadratis dorso et apice viridi maculatis; antheris apiculatis,

Crocus Tauri, *Maw, var. melanthorus, Baker.*

Last year Mr. Whittall introduced this fine species into cultivation for the first time from the neighbourhood of Smyrna, and now Mr. Jas. Allen has sent me a form with black anthers. The species is figured in Maw's *Monograph*, tab. 64, and described in my *Handbook of Irideæ*, p. 80. Its alliance in corm and leaf is with C. biflorus, but the flowers are bright lilac, with a yellow throat, like those of C. Sieberi. It flowers with Mr. Allen early in February.

Galanthus Elwesii var. robustus.

Messrs. Damman & Co. have sent me from Asia Minor a very robust variety of G. Elwesii, with a large bulb and a thick glaucous leaf. The flowers are scarcely so large (I speak from a single specimen only) as in the original form figured in the *Botanical Magazine*, t. 6166, but the outer segments of the perianth are narrowed into a more distinct haft. *J. G. Baker.*

NEW ORCHIDS.

Dendrobium Rubens × (D. Leechianum ♀, D. nobile nobilius ♂), *new gard. hyb.*

This very handsome hybrid, as showy in its way as D. Wardianum, comes from Mr. J. Cypher, Queen's Road Nursery, Cheltenham. The sepals are broad and flat, 3½ inches across, white, tinged with the peculiar purplish-crimson of D. nobile nobilius on the outer halves and reverse side; petals nearly 4 inches across and 1 inch in width, white, with a purplish-crimson margin, and heavier colouring of a more purple-rose hue at the tips. The lip is less acuminate at the tip than in D. Ainsworthii Leechianum ×; blush-white at the base, and with purple lines over the sides which clip the column, the middle of the lip for nearly half its area being of the richest maroon-crimson, which is encircled by a broad white band, the tip being of purplish-rose colour, like the tips of the other segments. Compared with D. Leechianum ×, it has the shining white and bright colour of D. nobile nobilius, instead of the creamy-white and duller colour of that variety, and the colouring of the lip is full, the margin of the blotch only being a little broken, and not displayed in veining as in the varieties of D. Ainsworthii. In growth and freeness of habit it resembles D. splendidissimum grandiflorum ×, and altogether it was a cross well worth making. It matters little what these hybrids are named, beautiful though they be, and the name of the great Flemish "colourist" will not be inappropriate to give it. *James O'Brien.*

Cypripedium Alfred Bleu.

A new hybrid, raised out of C. ciliolare, by insigne var. Chantini. It is figured in the current number of the *Revue Horticole*, and has a broad dorsal sepal, white, with numerous purplish-red streaks and spots, and ciliolate at the edges. The petals point downwards, and are similarly marked. The lip is reddish-brown, shining; the staminode is yellow, suborbicular, slightly notched above. The new comer was raised by M. Bleu in 1883.

Dendrobium Owenianum (Linawianum majus ♀, Wardianum ♂).

This fine hybrid was raised by Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne, and exhibited by Messrs. F. Sander & Co., St. Albans, at the meeting of the Royal Horticultural Society, February 14, when it was awarded a First-class Certificate. The pseudobulbs are stout and erect, showing markedly the swollen appearance below each joint, as seen in D. Linawianum. The flowers are borne in twos and threes on pedicels 2½ to 3 inches in length, which carry the flowers free of the pseudobulbs in a most graceful manner. The flowers are over 3½ inches across the expanded petals, which are 1 inch wide, and slightly wavy at the edge. The sepals are ligulate, the lateral ones pointed, and slightly curved back; white, faintly tinged with lilac, and tipped with rosy-purple. The petals

are ovate-oblong, slightly acuminate, pure white, tipped with rosy-purple; the lip folded over the column at the base, the blade broadly ovate, and terminating in a slightly-recurved point in the front; the base of the labellum is blush-white, from which radiate purple and dark-purplish crimson lines, which merge into a heavy blotch on the dark yellow disc; the anterior portion of the lip is pure white, tipped with rosy-purple, and the whole flower has a soft wax-like appearance.

And now comes the question of its relation to other hybrids already raised, and especially those famous plants raised in the gardens of Sir Trevor Lawrence, Bart., at Burford. To some of these it is said the present one bears a resemblance, but it is not said to which. D. Juno × and D. chlorostele × are both crosses with the ordinary D. Linawianum and D. Wardianum, but we have the record of that careful hybridist, Norman C. Cookson, Esq., that the form of D. Linawianum used was D. L. majus, of which it is said in William's *Orchid Growers' Manual*, that the flowers are "4 inches across and richer in colour than the ordinary form." I know something of the variety alluded to, for it was once in my care, but I thought it had been lost. The use of this plant would account for the larger size of the flowers, and the longer footstalks of D. Oweniana × over any others of its class, so far as I can judge of them. *J. O'B.*

Oncidium Saintlegerianum, *Rolfe.*

I know not what is meant by Oncidium spilotanthum, mentioned by Mr. Rolfe, p. 194, as having a resemblance to the above plant, but I take it that it is an erroneous rendering of O. spilopterum. I may say that the firm which first flowered specimens out of M. de Saint Leger's importation, and all others who have had an opportunity of judging, are convinced that O. Saintlegerianum is identical with the O. spilopterum so faithfully depicted, as regards bulb, leaf, flower, and general habit, in *Bot. Reg.*, xxxi., t. 40. I sincerely hope that some minor feature hidden from the general observer may save it as a distinct species, as, if not, and it should have to follow the later revision of the species, and be placed under O. Batemanianum, we shall have further complications in an already intricate subject, the synonyms at present being O. Batemanianum, syn. O. ramosum, syn. O. Pinellianum, syn. O. gallopavinum, syn. O. spilopterum, syn. O. stenopetalum of Klotzsch, and possibly others. In any case, seeing the doubts which exist in the minds of those who have flowered the plant, and the trouble Mr. Rolfe admits he had to separate it from O. spilotanthum (O. spilopterum?) until it was critically examined, I think the statement in the original description (*Gardeners' Chronicle*, Nov. 12, 1892, p. 582), "it cannot possibly be confused with any other species of this large and difficult genus," is, to say the least of it, injudicious. However, there are a large number of plants distributed in collections which will flower during the year, and the subject can be reverted to. *Jas. O'Brien.*

LILIES *VERSUS* ROSES.

I suppose that for one person who cultivates Lilies, 500 cultivate Roses. In all summer horticultural shows Roses occupy the first place, Lilies take a back seat. There are special Rose exhibitions, and a National Rose Society. The modest Lily hangs its head in obscurity. Why is this? Is the Lily inferior to the Rose? I think not. For purity of colour no Rose can touch the Lily; for fragrance, in my opinion (a matter of individual taste), no Rose can equal in delicacy the perfume of the speciosum or longiflorum group, including L. Browni, or in strength that of L. auratum. For lasting as a cut bloom, whether as regards colour or fragrance, the Lily will keep good a week. The Rose is gone in twenty-four hours. Under glass you may have Lilies all the year round in bloom, but not so Roses. For grace and stateliness, granted equal excellence of growth and cultivation to both, there is no comparison between a Rose bush and an auratum, a longiflorum, or a speciosum Lily. Whence, then, the difference in popular cultivation? I suppose that the Lily is generally held to be far more difficult to grow than the Rose, that after flowering the bulb often perishes, that renewals are costly and troublesome; but surely this is because the cultivation of the one is less understood than that of the other—a deciduous bush renews yearly only shoots and flowers. The Lily, in addition, has to make a bulb, on whose size and soundness its future life depends, hence a greater demand that its environment should be suitable, and its requirements understood by the cultivator.

Now, as regards environment, it is true many soils do not suit Lilies; they require moisture and a fair amount of sunshine—light sandy soils, therefore, do not suit, neither do heavy cold clays. Given partial shade, abundant moisture, combined with drainage, and a fairly retentive soil, Lilies will do well. If you wish to see them well done, go to Kew, and admire the beds there. Now, this environment is more restricted than that of the Rose, and it cannot be found in many gardens; but it can be had artificially. In my town garden of 20 feet by 50 feet, I grow in pots magnificent groups of L. longiflorum speciosum and other Lilies, but I take care that the pots are large enough, never using less than a 10-inch pot for a single bulb; large bulbs, or several bulbs together require a larger pot, up to 15 or 18 inches wide. Sankey's pots are deeper, and therefore give more room to the requirements of the roots. The soil used is a mixed loam, with some sand and peat to keep it open. The plants get sunshine about half the day; they are kept well watered—this is most important. If not plunged, they get soaked every evening at sunset; if plunged, every other day during growth, some Clay's fertiliser is also added. I get magnificent growth, splendidly coloured and fine blooms, and grand bulbs for the next year, and this in a tiny town garden; and if one can do this so easily, why not others? A grand lot of longiflorum and speciosum Lilies in bloom is a graceful, beautiful sight, well worth a little trouble. Greenfly does not infest my Lilies as it does my Roses, and no caterpillar eats the buds. I finish, therefore, by asking again, "If Roses, why not also Lilies?"

I could add much more in favour of Lilies, but will cite only one point. A Lily coming into flower in the open garden, if taken up carefully with its roots, may be potted off, and if well watered it will suffer no check, but will bloom well, and complete its growth. I have never heard of a Rose bush thus treated successfully, but I have often been asked incredulously, "Can these Lilies really be grown out-of-doors?" *Alexander Wallace, M.D., Colchester, February* 11.

LEAF MOULD.

(Concluded from p. 110.)

The second part of the paper by Mr. George Truffaut deals with the question of the cultivation of Vriesia, Anthurium, and Latania, in leaf-mould.

Vriesia splendens major.—A plant well known among gardeners, and much cultivated for its foliage, prettily striped with black, and for its beautiful vermilion-coloured flowers. This plant was formerly cultivated in pots, but it is now more generally grown in the open garden, in the borders of conservatories, until the formation of the bud. It is found that the best-nourished plants expand the most quickly, owing to the conditions of development being more favourable.

The young plants are at first set a few inches apart; afterwards they are set out twenty to the square yard. When fully developed, each plant has, on an average, thirteen leaves and a flower.

The following is the result of analysis of different parts of this plant:—

Dry substance in the leaves ...	21·500 per cent.
Nitrogen in leaf and flower ...	0·856 ,,
Ash for 1 oz. dry substance ...	0·087 in the leaves.
ditto ditto ...	0·070 in the flower.

Analysis of the Ash.

Potash ...	37·6 per cent.
Lime ...	19·4 ,,
Phosphoric acid ...	6·4 ,,
Silica ...	15·2 ,,

Which figures correspond to—

Carbonate of potash ...	55·20 per cent.
Phosphate of lime ...	13 97 ,,
Lime ...	11·83 ,,
Silica ...	15·20 ,,

The average weight of a plant of Vriesia is—

	Fresh.	Dry.
13 leaves (grammes) ...	53·0 ...	10·60
1 flower ,, ...	116·5 ...	34·95
Total weight of plant ...	169·5 ...	45·55

One fully-developed plant of Vriesia contains, therefore, 45·55 grammes of dry substances, and 0·3852 grammes of nitrogen. The dry substance, when burnt, gives 3 375 grammes of Ash. This amount of Ash contains—

Carbonate of potash ...	1 83 grammes
Phosphate of lime ...	0·47 ,,
Lime ...	0·393 ,,
Silica ...	0·511 ,,

Twenty plants growing upon 1 square yard of soil, therefore, consume as follows:—

	Grains.	Ounces.
Carbonate of potash ...	37·20 equal	1·306
Phosphate of lime ...	9·40 ,,	0·332
Lime ...	7·56 ,,	0·267
Silica ...	10·23 ,,	0 361
Nitrogen ...	7·70 ,,	0·272

Knowing the quantities of assimilable elements in 1 kilogramme of leaf-mould, we find that the nitrification of the mould is sufficient to furnish all the nitrogen necessary for building up the Vriesia. It produces, as we saw in a previous table, 34·45 grammes of nitric acid in six months, and the plants only require 7·7 grammes. But the plants require 9·4 grammes of phosphate and the leaf-mould can only give 5·67 grammes. Here is a deficiency of 4·33 grammes of phosphate of lime per square yard of soil. There is potash enough, the leaf-mould yielding 47 45 grammes, and the twenty plants require but 37 2 grammes. The lime and silica also exist in sufficient quantity.

Phosphoric acid is the only ingredient which is deficient in quantity. And in practice phosphatic manures have been found to have an excellent effect upon these plants. It is, therefore, recommended to apply 1 oz. of phosphate of soda to each square yard of soil in one application, which will more than suffice for all the wants of twenty plants of Vriesia.

Anthurium Scherzerianum.—The cultivation of this plant has greatly increased of late years, being suitable both as a foliage and flowering plant. Its cultivation in the outer borders of greenhouses is now customary at Versailles, and answers well. The growth is luxuriant and rapid. Artificial manures have been found to act very distinctly on this plant.

The leaves, leaf-stalks, stems, and flowers of Anthuriums have been analysed with the following results:—

Dry substance in whole plant ...	20·00 per cent.
Nitrogen in whole plant ...	2·14 ,,
Ash for 1 of dry substance ...	0·115 in the flowers.
ditto. ...	0·077 in the leaf-stalks.
ditto. ...	0·094 in the leaves.

Analysis of the Mixed Ash.

Potash ...	47·15 per cent.
Phosphoric acid ...	6·08 ,,
Lime ...	19 76 ,,
Silica ...	2·85 ,,

These figures correspond to—

Carbonate of potash ...	69·31 per cent.
Phosphate of lime ...	13·27 ,,
Lime ...	12·57 ,,
Silica ...	2 85 ,,

Full-grown plants have on an average twenty-six leaves, and a variable number of flowers.

Total weight of the leaves, fresh ...	282·36 grammes
,, ,, dry ...	55 90 ,,

Thus 55·9 grammes of dry, correspond to 282·36 grammes of fresh vegetable substance, which contains 1·196 grammes of nitrogen.

This dry substance when burnt gives 5·478 grammes of ash, and the ash contains—

Carbonate of potash	3·796	grammes
Phosphate of lime	0·726	,,
Lime	0·688	,,
Silica	0·156	,,

Twenty plants occupying 1 square yard of soil, use up—

Nitrogen	23·92	grammes
Carbonate of potash	75·94	,,
Phosphate of Lime	14·52	,,
Lime	13·76	,,
Silica	2·12	,,

The nitrifying power of leaf-mould will supply more than all the nitric nitrogen the plants can want, namely, 34·45 grammes in six months, as compared with 23·92 grammes really required as shown above. But in peat, as nitrification will only produce 11·7 grammes of nitrogen during the same period, the quantity would not suffice.

We have at the disposal of the plants in leaf-mould, 5·67 grammes of phosphate lime, as compared with 14·52 grammes required—a deficiency of 8·85. This plant largely exhausts the soil of phosphoric acid. There is also a deficiency of potash; the mould only furnishes 69·5 grammes, and twenty plants require 75·92 grammes; the difference of 6·42 grammes must be supplied in manure. It will be necessary, therefore, to add potash and phosphoric acid to leaf-mould, in order to cultivate Anthurium Scherzerianum in a rational manner. To furnish the phosphoric acid, it is recommended to apply from 1 to 1¼ oz. of phosphate soda to each square yard, with half an oz. of carbonate potash, in one application, before setting out the plants; or, instead of the former, 1½ oz. of phosphate of potash may be applied, in a single liquid application.

Latania borbonica. — This well-known Palm is extensively cultivated for its ornamental foliage. The florists of the neighbourhood of Paris obtain every spring young Latania plants from Algiers; these are placed on their arrival on hot-beds in the open air, in a soil of leaf-mould. They develop rapidly, and produce in six months three leaves on an average. Eight plants of Latania occupy about one square yard. The average weight of the leaves is 45 grammes.

The following shows the composition of a plant of Latania. The samples were taken so as to keep a proper proportion of stalks and leaves:—

Dry substance of the leaves	20·0	per cent.
Nitrogen in total plant	1·171	,,
Ash in dry substance of leaves... ...	15·4	,,
,, ,, ,, of stalks	6·0	,,
Analysis of the Ash.		
Potash	12·08	,,
Lime...	15·49	,,
Phosphoric acid	2·80	,,
Silica	59·40	,,
These figures correspond to—		
Carbonate of potash	17·50	,,
Lime...	12·08	,,
Phosphate of lime	6·12	,,
Silica	59·40	,,

Thus, with eight plants of Latania on one square yard, there will be produced twenty-four leaves in six months. These will give 360 grammes of dry substance, which may be thus divided:—

Dry substance in 24 leaves	216	grammes
,, ,, 24 stalks	144	,,

The eight plants in six months will produce 4·245 grammes of nitrogen.

The dry substance of the leaves will yield 33·264 grammes of ash, and that of the stalks 8·64 grammes; or a total of 41·904 grammes of ash for the eight plants, which may be distributed as follows:—

Carbonate of potash	7·35	grammes
Phosphate of lime	2·57	,,
Lime	5·07	,,
Silica	24·94	,,

The nitrification of the leaf-mould will more than supply the nitrogen that the Latania plants require, namely, 34·5 grammes as compared with 4·215 used. Peat will also be found to supply sufficient nitrogen.

Phosphate of lime is not deficient, there being in the leaf-mould 5·67 grammes, and the eight plants only need 2·57 grammes. Potash also is more than sufficient. Lime, and especially silica, are found in large proportion in the ashes of Latania, but these constituents are abundant in the mould.

Latania borbonica, therefore, thus grown seems able to dispense with an artificial application of manure. It may, however, be well to see whether substances immediately assimilable will stimulate its luxuriance. The good effects of night soil as a manure for this plant have long been known. It may further be remarked that Latania is often grown in soils much less fertile than leaf-mould, but it is only when leaf-mould is used that manure can be dispensed with.

The author proposes, in a subsequent article, to study the different soils used in horticulture. *J. J. Willis, Harpenden.*

THE MICHAELMAS DAISY.

THE perennial Aster is at once the most useful, showy, and easily cultivated late-flowering border plant that we possess; producing an abundance of variously coloured flowers from July to November, and long after most of the other subjects of the herbaceous border have ceased to flower. The situation of this garden is a low one, and the herbaceous borders run parallel with the River Avon, which is about 100 yards distant, but in spite of these rather unfavourable conditions, a few degrees of frost have no effect upon any of the numerous varieties of the Aster, which are growing in the borders. The Michaelmas Daisies are to gardeners a great boon, to those, who like me, have to furnish cut flowers in quantity for the decoration of apartments. The prevailing colours of the varieties now in cultivation are white, mauve, and several shades of purple. the best white is Trevelyan, the best pink Madame Soymier, and a good deep red variety is found in A. Novæ-Angliæ rubra. To those who have not as yet grown the Michaelmas Daisy in variety, I would recommend a beginning being made this season, the early spring months being very favourable for the moving of the plants, either from pots or the open ground. The plants will flourish in nearly every description of soil, but a lightish soil is better than a heavy one if it is fairly fertile. If the soil of a new border is naturally stiff and heavy, a good dressing of leaf-mould, or failing this, short manure, may be used, and wood-ashes should be incorporated with it, which is best done whilst digging or trenching it. The following is a list of the most desirable varieties cultivated in beds or borders—A. alpinus, growing 6 to 9 inches, and producing bright purple flowers in July; A. Aeris grows to 2 feet high, with pretty light blue flowers; A. Amellus, a charming variety, 2 feet high, and yielding a profusion of large light bluish-purple flowers from August until cut down by frost; A. A. bessarabicus, which attains to the height of 2½ feet, its deep purple flowers are very attractive from August onwards; A. decurrens is 2½ feet high, and its numerous and pretty mauve-coloured flowers appear in September and October; A. formosissimus displays its rosy-purple flowers in September, and grows to a height of 4 feet; A. lævigatus attains a height of 4 feet, and has mauve flowers which appear in October; A. lævis is an abundant bloomer, flowers lilac, with a yellow disc or pappus. A. longifolius is a dwarf, 1½ to 2 feet growing, free flowering variety, with short sturdy stems, being clothed with long narrow leaves, and crowned with pretty pink flowers; a Novæ-Angliæ rubra, deep red flowers in October, and grows to a height of 4 to 5 feet; A. Novæ-Angliæ is a very robust-growing variety, growing to a height of from 5 to 8 feet, according to soil and climate, the violet-purple flowers appearing in October; A. N.-A. var. pulchellus, with slightly twisted bright purple rays, and brown pappus, is a fine late-blooming variety, attaining to a height of 4 or 5 feet; A. N.-A. rubra, deep red, October, 4 to 5 feet high; A. rubra is a week or two later than the preceding variety in flowering, and the flowers are of a brighter red; A. Madame Soymier grows to a height of 1½ to 2 feet, and produces bright pink flowers in September; A. Novæ-Belgiæ Robert Parker grows to a height of between 4 and 5 feet, and produces a plentiful supply of pretty lavender-blue flowers throughout the autumn months; A. polyphytus, white flowers, 2 to 3 feet high; A. versicolor produces small flowers, white at first, changing into pink or lilac, and grows from 2 to 3 feet high.

The above-mentioned varieties of Aster look well when planted with other herbaceous plants, due regard being had to height and colour. Helianthus multiflorus, H. maximus, H. orgyalis, Rudbeckia laciniata, R. maxima, R. Newmanii, syn. speciosa, 1½ to 2½ feet, all producing large handsome golden-yellow flowers and fine leaves; Helenium autumnale, a grand border plant, with numerous clear yellow flowers, produced during the autumn; Delphiniums, Phloxes, and Montbretias.

In planting Michaelmas Daisies, due regard should be paid to the height the variety grows, and obtaining, as far as may be, desirable contrasts in colour, and the time of flowering, not group together all those which flower about the same time. In planting divided old stools, the innermost parts of big clumps should be thrown away, the outer lot of shoots bringing the finest flowers, and the roots be nicely spread out in ample holes of a depth sufficient to contain the plant without having to use much force; make the soil firm about, and afford water at the time, or as soon afterwards as the soil gets dry. Michaelmas Daisies, and the other strong-growing plants named should not be planted nearer together than 3 to 5 feet. *H. W. Ward, Longford Castle.*

TWO EARLY-BLOOMING LONICERAS.

AMONGST the pleasantly-perfumed plants which bloom early out-of-doors, Lonicera Standishii and L. fragrantissima stand first; the former, with purplish-white blooms, which appear before the leaves attain much size; the latter, a most desirable plant to grow and very fragrant, which should be universally planted. We have these shrubs growing on sheltered walls; and although there was much frost this winter, yet L. fragrantissima came into bloom towards the end of January; and I was able to cut a good handful of flowers on the 30th. This plant is growing on a west wall, and it will continue to flower throughout the present month. *East Somerset.*

A TRAVELLER'S NOTES.

(*Continued from p.* 132.)

HONG-KONG, *March* 7, 1892.—The Botanic Garden, immediately behind the town, is prettily situated. Behind it rises Mount Gough, 1825 feet, whilst below is the harbour with its shipping, and beyond the hilly, wild-looking coast of China. The gardens have been formed about thirty years, and are 20 acres in extent. Except two artificial terraces, they are on the side of a somewhat steep hill. On these terraces are flower-beds on grass-lawns, and the broad paths are of gravel, but elsewhere it has been found necessary, on account of the heavy rains, to make them of cement.

Entering by the lowest gate, but a few yards from Government House, one ascends a long flight of handsome stone steps, along the sides of which are placed many pots of pretty flowering plants—Nasturtiums, Pinks, Helianthus, Conoclinium, Heliotrope, Geraniums, Acalyphas, and dwarf bushy plants of Rhapis. On the top of these steps is the first of the terraces, some 30 yards broad, flanked on one side by an embankment supporting a public road, and covered with Ophiopogon japonicus, Nephrolepis, &c., and falling away at the other end by winding paths to another entrance. On this terrace are two large plots of grass in good condition, surrounded by spotlessly clean gravel paths, 10 feet broad. In the centre of these grass plots are four very fine specimens, perfectly even and well filled in, of Pittosporum Tobira, 18 feet in diameter. Round these are various oblong and circular beds filled with many dwarf-flowering plants, quite English in appearance, Pansies, Pinks, Heliotropes, Antirrhinums, Verbenas, Cannas, Double Daisies, Marigolds, Phlox subulata, Nasturtiums, were all flowering freely and relieved by other beds of Sanchezia, Acalypha (both clipt

low), Alternanthera, Coleus and Centaurea. It is only in winter these flowering plants live. The front of this terrace has a hedge of dwarf clipt Bamboo, with a long bed of Agaves and other Mexican plants in front, relieved by four fine specimens of Araucaria excelsa, from 45 to 50 feet high in each case. Behind this terrace is a flight of steps leading to one above. On either side are fine flowering bushes of the highly-scented Jasminum racemosum. Along the edge runs a wire fence trained with creepers, Bignonia venusta, an old Indian friend, was well in flower; and amongst others, I noticed, Clematis Meyeniana—a native of the island, Passiflora racemosa, Stephanotis floribunda, &c. In the centre of this terrace is a large stone tank with a handsome fountain in the centre, surrounded by aquatic plants, including many masses of Papyrus antiquorum, as fine as I have ever seen it, its tall leaf stalks and filamentose heads reaching a height of 6 to 7 feet, gracefully waving about in the wind. On the edge of this stone tank are many pots of flowering plants, some trained on wire globes, Geraniums, Heliotropes, Cobœa scandens, Jasmines, Abutilons, Pansies, Habrothamnus. On each side of this tank, occupying the greater part of the terrace, are large beds of Tea and China Roses, fine large bushes carrying a multitude of bloom. Behind the terrace is a broad steep walk, leading to a statue of Sir Arthur Kennedy, C.B., &c., Governor of the Island from 1872 to 1877. Remnants of an Araucaria excelsa avenue remain, and include one or two fine specimens, but typhoons have destroyed the majority.

Still ascending and bearing to the right is the road leading to Mr. Ford's new house, a handsome solid edifice erected but a few months ago by government. It is on the opposite side of the public road to this portion of the garden. Near the gate in some fine masses of Eucharis amazonica now flowering freely, are specimens of the Star-Anise of China, Illicium verum, a tall rather gaunt-looking Jacaranda mimosæfolia, and a fine pyramidal Juniperus chinensis, a truly handsome Conifer as here grown, as is Podocarpus chinensis, which is largely represented in the garden.

Passing along in the direction of the houses, I saw a very pretty tree, a native of the island, Turpinia arguta, with numerous heads of pale yellow flowers, and with thick fleshy Ardisia-like foliage. It struck me as curious how many of the China plants have this thick, crenulated foliage.

On a dead tree close to the entrance to the fernery was a specimen of Vanda concolor, having moderate-sized, dirty brown flowers with a lip of a somewhat paler tinge, scarcely a showy plant.

There are two houses, spotlessly clean, having brick beds along the sides with another in the centre, newly whitewashed, paths of cement, and roof composed of Bamboo neatly split. In the fernery were many good specimens, each with plenty of room; an enumeration of the various species is scarcely necessary, as most of those we have at home were represented—and well represented. Amongst the finest were three found wild in the island, Davallia elegans, Cibotium glaucum, producing when wild, Mr. Ford tells me, fronds 15 to 16 feet, and occasionally 20 feet long, and Angiopteris evecta. It is strange over what a wide area and under what different conditions this Fern seems to thrive. Alsophilas were also good.

The larger of the two houses was devoted to Ferns, the smaller to Orchids and a small general collection of stove plants, Anthuriums, Alocasias, Begonias, Pancratiums, and Crotons, but for these it is now rather too cold, and they did not look their best.

The Orchids looked well, perhaps because Mr. Ford does not try to grow the South American species, which here as in all other parts of the East, always seem a failure. Amongst the best here to be seen now are Cymbidiums, some fine pieces; Calanthes, particularly vestita; Vandas, Cœlogynes, of the flaccida section; Dendrobiums, densiflorum, fimbriatum, aduncum, and others; amongst which D. aggregatum was largely represented. Mr. Ford tells me he has found this wild on the Lofan Shan in South China, previous to which it was not known to exist in the region at all. He showed me the plants he brought over, they are certainly aggregatum, but it strikes me as curious they should grow in China; there is, however, no doubt about it.

Erias do well, and Anœctochilus are particularly fine, large pans of most beautifully netted and minutely veined brown glossy foliage. A. Roxburghii was the best.

Outside the plant house I recognised an old Indian friend in Pterocarpus indicus surrounded by some fine clumps of Alpinia nutans, about as fine a screen plant as one could well have.

A big bush of another Hong Kong native, Raphiolepis indica, commonly known as the "May-flower" by Europeans, on account of its numerous small lovely white flowers now being freely borne, is near a large bed of Rhododendron ledifolium, a most appropriate specific name, the foliage is the very *fac simile* of that of a Ledum. It has large white flowers.

It is curious how many plants growing in the far East, this Raphiolepis amongst the number, bear the name of indicus, when they are not known in India. Possibly it may be that, in the earlier part of the century, when specimens were taken home from the East by ships, which usually touched at India, that those entrusted with the naming had but few data to go on, and as the vessel was known to have touched at India, it was surmised the plant was there found. The Azalea is another instance.

I must not omit mention of another plant of which it is said that Mr. Ford is the only man in the island who knows the exact spot where it is found, and that he, on account of its limited area, will not divulge his secret. It is Rhodoleia Championi. Large purplish-red flowers are profusely borne all over the tree—or, rather, large bush—one in the axil of each leaf, and almost invariably several at the end of each shoot. Its foliage is oval, thick, leathery, and handsome, with very long petioles. There is also a very handsome Gardenia here—possibly G. globiflora; Francisceas or Brunfelsias do well; B. Hopeana is a mass of purple and white flowers. Perhaps the biggest tree in the garden is a Ficus retusa, with numerous large aërial roots, ranging from 3 to 9 inches, and sometimes more, in diameter. These have been conveyed from the branches above to the exact spot required, or to the one which seemed most likely to offer sufficient support to the tree in Bamboo canes filled with earth, the usual system pursued with Banyans in India.

On these roots are many Phalænopsis, rooting freely. Mr. Ford found he could not do much with them in a house, so he transferred them to this tree with marked success, possibly another proof that Epiphytes succeed better on living wood than on dead. Near this spot are some tall Camellias, now rapidly passing out of flower, and some fine Ardisia crenulata, in fine condition, freely berried.

The Molucca Oil-plant or Candle Tree, Aleurites triloba (with an entire, acuminate simple leaf!), is very handsome in these gardens, its foliage is of such a rich glossy colour. The oil for which it is famous is made from the seed. Up the trunk of one runs Pothos aurea, good, but not so fine as in the Tropics.

It is curious to walk through, say, a dozen acres, and find Pansies, Daisies, Antirrhinums, &c., as at home; Araucaria excelsa, Phalænopsis, rooting freely; Pothos aurea, with leaves a foot in diameter; a Conoclinium in flower, opposite a Pelargonium, and China Roses in front of a Stephanotis. Of course, if it were not the winter, the first three named, now growing and flowering, could not exist; whilst the last named—Araucaria, Stephanotis, and Pothos, are more or less at a standstill just now.

By this time we had concluded our circuit of the garden in this direction, and we again descended to the terrace, flanked on the side by Opuntias, of which O. Dilleni is here wild; Cycas media, with a peculiar flat, twisted leaf, handsome withal; Cereus triangularis, common in South China being found on many pagodas, houses, and monasteries, and other plants of a like description, including a fine piece of Encephalartos caffra. An interesting tree, the Coffin Wood Tree (Persea nana), said to be very valuable, as the Chinese highly prize it for coffin manufacture, is represented by a nice even specimen close to this terrace. It is of great importance of what wood a Chinaman's coffin is made, and one skilled in the art will discern a difference in two pieces of wood quite similar to even an expert European. At Shanghai, 1800 taels is said to have been once paid for a specimen of the above—a fact (or possibly a fiction) which reached Kew, and, I am told, excited much curiosity.

A fine tree, now freely seeding, much scattered about the garden, is Heteropanax fragrans, with rich dark green, thick, pendulous, pinnate foliage; it forms a most striking feature wherever it has been planted. There are some fine pieces near an avenue of Grevillea robusta.

The above are the most interesting subjects in the principal part of the gardens; there is, however, in addition to the above, a much smaller section near Mr. Ford's house, on the other side of the public road, containing many Coniferæ, and the palmetum.

Passing onwards towards this, I saw a grand plant of Magnolia fuscata, covered with its downy buds, and a specimen of Symplocos decora, flowering profusely—a most pretty sight when covered from top to bottom with its heads of white blossoms (not unlike those of the Orange), as this one was. This bush was a good one, some 15 feet high. I also saw a Cananga odorata—the Ilang-Ilang—from the greenish-yellow flowers of which a valuable scent is extracted, chiefly in Manila. It flowers in the autumn, and is just now carrying its clusters of dark blue seeds.

Among the Coniferæ are some good specimens, and amongst the most noticeable are an Araucaria Rulei, some 10 feet high, even, and well-grown; some good bushes of Podocarpus chinensis; an Araucaria Cunninghami, not less than 50 feet high; but the most striking is certainly a Queensland species—Callitris rhomboidea, the foliage of which is as thin and graceful as that of a Casuarina, but withal so thick that it forms banks of the richest pale green. The general habit of the tree is pyramidal, and it is one of the handsomest Conifers I have seen.

A good climber near here, trailing over an old Pine which it has succeeded in killing, is Cæsalpinia vernalis, a native of Hong-Kong, bearing pyramidal heads of sulphur-coloured flowers, and possessing the fine pinnate foliage characteristic of the genus. Podocarpus latifolius, with leaves 6 inches long, should do at home as chinensis does, and it is certainly handsome.

The Palms are good, though not numerous, and though only planted in 1874, have yet made fine

Fig. 32.—Phaius amabilis X. (see p. 226)

specimens, especially the Caryotas, Acanthophœnix Alexandræ from Queensland, Oreodoxa regia, Arenga saccharifera, and Rhapis flabelliformis. Livistonia australis flowers well when some 25 feet high, and Areca lutescens forms thick clumps.

Leaving the Palm-house, and passing round the edge of the gardens to Mr. Ford's house, one has a high rocky mound on one side, and a low undulating valley on the other. Over this mound trail Gleichenia dichotoma and G. longissima, the latter particularly fine; whilst in the valley below are many dozen Tree Ferns, tall Alsophila tomentosa, with stems from 10 to 12 feet high, their wavy heads being very regular and fine. Below these, many Ferns, chiefly Nephrolepis, have been planted, rendering the whole spot very pretty, and in the hot season, I should imagine, a very refreshing sight. Mr. Ford's chief work is to look after the forests of the island, instruct Chinese pupils in botany, and do much office work. *James H. Veitch.*

(To be continued.)

THE PRESERVATION OF BROCCOLI.

After every hard winter there are complaints from most parts of the country of the loss of plants from frost. This is unavoidable under the usual practice of cultivating Broccoli in loose summer-dug kitchen garden land. Some gardeners plant the early varieties on south and west borders in the front of the fruit walls, where, owing to the narrowness of the borders, 10 to 12 feet, it is an easy matter to put protection over the plants in the event of hard frost occurring in the early winter. The varieties which I commonly grew, were Early Penzance, a small white-headed Broccoli, of Cauliflower flavour, and coming into use soon after the latest Cauliflowers were finished. Of this variety, an April and a May sowing was made. Walcheren is another excellent mild flavoured early variety to precede the Early Penzance; and then come Snow's and Veitch's Winter White, Adam's Early White, a hardy dwarf form of the large French White itself, also a hardy large-headed variety; Osborne's Winter White, Sulphur a fine but rather despised variety; Knight's Protecting, Sanders' and Knight's Protecting, and Wilcove's The Ledsham is the latest variety known. The south, east, and west borders of a walled-in kitchen garden are better places for the planting of Broccolis for all seasons—much better, indeed, than the open quarters; and if the soil be not over rich or dug specially for this crop, so much greater are the chances of a crop surviving the winter. Heeling-in on the spot, or removing the plants with good root-balls in late October to sheltered land is an admirable practice, but costly in the matter of time and labour, one that cannot, therefore, be carried out by many gardeners. And the next best method to that, in so far as concerns those varieties that turn in early, is transplanting to cold pits and banked-up frames or to open sheds, i.e., sheds closed on all sides except the south.

The idea has doubtless occurred to some gardeners that, if the land in which Broccoli is planted were mulched with strawy manure in the early winter frost could be kept out of it, the roots of the plants would stand in a warm medium, and the plants would suffer less than in land which, in the course of the winter, is frequently hard frozen. This is, indeed, the method best suited for southern and south-western counties.

Sometimes Broccoli is planted on a border facing north, with a wall or hedge on the south side, with the idea of retarding the late varieties in the summer time; but this is only successful if the winter is mild—hard frosts, if continued for a week or two, causing the destruction of the plants.

Perhaps the safest place of all for late varieties is the open field, where the conditions are such as favour greater hardiness in the plant, compactness of growth, and shortness of the vulnerable part—the stem. Here a strawy mulch would act very favourably in protecting from frost, and the littery appearance would be no eyesore. *X.*

BELGIAN NOTES.

M. A. A. Pesters' Orchids.—Many remarkable Orchids are now in bloom in the houses at Brussels: Lælia albida alba, a choice variety, owing to its pure whiteness; Cypripedium Sallieri Hyeanum, an example in full beauty, with ten well-expanded flowers—an excellent variety; Odontoglossum Warscewiczi, rare and well bloomed; Cypripedium Ch. Canham, a large flower of excellent colouring; C. Ashburtoniæ expansum, a very good variety; Odontoglossum aspersum, bearing ten charming blooms.

Horticultural Meeting at Ghent on February 5.—An unwelcome return of winter prevented the members of both societies from bringing their plants to the meeting, with the exception of MM. Jules Hye-Leysen, Moens, and D. Schryver. M. Hye showed a fine collection of Orchids—1st, Odontoglossum Wilckeanum sulphureum; segments of the flower cream coloured, with a wide band of sulphur-yellow; lip very bright yellow, large indistinct blotches on all the parts—a very distinct variety. 2nd, O. macrospilum, Rchb., divisions of the flower pure white, very fine, and much spotted with blood-red; lip with yellowish ground—a very fine Odontoglossum; these two Orchids received a Certificate of Merit *par acclamation*. 3rd, Cypripedium Albertianum var. (Certificate *à l'unanimité*), a decided acquisition, already described in the *Gardeners' Chronicle*. 4th, Odontoglossum aspersum, very rare in cultivation in Belgium; flowers large and very distinctive. 5th, Dendrobium nobile nobilius, very dark in colour. 6th, Odontoglossum crispum formosum, parts large, much undulated, tips gracefully reflexed, charming flowers borne in a long cluster. 7th, O. Zaldua (*par rappel*), a capital hybrid, already described in these columns. 8th, Cypripedium Spicerianum × C. vernixium, Certificate *par acclamation* to M. Moens; a wonderful hybrid among the many acquired during the past few years. 9th, Azalea Schryveriana, to M. Paul de Schryver, a fine double flower, ground colour salmon shading into reddish flesh-colour, edged with white, nicely spotted, true to form, and which does not sport—an acquisition of proved worth (Certificate *par acclamation*).

Certificates of Merit for culture and blooming were awarded for—1st, Cypripedium Ch. Canham, a vigorous plant, foliage fine and broad, six large flowers; 2nd, Odontoglossum Pescatorei alba (*à l'unanimité*), one of the prettiest racemes of pure white flowers that we have ever seen; 3rd, Cattleya amethystoglossa, with two pretty clusters of fine bloom. These three specimen plants were from M. Jules Hye-Leysen, and were worthy of him.

Rose Culture.—A new experiment has just been made in Belgium. The firm of Van Houtte has, in a new house of considerable size, from 5000 to 6000 Roses on their own roots, and more than 3000 Roses of the best varieties intended for propagating purposes, and which, after budding, will be on sale. If the stock is not sold, it will supply a number of blooms for cutting. This experiment is worthy of attention at a time when Orchids seem to have put all other flowers out of favour.

Covering for Beds of Bulbs.—Instead of horse-dung, which sometimes contains principles injurious to the bulbs, the beds in the parks have this year been covered with Reeds, which, with care, last for three or four years, are exceedingly tidy, and permit of the furrows being left free, entail but a minimum of expense, and yet cover all the bulbs equally.

Culture of Hyacinths.—To those who do not care to go to the expense of glass vases for Hyacinth culture in rooms, the following plan may be recommended:—Ordinary flower-pots are filled with potsherds to about 2 inches of the rim, and the remaining space filled with water, the hole at the bottom being stopped up. MM. Andries & Deminter, of l'Etablissement Van Houtte, have submitted a whole series of varieties to this treatment; Hyacinthus lotus albus gave really surprising results, and we recommend the plan to all interested in bulb-culture. *Ch. de B.*

The Winter Aconite.

Eranthis hyemalis opened its first flowers on January 29, in front of our big orangery, notwithstanding heavy frost in the ground, and the lakes still covered with ice. It is astonishing how slightly this very beautiful little flower is known on the Continent. Last year a noted French gardener was amazed at our 300 feet golden row in front of our orangery, not knowing or having ever heard of it before. Snowdrops are generally fourteen days behind it in flowering in the same position. When it can be bought for 20*s.* per 1000, one would expect it to be quite as well known as are Snowdrops or Crocuses. It has the advantage, moreover, of having elegant foliage, which remains long fresh and usable after the flowers are gone. *K., Laeken.*

The Week's Work.

THE ORCHID HOUSES.

By W. Holmes, *Gardener, Pickering Lodge, Timperley.*

HINTS ON RE-POTTING, ETC.—Oncidium Lanceanum, Cœlogyne pandurata, and Platyclinis glumacea all do well in the Dendrobium-house, and the present time is a suitable one for re-potting, &c., as the plants may be afforded water pretty freely, growth having begun. It is very necessary that everything about these plants should be sweet and clean. Our plants of Platyclinis glumacea are well advanced in growth with flower-spikes just pushing out, and require to be well attended to with water, and sometimes sponged to free them from insects. All the houses may now be advanced a few degrees in temperature, with a little more damping-down of the stages and paths.

WORK IN THE HOUSES.—By the time this is in print, we shall be nearing the period that is always a very trying one for the Orchids, when the increasing strength of the sun's rays and the biting winds we get, render great caution necessary on the part of the cultivator. The blinds will frequently have to be made use of for the reason that the ventilators may not be opened, and care is necessary at all times during the spring to avoid injury to the plants from draught. Ventilation should, as a rule, be afforded on the south side, or that from which the wind is not blowing. A greater quantity of moisture will be required, syringing amongst the pots once a day, and moistening all surfaces in the houses. The overhead syringing of the plants should be done at an early part of the morning, the plants then getting dry before nightfall. Beneath the stages in the Orchid-house, Tradescantias, Lycopodiums, Adiantum capillus-veneris, Pteris are planted, which serve the purpose of retaining moisture more effectually than bare surfaces. Cattleya Dowiana and varieties, C. Rex, C. speciosissima, C. gigas and its freer-flowering relative, C. Sanderiana, which have been resting in the cool part of the Cattleya-house since they flowered, and receiving but little water during the past four months, should now be starting into growth. Those plants which have really made a start, should be placed in a warmer part of the same house, a night temperature of 65° being suitable. Any that may stand in need of re-potting, surface-dressing, or new baskets should forthwith have attention. C. aurea, C. Rex, C. speciosissima are species which do better in baskets hung close up to the roof than in other ways; but C. gigas and those similar to it may be kept in pots placed as near to the glass as may be convenient, for unless the pseudobulbs get matured the plants are shy to bloom. Plants of Cattleya in a healthy state should not be disturbed, merely replacing old material with new without touching the roots, and soaking them in a tub of water, which will help to remove nearly all the old exhausted peat, &c. The fresh packing may consist chiefly of peat, small pieces of soft brick or clean crocks, and a very small portion of sphagnum moss. Cattleya speciosissima is a shy flowerer, to which water should be very sparingly afforded till such time as the flower-sheaths can be seen; on the other hand, plants of Cattleya crispa should be afforded water plentifully till it has flowered, the pseudobulbs now being fast made up, and sheaths pushing up. Unless this species is well-grown and well-ripened, it is rather shy. I grow this plant at the warmest part of the Cattleya-house. Plants of Lælia Boothiana, which are now forming pseudobulbs and flower-sheaths, should receive more water than hitherto, and this

must be continued till after flowering, when they must be properly dried off, afforded a thorough rest, and well exposed to sunlight. This species of Lælia flowers as soon as the pseudobulbs are made—that is, during the months of May and June. The plants of Miltonia vexillaria, Odontoglossum Roezlii, and Phalænopsis having been pot-dressed with live sphagnum moss, they should be well syringed overhead and generally kept moist; it helps to keep down the pest which troubles these plants so much.

PLANTS UNDER GLASS.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

CONSERVATORY CLIMBERS.—If the shoots were regulated in October, not much will be required in the way of training now; remove any dead shoots or leaves, and thoroughly clean any that may be infested with scale or mealy-bug, and syringe with lemon-oil or parafin insecticide. If Tacsonias or Bignonias, which are often subject to the attacks of these pests, are in a bad state, a weekly syringing is a good plan at places where the conservatory adjoins the mansion. Advantage should be taken to fumigate and clean when the family are absent. Where the conservatory is large and lofty, the expenses of a weekly syringing with advertised insecticides would be heavy. A good and cheap wash may be made from one wineglassful of parafin to 4 galls. of water. This should be kept thoroughly mixed by one person syringing into the bucket, whilst another is delivering it on to the plants. If this is carefully followed up for six or eight weeks, it will clear the house of any insect filth without injury to the plants. This is not recommended for soft-wooded plants, but for climbing plants, Palms, Orange trees, Rhododendrons, and such things. The borders of climbing plants should be pricked over, and receive a good top-dressing of manure and soil, and where the leaders have been kept rather dry during the winter, a good watering should be given. Lapagerias that are planted in borders are best kept rather dry during the winter; those in pots require more water, and are best trained on string, so that they can be removed and trained on wire trainers when required. A good and sweet-scented climber for flowering in March is Stauntonia latifolia; it is hardy in some parts of the kingdom, and has bright evergreen foliage, flowers red and green, not showy, but very fragrant. Where there is room for the old hardy Wistaria sinensis in greenhouse or conservatory, on a spare wall or pillar, it should be planted; also the old Aloysia citriodora will be very useful for cutting purposes. Other sweet plants are Jasminum grandiflorum, J. revolutum, and Olea fragrans. Other good climbing plants are Tacsonia hybrida, T. exoniensis, Solanum jasminiflorum, Bignonia Chamberlainii, B. cherere, Tecoma jasminoides, Banksian Roses, white and yellow; Cobœa scandens variegata, Plumbago capensis, Bougainvillea glabra, and Asparagus plumosus nanus; this last-named should be planted in quantities for cutting purposes; it does well against a wall. A useful plant for a rough wall or rockwork is Ficus repens. Useful trailing plants for baskets or vases in fernery or conservatory are Dracæna Vipani, and Tradescantia zebrina. Make new borders for climbers, where any new plants are required to fill up vacancies. Drain well, and give good turfy loam, leaf-mould, rough peat, and sand in abundance.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maiden Erlegh, Reading.*

PROTECTING FRUIT BLOSSOM.—Unusually mild weather has hastened the buds upon Peaches and Apricots, and preparations must at once be made to protect the blossoms immediately they begin to disclose. I am no believer in elaborate fixtures, such as glass copings, permanent arrangements for Frigi-domo, or any other warm material on rollers, and believe that many crops have been lost, owing to a disposition upon a damp night to run the risk of frost rather than that of letting down the blinds, which may be followed by a storm, and consequently by the blinds being blown against the buds. A more simple and effective method is to fix an 11-inch board directly under the coping, with irons, to which should be hung two or three thicknesses of netting, simply placed over tenter or other hooks put in the boards and then pegged down in the border, to prevent the netting being blown against the trees. This method of protection, too, is more sightly than the more common one of using long heavy poles to keep the nets from the trees, and is also more convenient to the amateur, and those living in districts where poles are not easily obtained.

FIGS ON WALLS.—If these still remain thickly protected, and especially if the protection be hay or straw bands, take advantage of mild weather to remove such entirely. Prune and secure the branches to the wall, protecting again at once with the system recommended for Peaches, &c.

PRUNING THE TREES.—In pruning, remove all long naked branches, and rather depend more upon young wood of the previous season than thickly-spurred branches, which afford so much growth in the summer that not only is the fruit difficult to find, but being thus buried away from the sun's influence, is longer in coming to maturity.

THE KITCHEN GARDEN.

By H. C. Prinsep, *Gardener, Buxted Park, Uckfield.*

HINTS ON PRESSING WORK.—Owing to the showery weather, work entailing treading the ground will, in some gardens, have got somewhat delayed, especially on retentive soils, and where this is the case, advantage should be taken of every opportunity when it can be done to expedite the same. The digging of all the vacant plots should not be longer delayed, unless the land be very light, when it is better dug just before the crop is sown or planted. Work in other departments will soon be so pressing that gardeners will sometimes be puzzled to know what to do first; and, as in these days most places are under-manned, the exercise of forethought may prove of much value. See that the Pea-sticks are got ready for use, tying them in bundles according to their sizes. While the cropping land is still too soft to tread upon, weeds may be pulled out of the gravel-walks, Box-edgings, and other places which cannot be cleaned with the hoe and rake.

HOTBED PITS AND FRAMES.—These are important for forwarding a variety of things; and regular attention must be paid them during the coming month, and the preparation of materials for new beds, linings to old ones, and partial renewals. The sun is sometimes powerful at this time, and it becomes needful to admit air freely to the frames; and unless this is done, plants of whatever kind will become spindly and often useless. At the same time, the nights are cold, and it is necessary to cover the glass to maintain the proper degree of heat. Vegetables, especially whilst still small, require much attention in pits and frames during the prevalence of north or north-east winds, the temperature being apt in bright sunshine to rise considerably, and air from outside must not be admitted, so that it shall not check growth. It is desirable to put pieces of hexagon cotton netting, or similar materials, over the ventilating inlets affording air. If possible, ventilate on the opposite side of the frame to the direction of the wind. Carrots should be thinned to a distance of 2 inches apart each way. Radishes, Lettuces, Brussels Sprouts, Cauliflowers, Cabbages, and the like, should be allowed sufficient space to grow sturdily.

POTATOS.—Those in pits ready for lifting for table use should have the soil kept sufficiently moist to prevent the skins of the tubers from "setting;" at the same time, the use of much water should be avoided, or flavour may suffer. Earth-up those needing it, using a light, rich soil for this purpose. Another planting may be made in warm beds in pits or frames, as these will be cleared off before those planted in the cold frames are ready for table. Where any Potato stems are showing through the soil, the lights should be covered at night with straw, Fern, or double-mats. A few tubers of early varieties may now be planted at the foot of a south wall, covering them to forward growth with potting-bench soil.

THE FLOWER GARDEN.

By T. H. Crasp, *Gardener, Canford Manor, Wimborne.*

HERBACEOUS BORDERS.—The continued mild weather has caused many of the plants to show signs of growth, and no time should be lost in looking over the same, making any alterations that are required. If the clumps are overcrowding one another, they should be lifted and divided, replacing the strongest pieces, which are generally found on the outside of the clump. These remarks apply chiefly to such things as Phloxes, Asters, Pyrethrums, Helianthus, &c., and not to any of the early-flowering plants. The same process should be applied to the rockery, for no matter how carefully it has been planted, some of the plants will get too large for their places; and I find February a good month for curtailing the root-growth of strong-growing plants. But the best way is to remove them, and plant elsewhere, particularly if they are over-growing a more choice plant. It often happens when forming a rockery, that, in order to get the place furnished quickly, the gardener uses plants that had better been left out, and these errors have to be corrected.

Cuttings and Seeds.—Continue to take cuttings of bedding-plants as fast as they are produced, and as soon as they are properly rooted, put them into boxes, and keep close for a time; they will soon commence to grow, and the tops can then be taken off and struck, if sufficient cuttings cannot be obtained from the stock plants. East Lothian and Intermediate Stocks should be sown in pans or in frames close to the glass, and as soon as they are large enough to be handled, should be put into pots, placing three to six round the edge of the pot, according to the size used, and kept in a cool frame till April, when they should be planted outdoors, and they will form a nice succession of bloom to the Ten-week Stocks.

FRUITS UNDER GLASS.

By Jas. Whitton, *Gardener, Glamis Castle, Glamis, N.B.*

BANANAS.—Plants that showed fruit during the autumn months will now require supplies of liquid manure to enable them to finish up the swelling of the fruits in a satisfactory manner. Keep up a hot moist atmosphere until the fruits begin to show colour, after which a drier air is necessary to prevent the fruits spotting. It may be found necessary to cut the bunch, if so, hang it in a dry room in which a temperature of 50° to 55° is kept. Although the fruit will keep longer when so treated, the flavour is not so rich as when they are gathered fresh from the plants. Immediately the branch is cut, remove the old stem, and select the strongest sucker for succession, destroying all the others. Frequently one of the suckers is left, which pushes up about same time as the fruit, and during the winter months it gets stunted. If this is the case, destroy such, and allow a fresh one to start. Those which grow up 3 or 4 feet high before beginning to unfold their leaves make the best plants and produce the finest bunches of fruit. Clear out all effete soil, and give the beds a top-dressing of good rough material. Should the soil be exhausted, renew the beds entirely, as Bananas repay generous treatment. Light turfy loam, rough leaf-mould, and dried cow-manure, in the proportion of one of the latter to two of the former, will be found suitable. Do not make the beds too firm, as the plants luxuriate in a loose, free-rooting medium. As the plants grow, give them occasional doses of liquid manure, and a pinch of nitrate of soda, after the fruits show. Where beds with bottom-heat are not available, Bananas can be successfully grown in large pots or tubs, although they rarely produce such large bunches of fruit. The same treatment in the matter of soil and selection of suckers will do, but endeavour in all cases to get a quick, free growth.

PEACHES AND NECTARINES.—Once the fruits have fairly began to swell, the temperature of the early house may be increased a few degrees. Disbudding should be finished by the time the young growths are an inch long. The thinning of fruits must also be done carefully and judiciously. Leave a few more than a good crop, as a proportion usually fail during stoning. At the same time do not overload and weaken the trees with a superabundance of fruits not intended to be left to ripen. Many cases of failure in stoning arise through that cause. In bright weather the trees should be syringed before nine o'clock, and again in afternoon when shutting-up the house to prevent greenfly, and to promote free growth. In dull weather once a day will suffice, preferably in the morning. Attend to the fertilisation of flowers in succession-houses, and keep the late houses as open as possible, for the buds on late trees are advancing rapidly with the mild fresh weather we are experiencing.

CHERRIES.—Those in bloom will require daily attention in the way of fertilising the blooms. On bright days a light dewing with the hand syringe will benefit them greatly. Take great care not to overheat the house, and keep up a free circulation of air. A dry hot atmosphere or a damp stagnant one is fatal to success.

EDITORIAL NOTICES.

LETTERS FOR PUBLICATION.—*All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

PLANTS, &c., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be carefully packed and numbered, and not more than six should be sent at one time.*

LOCAL NEWS.—*Correspondents will greatly oblige by sending be the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

ILLUSTRATIONS.—*Photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c., are particularly solicited.*

NEWSPAPERS.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Advertisements should be sent to the PUBLISHER.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

THURSDAY, MAR. 2—Linnean Society.

FRIDAY, MAR. 3—Dundee Horticultural Association.

SALES.

MONDAY, FEB 27 { Roses, Carnations, Tubers, and Sea-kale, at Protheroe & Morris' Rooms.

TUESDAY, FEB. 28 { Odontoglossum crispum and other Orchids, at Protheroe & Morris' Rooms.

WEDNESDAY, MAR. 1 { Japanese Lilies, Tree Ferns, 2500 Lilium Harrisii, Roses, Begonias, &c., at Protheroe & Morris' Rooms.

THURSDAY, MAR. 2 { Hardy Plants and Bulbs, and Greenhouse Plants at Messrs. Protheroe & Morris' Rooms.

FRIDAY, MAR. 3 { Orchids from Messrs. Charlesworth, Shuttleworth & Co.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—40°.6.

Paris Market Gardening and Liquid Manure.

IN our issue for February 18, we noticed the publication of a small work on the cultivation of market plants by M. ERNEST BERGER (Paris, J. B. BAILLIÈRE ET FILS). *Apropos* of the subject-matter of this book, we append the following remarks respecting the manufacture and uses of manure-water by Parisian gardeners, which are taken from the *Illustrierte Nützliche Blätter* for the present month.

After referring in terms of commendation to the excellence of the Paris market vegetables, a fact chiefly due to the abundant use of liquid-manure, it asks, "Whence comes this manure?" Guano, which one usually employs, is expensive, and it is, morever, often of indifferent quality and much adulterated; and other much-vaunted manures are of doubtful usefulness, and in any case cost money. The French gardener is, as a rule, very moderate, not to say parsimonious, in his expenditure; and although he endeavours to put the best and finest productions on the market, he avoids as much as possible the spending of money; as it is, the cost of labour is sufficiently high. The practice of making liquid-manure is very simple and not new, but in spite of the scarcity of manures in some parts of the continent, it is much too little in use.

A visit to the market gardens in the vicinity of Paris, would disclose everywhere in the neighbourhood of the usual tubs for holding water, others which are sunk in the ground. These latter are used for the manufacture and storage of liquid-manure, which is everywhere employed with the greatest care. In these tubs are put wood-ashes, the dung of fowls, rabbits, and other domestic animals, urine, the contents of cesspools and closets, soap-suds, slops from the kitchen, soot, offal, and trimmings; and to these a few pounds of sulphate of iron are added, which of itself is not only a manure, but it neutralises the evil odour of the contents of the tub, which is then filled with water. This done, the whole is well stirred about, and left for fourteen days without further disturbance to ferment, after which time it is suitable for use. This is done in the following manner,—a small basin is made round about each plant or small group of plants, and filled with liquid from the manure-tubs, which seldom exceeds in quantity half a litre= two-thirds of a pint; the quantity depending on the size of the plants, it having been found that "little and often" has better effects on plant growth than one or two abundant applications. Soon after the dose of manure-water is dispensed, in case no rain should have fallen, clean water is copiously applied. That the impoverished materials in the tubs are constantly being replaced with fresh, goes without saying.

Those who have not seen these practices of the French gardeners, can form no idea of the powerful effect that these manurial waterings have on vegetation. Of the greatest use in bringing culinary vegetables to market at an early date, they have also the best effects on fruit trees, Vines, small fruits, &c.; and in very diluted form, on all kinds of plants grown in pots.

Many of our amateur and other readers who now let valuable manures go to waste will, we venture to think, do well to take a leaf out of our continental neighbour's book in this matter of the manure-water tub.

WISTARIA.—Our illustration (fig. 33), from a photograph for which we are indebted to Mr. JAMES H. VEITCH, whose letters are appearing in our columns, shows the use which the Japanese make of this climber. If we cannot rival the beauty of the tree as it grows in China and Japan, we can see enough to make us thankful for its extreme loveliness. We have the white and the double varieties also, but neither of them is equal to the original form. The following extract from Mr. DOUGLAS SLADEN'S *Japs at Home*, p. 256, supplies what further explanation is needed:—"At Kameido one has to cross over the famous horseshoe bridge, the arch of which is so steep that it has steps like a treadmill up its back, to a tea-house formed by a natural arbour of Wistaria—such Wistaria! I doubt if the world has its equal. The arbour stands on the water's-edge, and in May, when the Fugi, as the Japanese have named the Wistaria, after their peerless mountain, is in full bloom, the water is swept by vast feathery racemes of delicate lilac-coloured blossom 3 or 4 feet long, odorous of honey, and buzzing with bees. Japanese bees have learned (very likely the Japanese have educated them, as they educate Fir-trees to dwarf themselves, and Plum-trees to tie themselves up into knots) not to take the slightest notice of people who go to drink tea in their honey orchards."

LINNEAN SOCIETY.—At the evening meeting to be held on March 2, 1893, at 8 P.M., the following papers will be read:—"On the Flora of the Eastern Coast of the Malay Peninsula," by H. N. RIDLEY, F.L.S.; "On the Behring Sea Islands and their Flora," by J. M. MACOUN.

—— At the meeting held on Thursday, Feb. 16, Professor STEWART, President, in the chair, Mr. R. SPRUCE was elected an Associate of the Society. Mr. CLEMENT REID exhibited, and gave an account of some seeds of Paradoxocarpus carinatus, an extinct Pliocene and Pleistocene plant from the Cromer fossil bed. Mr. REID also exhibited and described some examples of Potamogeton hedonensis, a new type of pond-weed from the Oligocene strata of Hordle Cliff, in Hampshire. His remarks, which were listened to with great interest, were elucidated with the aid of diagrams, and were criticised by Mr. W. CARRUTHERS and others. Mr. J. E. HARTING exhibited some dried plants of a so-called Greek Tea (Sideritis Theezana, Boissier), which, during a recent visit to Thessaly, he had found to be extensively used there, as an infusion in lieu of Tea. He also exhibited some photographs of Thessalian scenery, showing the geological and botanical character of the country bordering the great plain of Larissa. Dr. OTTO STAPF pointed out on the map the scene of his botanical explorations in Persia, and gave some account of the flora of that region so far as has at present been ascertained. On behalf of Mr. C. B. PLOWRIGHT, a paper communicated by the President was read on the "Life History of the Æcidium on Paris quadrifolia." On behalf of Mr. J. C. WILLIS, M.A., who was unfortunately prevented by illness from attending, a paper was read entitled "Contributions to the Natural History of the Flower." This paper, the first of a series, dealt with the fertilisation by insects of plants belonging to the genera Claytonia, Phacelia and Monarda. Some observations on "British Worms," by the Rev. H. FRIEND, were read on his behalf by the Secretary.

THE ARAUCARIA IMBRICATA.—*Apropos* of a recent and interesting "obituary notice" of the earliest specimen of this tree introduced into this country, Mr. CHARLES HERRIN contributes a few corrections of, and additions to some notes that appeared in the *Daily Chronicle*. Mr. HERRIN points out that the historical specimen at Dropmore was presented to Lady GRENVILLE by King WILLIAM IV., and planted in the pinetum then being formed there. This tree has not obtained the height stated (i.e., 63 feet), being now only 50 feet high. The largest and handsomest specimen, some 69 feet in height, was, so our Conifer catalogue states, purchased at a sale in the Royal Horticultural Society's Chiswick gardens in the year 1829, and planted here 1830, so that the "persistent legend" of the stolen cutting cannot apply to this tree, which is allowed to be the finest in Great Britain. A third specimen, also planted in the year 1830, has the following history: Raised from a cutting taken from the plant in Kew Gardens, it got into the possession of Mr. KNIGHT, nurseryman, King's Road, Chelsea, and Lord GRENVILLE knowing this, sent his gardener to purchase it at any price, and gave ten guineas for it, a mere branch with a few roots. It is possible this might have been the "stolen specimen" referred to, but, if so, it is much smaller than the above-mentioned tree, being under 50 feet in height, and a somewhat poor specimen.

THE CURRANT-BUD MITE.—Although this insect has been repeatedly alluded to in our columns since 1869, and an illustration often given, yet many growers seem still unaware of the nature of the pest. The Board of Agriculture has now circulated a leaflet on the subject, from which we extract the following particulars relating to the modes of prevention and remedies:—"When Black Currant bushes are planted, they should be carefully examined for Phytopti. If there are any signs of unnaturally swollen buds, the young bush should not be planted. In taking cuttings in the late autumn, those from infested bushes must be rejected absolutely; infestation is easily seen then by the abnormal buds. Infested bushes should be cut very hard, and every particle of the cuttings carried away and burnt. In the spring, the bushes should be syringed well all over with a solution composed of 1 ounce of Paris Green to from 11 to 12 gallons of water, with 2 ounces of fine Wheat-flour added, or 2 ounces of soft-soap, to make the

olution adhere better. The Eclair 'Knapsack' pump ay be employed for this, and it must be impressed pon the labourers to direct the spray over every part f the Currant bushes. Another solution for spray-ng, to be used in a similar manner, may be com-osed of 5 to 6 lb. of soft-soap, mixed with the xtract of 8 or 9 lb. of Quassia chips to 100 gallons f water; 3 quarts of carbolic acid might be substi-uted for the Quassia. Spraying with these solu-ions should be repeated in the autumn, before the veather becomes cold, and just after the leaves have fallen, if possible. This will economise liquid and labour, and will affect the mites before they get into the buds. Directly the leaves have fallen, it would be desirable to put hot lime round the stocks, and dig it in at once, so as to bury the leaves with any mites that may be upon them, and thus prevent any chance of their getting up the stems. In very bad cases it would pay to cut the bushes close to the ground, and in the autumn and early spring to syringe the stocks with the Paris Green solution, or the carbolic acid solution. This would entail the loss of one year's crop only."

Veitch Memorial Fund.—The proposal of the Committee of this Fund to offer a Silver Medal for the best hybrid raised from two distinct species, and shown at the Ghent Quinquennial, has been received with much favour. This exhibition is likely to be an unprecedented success. For instance, one orchidist alone has assured us that he will stage 600 Orchids. The Council of the Société Royale d'Agriculture et de Botanique de Ghent is hastily preparing conservatories, the walls of which will be hung with draperies and mirrors; there will be a large collection of works of Art of every kind. The flower *de luxe* will be exhibited in such a case as shall fitly display its beauty.

The Orchidéenne.—Meeting of the Brussels Orchidéenne on February 12. A very interesting meeting where many excellent Orchids where shown. We will mention the principal:—1. Odontoglossum crispum leopardinum to M. G. Warocqué (Diploma d'Honneur de 1re classe par acclamation, and with congratulations from the jury); flower excellent, habit very good, sepals marked with three wide brown marks on a creamy-white ground, petals with dentated edges, covered with small brown spots arranged irregularly in lines to right and left, a large spot of the same colour in the centre, flowers united in a fine cluster. 2. Lælia Owenii, to M. G. D. Owen (also a 1st class Diploma par acclamation), an exceptionally good Orchid, hyb. nat. (?), from L. elegans, by L. Perrini, the lip is that of the latter, very pure white, the general colouring that of elegans; claret colour and of a beautiful velvety texture. 3. Cypripedium Claudii×, to M. Moens (1st class Diploma), a hybrid shown at the last Ghent meeting, and already described in our report. 4. Maxillaria triloris, to M. Kegeljan, a specimen plant with forty nice blooms (1st class Cultural Certificate par acclamation). 5. Cattleya Trianæ var. Madame Marie Louise, to M. le Comte de Bousies (Certificat à l'unanimité), with fulness of petals. 6. Lælia anceps Ballantineana, to M. Linden, a white variety, with splendid flowers. Two new Cypripediums: a hybrid from from M. Ch. Vuylsteke, from C. Leeanum superbum, by C. hirsutissimum, a valuable acquisition; the other, a hybrid from C. Spicerianum, by C. Harrisianum, a very elegant flower. Cultural Certificates were awarded for Dendrobium Ainsworthi, Lycaste gigantea, and Dendrochilum glumaceum (the latter bore sixty blooms), to M. Linden. First-class Certificates of Merit for Cochlioda Noetzliana, to M. de Moerloose; Odontoglossum nebulosum candidissi

Fig. 33.—Wistaria sinensis in Japan. (see p. 232.)

mum, and Odontoglossum Cervantesi var. to Dr Capart; Cattleya Trianæ var., Cypripedium Lathamianum var. Lindeni, Masdevallia Harryana (Kegeljani), Dendrobium superbiens, and Saccolabium bellinum, to M. Linden; Cypripedium Argus Moensi, to M. Cahuzac; Phajus tuberculosus and Cœlogyne cristata alba, to M. A. Van Imshoot.

International Fruit Show, 1893.—A meeting of the Provisional Committee took place at Anderton's Hotel, Fleet Street, on the 20th inst., H. R. Williams, Esq., in the chair; present also, Sir James Whitehead, Bart., M.P., Messrs. T. B. Haywood, P. Crowley, J. Wright, J. Laing, G. Gordon, &c. The matter of proceeding with the exhibition was discussed; eventually it was proposed by Mr. J. Wright, seconded by Mr. T. B. Haywood, and carried unanimously, that, having regard to the difficulties experienced in obtaining the site on the Thames Embankment, and also considering the number of exhibitions announced to be held in London during the coming summer and autumn, it is inadvisable to proceed with the proposed International Fruit Exhibition this year.

Phaius tuberculosus is flowering nicely in the Orchid-house at Kew (see fig. 35, p. 237). This is a most beautiful Orchid, and if it were only as easy to manage as the useful old P. grandifolius, it would deserve to rank with the very best of tropical Orchids. The Kew plant came originally from Sir Trevor Lawrence, and it was brought by his clever grower, the late Mr. Spyers, who, by the way, was once a young gardener at Kew. Spyers said he found the safest course to follow with this Phaius, was to plant it against a pad of sphagnum on a piece of Fern stem, water it abundantly, keep it always in the warmest corner of the stove, and every week to cover it with a large bell glass, light a pipe of tobacco, and blow a few whiffs of smoke into the glass—this kept down the destructive little yellow thrips. We have followed his directions at Kew, and have flowered this Phaius several times. The spike now on the Kew plant is a foot high, and it bears seven flowers. *W. W.*

Odontoglossum Cervantesi var. punctatissima.—A charming variety, new in bloom in the houses of M. Peeters of Brussels. All the parts of the flower, including the lip, are quite covered with rose-coloured dots; the lip is rosy-lilac, the sepals and petals the same colour, but paler.

Restrepia antennifera.—M. Peeters of Brussels has a specimen of this Orchid measuring 23½ inches across, and bearing about 300 excellent blooms.

Crotalaria longirostrata is a useful winter-flowering plant for the greenhouse. It forms a shrub about 1 yard high, branching freely if the points of the shoots are pinched out in the growing season, and clothed with light green trifoliate leaves, not unlike those of Goodia latifolia, but larger. The flowers are borne on terminal spikes 6 inches long, the upper half clothed with large yellow Laburnum-like blooms, which last a considerable time. At Kew it is grown in a warm greenhouse, except during summer, when it is placed outside in full sunshine. It grows very freely, is easily propagated from cuttings, and the old plants, if cut back in spring, soon form nice specimens. Unfortunately the fogs of winter damage the leaves and destroy the flower-buds, otherwise it would have been in bloom from November until now. The Sun-hemp, C. juncea, an annual species, is also grown at Kew for its long spikes of large handsome yellow flowers. There are very few of the 300 or so species of Crotalaria that are of known value in English horticulture, though many of them are spoken highly of as plants for tropical gardens.

Manchester Orchid Show.—We have now received the programme of the great exhibition to be held in the Botanic Garden from May 19 to May 25 inclusive. We are sorry to see that the latter day is also the first day of the Temple Show, so that the two will overlap. There are twenty classes, and the numerous prizes range in amount from £30 down to £2.

The Royal Gardeners' Orphan Fund.—We learn with satisfaction that Her Majesty the Queen has been pleased to command that the Gardeners' Orphan Fund (which was instituted in 1887 as a memorial of Her Majesty's Jubilee) shall in future be called by the above title.

Professor Pasquale.—We regret to announce the death of Cav. Giuseppe Antonio Pasquale, Professor of Botany in the University of Naples, and Director of the Botanic Garden of that city. He died on the 14th inst.

Ernst Benary.—The announcement of the death of the well-known seedsman of Erfurt, will be received with regret by all who had the pleasure of knowing him. By his sterling qualities as a man of business, and his amiability as a friend, he was generally respected and beloved by all with whom he came in contact. This was evidenced not long since when, on the occasion of his seventieth birthday, on November 10, 1889, he was, amongst other things presented with an album quite unique of its kind, containing the portraits of upwards of 500 of the principal seed merchants and horticulturists of the civilised world. This gift came to Herr Ernst Benary both as a great surprise and inexpressible pleasure; and in all probability he was the possessor of a gallery of portraits no other horticulturist past or present has, or can possess. To each donor of his portrait for this album, Herr Benary sent a highly-finished cabinet portrait of himself, as a souvenir of the interesting gift made by his sons, as well as the celebration of the fiftieth year of his connection with the Erfurt business. Ernst Benary died on the 19th inst.

Frozen Flowers from New Zealand.—On Friday, February 24, there was an exhibition at the Ipswich Fine Arts Club of flowers grown within 12 miles of Wellington. These flowers were procured by Mr. E. Herbert Fison, of Ipswich, a director of the Bank of New Zealand, preserved in ice, and were placed by him at the disposal of the Ipswich Scientific Society. The flowers were almost all those of European garden plants. It would have been much more interesting to have sent New Zealand flowers. New Zealand has flowers which are fit rivals to any the world produces, and yet we see that, as in other colonies, Chrysanthemums and other European fancies are preferred at flower-shows. That is a matter of taste; but when our colonial friends send flowers to this country, they would do well to remember that native flowers would be more novel and more appreciated. Alas! the beauty of the flowers fades as the ice melts—fit subject for the moralist. A Dendrobium we saw lately at Messrs. Sanders', presented but a sorry spectacle, even though the ice was only partially melted.

English Botany.—The first three parts of the supplement to English Botany, prepared by Mr. N. E. Brown, are before us. They have been compiled with much conscientiousness by Mr. Brown, and the figures are very accurate. British specialists, however, will look with little favour on an editor who owns that he has never attempted to study the endless forms of Brambles and Roses. As no two observers agree, it is rather comforting than otherwise to find Mr. Brown, although so well equipped naturally for the task, expressing no opinion. It is very useful to have a summary prepared by such competent hands. The Carisbrooke White Beam (Pyrus intermedia) seems to us to be planted, whether it occurs wild in the neighbourhood we do not know. Scabiosa atropurpurea at Folkestone has evidently been introduced by the upsetting of a barrow of garden-rubbish, or a similar cause. The work will be continued by Mr. Arthur Bennett.

Plants to be Introduced.—Ixora siphonantha.—This is a magnificent species, described and figured by Prof. Oliver in the last number of Hooker's *Icones Plantarum*, tab. 2236. The species is a native of northern Madagascar, with long narrow glabrous leaves and terminal heads of yellow flowers, each 8 to 10 inches long, with a very long and slender tube dividing into four spreading lanceolate lobes. Clerodendron Baronianum of Oliver in Hooker's *Icones Plantarum*, t. 2237, and C. eucalycinum, t. 2238, both from northern Madagascar, are both well worthy of introduction. Pleurospermum Franchetianum, of Hemsley, is a noble Umbellifer from West Szechuen, described as very showy, a statement borne out by the figure, t. 2244.

Coltsfoot.—The first flower was observed in West Middlesex on February 13. In previous years the dates were March 9, 1889; January 24, 1890; February 15, 1891; February 10, 1892. The earliest date recorded is January 24, the latest March 11. The average date at fifty stations for ten years is, according to Rev. T. A. Preston, March 1.

Pyrus coronaria.—We take the following from *Garden and Forest*:—Under the name of Pyrus angustifolia flore-pleno, there is figured, in a recent issue of the *Gardeners' Chronicle*, the double-flowered American Crab, which appeared a few years ago in a nursery in the Western States, and which is really a form of P. coronaria; the Northern Crab, P. angustifolia being confined to the Southern States. This double-flowered Apple tree is one of the best among the recent introductions of hardy plants, and it should be more often seen than it is in our gardens.

Johnson's "Gardeners' Dictionary."—Messrs. Bell announce an entirely new edition of this useful work, which has been before the public for forty-seven years, and is now being thoroughly revised by Mr. C. H. Wright and Mr. D. Dewar. It will be issued in eight monthly parts at 1*s.* each, commencing on March 1.

The Wolverhampton Horticultural Society.—The schedule of prizes for the next exhibition of the society in the public park in July next has just been issued, and is of a very liberal character. With £20 as a 1st prize for sixteen stove and greenhouse plants, £15 for a group, £12 10*s.* for seventy-two Roses, £6 for forty-eight Roses, £7 10*s.* for a collection of fruit, and other large 1st prizes for other things, backed up by large other prizes, a fine exhibition must reward the efforts of the committee. There is a class for old-fashioned garden Roses in bunches; and last year two interesting exhibits of these old garden favourites were much admired.

Birmingham Gardeners' Association.—At the last meeting Mr. W. B. Latham, Curator of the Birmingham Botanical Gardens, brought under notice, in an excellent paper on stove and greenhouse climbers, some of our comparatively little-known but beautiful climbers, now so seldom seen, and gave cultural instructions for each. This paper will be the means of bringing these plants into more general notice in the Midlands, as a large number of gardeners were present.

Tadcaster Paxton Society.—At a meeting of the above Society, held on Thursday evening, February 16, Mr. Bromet in the chair, a paper was read by Mr. Clayton, gardener at Grimston Park, on "Allotment Gardens," in which the essayist pointed out the benefit, not only profitable but social and physical, derived therefrom by the holders. A discussion followed, in which many of those present joined. A hearty vote of thanks was accorded Mr. Clayton for his excellent paper.

Scottish Horticultural Association.—We have before us the preliminary list of the Chrysanthemum exhibition to be held in Edinburgh on November 16 and two following days, from which we gather that the various prizes offered may be competed for by all British and foreign growers complying with the regulations, unless otherwise specified. The prizes for plants seem to be very good

ones, both in the gardeners' and amateurs' classes, as are those for cut blooms of Chrysanthemums. The City of Edinburgh offers a cup, value £20, and four other prizes for the best forty-eight cut blooms of thirty-six Japanese varieties; the Scottish Challenge Cup and £5, besides money prizes to the number of three, are offered to Scottish gardeners and amateurs for the best thirty-six Japanese in twenty-four varieties. There are a ladies' class, an amateurs' class, one for growers for market, and one exclusively for nurserymen, so that everyone's case is fairly met by the schedule. Various competitions in plants, fruits, and vegetables will still further add to the general attractiveness and interest of this exhibition.

Sunderland Gardeners' Society Annual Dinner.—The annual dinner of the members of the Sunderland and District Gardeners' Mutual Improvement Society was held in the evening of February 15, at the Palatine Hotel, Borough Road. The society has just entered upon its third year, and during its existence has been of great assistance to members. The president of the society (Ald. Shadforth) occupied the chair, and Mr. H. Ritson, a vice-president, the vice-chair. Others present were Messrs. C. Errington, Higgs, Hall, Cobb, Webster, Johnson, Whitely, Richardson, Walton, Vosper, J. Watson, Gibson, Archer, Bailey, Thursfield, Wakelyn, Falconbridge, Metcalf, and T. W. Bolam, F.R.H.S., chairman of the society. An excellent repast was partaken of by about sixty members and friends.

Old Trafford Gardens.—Mr. F. E. Weiss, Professor of Botany at Owens College, began a series of twenty lectures on botany at the Botanical Gardens, Old Trafford, yesterday afternoon. The lectures are under the auspices of the Lancashire County Council, and are intended mainly for gardeners. There was a good attendance, and Mr. Bruce Findlay introduced the lecturer.

Cymbidium grandiflorum, Griffith.—The plant of this beautiful species, better known in gardens as C. Hookerianum, which was awarded a First-class Certificate at the last meeting of the Orchid Committee of the Royal Horticultural Society, was offered for the owners, Messrs. Ross & Co., nurserymen, of Merstham, by Messrs. Protheroe & Morris, at their Great Rooms in Cheapside, on Friday, February 17. After a spirited competition, in which several of the leading growers took part, it was secured by Messrs. James Veitch & Son, of the Royal Exotic Nursery, King's Road, Chelsea, for fifty-four guineas.

Bournemouth and District Gardeners' Association.—At the last meeting of this association on Wednesday, February 15, Mr. J. Spong, gardener to Lady Cairns, read an interesting paper on Dendrobium nobile, of which plant Mr. Spong is a very successful cultivator. The reading of the paper was followed by an animated discussion on pruning the Dendrobe, Mr. Spong being strongly in favour of the practice.

National Carnation and Picotee Society.—We have before us the annual report of the Southern Section, evincing continued progress. A list of the kinds considered best for general cultivation in each section is given. The Hon. Secretary is Mr. James Douglas, Barking Side, Ilford. The next exhibition will be held in connection with the meeting of the Royal Horticultural Society on July 26, 1893. The number and value of the prizes offered has been greatly increased.

National Auricula and Primula Society.—The sixteenth annual report testifies to an increasing interest in these plants, notably the show and alpine Auriculas. The report contains a list of the best varieties in each section, which will be useful to growers and exhibitors. The next meeting will be held in connection with the Royal Horticultural Society meeting on April 25. The Hon. Secretary is Mr. James Douglas, Barking Side, Ilford, E.

Lilies.—The *Garden* of January 21 has a translation of M. Franchet's paper on "Chinese Lilies," which will be found of great interest. Mr. Elwes, at the St. Petersburg Congress of 1884, expressed the opinion that many species would eventually be found in the mountains of Western China, and this forecast has been verified, for there are now twenty-four species of Lilies known as occurring in China and the Tibetan frontier, fourteen of which occur only in the provinces of Yunnam and Setchuan, in the very region which Mr. Elwes indicated. M. Franchet alludes to the great differences that cultivation brings about, and remarks that it is almost impossible to recognise a wild Lilium japonicum from the plates in the horticultural journals, or even in Mr. Elwes' *Monograph*. M. Franchet points out some additional points of distinction between the species and which are not so open to variation, according to circumstances, as the form of the perianth, and of its segments; for instance, the presence or absence of papillose hairs on the stamens, and the characters afforded by the furrow at the base of the segments. The new species as described by M. Franchet in the *Journal de Botanique* are L. myriophyllum, yunnanense, Delavayi, Duchartrei, papilliferum, lankongense, Fargesii, setchuense, taliense, ochraceum (?).

"Bibliografia de la Rosa."—Under this title D. Mariano Vergara, of Madrid, has published a list of periodicals, books, pamphlets, and trade catalogues, published in various countries, and relating to the Rose, as well as of the principal Rose societies. It is printed on one side of the page only, the other side being reserved for any "observaciones" that may occur to the reader. The list is not altogether without value, but it must not be accepted without caution. The omissions are sometimes serious: thus, no mention is made of the Rose Congress, at Chiswick, in July, 1889, decidedly the most instructive Rose exhibition ever held; nor of the report of the Congress, which contains a larger amount of substantial information concerning the Rose than is comprised in any equal number of pages. The list of catalogues given under the head of Inglaterra, is woefully incomplete, only eight names being entered; whilst Scotland and Ireland are even worse treated (it is not the base Saxon this time!), for they are not mentioned at all. Under the heading of Sociedades, the titles of some very few of the schedules of various provincial societies are cited. Of what interest these can be to Spanish rosarians, it is difficult to understand. Here, for instance, are a few extracts which may serve to amuse the reader, but which can otherwise have no substantial value.

"Bagshot, Wednesday, July 3, 1889.—Exhibition of cut Roses. (In affiliation with the National Rose Society). En 4° mayor, 4 paginas."

"Canterbury and Kent Rose Society, 1889, en folio, 4 paginas en papel de color de rosa."

"The second annual show of the Dursley Rose Society, (Wich (*sic*) has been affiliated with the National Rose Society) will be held in the cricket-field, Dursley, &c. Dursley por Bailey en folio, 4 paginas en papel de color de rosa."

"1889. Please keep this schedule. Nineteenth exhibition of the Farnham Amateur Rose and Horticultural Association. En folio, 4 paginas."

It may be that some collectors of Rosarian literature may desire to place this book upon their shelves as a "curio," or may be desirous to assist the author in the revision of a new edition; it may, therefore, be useful to add the address of the author, D. Mariano Vergara, Plaza de Santa, Barbara, Madrid.

Influence of Fungi on Flowers.—It is a curious but now well-ascertained fact, that the presence of a parasitic fungus may cause a stamen, which is usually abortive, to assume its normal growth and function. Thus the ordinarily barren staminal rudiments in the female flower of Lychnis diurna, may become fertile under the influence of the parasite. M. Ant. Magnin has now examined the forms of flower met with in Hyacinthus comosus—in some, the staminal rudiments are visible to the naked eye, and the more or less atrophied pollen may be seen by the aid of a glass. In other flowers there is no trace to be seen of stamens, and between the two extremes there is every intermediate condition. The Ustilago does not attack the perfectly-formed flowers in this case, but those in which there are usually rudimentary stamens only, and these rudiments are stimulated into growth by the fungus. An inverse state of things occurs in the case of the female flower. The rudimentary female flower under the influence of the parasite takes on growth, develops the ovary but no perfect ovule.

CATTLEYA LABIATA.

This magnificent Orchid was originally introduced from the immediate neighbourhood of Rio de Janeiro by Mr. William Swainson, and flowered for the first time in Europe in the stove of W. Cattley, Esq., of Barnet, during November, 1818. It was described and figured by Lindley in his *Collectanea Botanica*, the genus being dedicated to Mr. Cattley. Thus, it is the original species of the genus, though the Epidendrum violaceum of Loddiges was added, as a second species, at the same time. In 1819 it flowered in the Glasgow Botanic Garden, and again in November, 1824, when a coloured plate was prepared for the *Exotic Flora*, from which work we learn that this very plant was an offset from Mr. Cattley's parent plant. The precise locality where it was collected was not stated, but two facts are known, which are sufficiently conclusive. One is, that Swainson's collections were made in the immediate neighbourhood of Rio; the other, that until as late (at least) as 1836, the plant grew wild in two localities within fifteen miles of that city. These were the Gavea, or top-sail mountain, where it grew on precipitous cliffs, at several hundred feet elevation; and the Pedra Bonita Mountain, immediately opposite the Gavea, on the edge of a precipice on the eastern side. Here Gardner met with it in full flower in November, 1836, and secured specimens for drying and also abundance of living plants. The former were distributed, and good specimens exist both at Kew and in the British Museum. The latter I have not been able to trace, though it seems probable they were despatched to Europe, for Gardner sent home some living plants, one being the Cattleya intermedia variegata of Hooker (really C. Harrisoniana of Bateman), figured in the *Botanical Magazine*, t. 4085, in 1844. Until about this time, however, it appears to have been fairly common in such collections as then existed, for in 1838, we read in Paxton's *Magazine of Botany*, that "plants may be had from Messrs. Loddiges, Rollison, or Knight, at a reasonable cost." I believe all the plants imported up to the date in question came from this locality, close to Rio. After it was exterminated there, it soon became excessively rare in cultivation, doubtless owing to the fact that the cultivation of Cattleyas was then very imperfectly understood, and many of the plants did not long survive the treatment they received. The circumstances attending its extermination can readily be understood from what has been placed on record by Gardner. Only a year after he first met with it, he again visited the spot, and found that a great change had taken place. The forest had been cut down, and converted into charcoal, and the small shrubs, &c., destroyed by fire. "The progress of cultivation," he remarks, "is proceeding so rapidly for 20 miles around Rio, that many of the species that still exist will, in the course of a few years, be completely annihilated, and the botanists of future times will look in vain for the plants collected by their predecessors." Gardner also records finding Cattleya labiata on the banks of the Rio Parahyba, which forms the boundary of the provinces of Rio de Janeiro and Minaes Geraes, flowering in March. This has been supposed to be the variety Warneri, though I do not

see why no specimen was preserved. Even here Gardner records that square leagues of the forest were being cut down or burnt, in order to make room for plantations of Coffee. We now come to the period of its re-introduction, for there is a gap of about forty years, during which many expeditions were sent in search of the plant, and as all proved unsuccessful, it was feared that it had become extinct. In 1882, a small batch of plants was received by Mr. Bartlett, the curator of the Zoological Gardens, London, which he disposed of to Mr. B. S. Williams, of Upper Holloway. In 1889 M. E. Moreau, of Paris, received a small importation from some part of Brazil. The following year Messrs. Linden, of Brussels, imported a Cattleya from Brazil, which they distributed under the name of C. Warocqueana, but which was proved to be C. labiata. During the present autumn (1892) it has been imported in bulk by Messrs. F. Sander & Co., of St. Albans, who had despatched a collector some months previously in search of the long-lost plant. Viewed in the light of recent events, it is, indeed, remarkable that it should so long have eluded the different collectors who have been in search of it. It is now clear that the species was formerly more widely diffused than at present, and that the locality close to Rio, whence the earlier specimens were obtained, was an outlying station. When it was exterminated in this locality by the burning of the forest for Coffee planting, and cultivation generally, it soon became excessively rare in European collections. Recent importations have also proved it to be very variable, but a comparison of old figures shows that this is not at all a new feature of the species." *R. A. Rolfe in "Reichenbachia," t.* 49.

New Invention.

WOODS' PLANT CLUB LABEL.

It is claimed for this label that it is practically imperishable. The material is wholly zinc, in one piece. The principle and the material have been under test fifteen years, and the labels are good and distinct to-day.

The concavity in the stem and at the head afford strength, and when pushed in the ground, the three angles in the stem are capable of securing firmness and fixity of the label against wind, frost, and animals. Owing to the ample length of stem, the label may, if desired, be kept raised fairly well from the soil; but when it is desired that the label should be less conspicuous, it may be pushed down to the neck of the name-plate, It is important that a standard quality of the metallic ink should be employed for writing these labels, which is specially provided for them, being much stronger than that usually supplied for zinc label writing.

It is expected that the present size in which the label is made, the name-plate being $2\frac{3}{4}$ by $1\frac{1}{2}$ inch, will be too small for some purposes, and too large for others; but it is suggested that when the labels are only required for special reference, they may be pushed well down, or even placed behind, rather than in front of the plants, where it would hardly be seen until sought.

It would almost seem that a strong and durable label could not be expected for less than a penny each, at which the present one is provided. The designer of this label has had the advantage of not only seeing the dozens of various labels, as used by his numerous garden friends, but he has had the advantage of seeing them *in situ*, and of the information and experience of their owners. Many of such labels are good for their respective uses, but in the case of the present label, it has been sought to incorporate all the advantages, and at the same time to provide a label durable, neat, and at a reasonable price. It could hardly be expected that a lifetime label could be written quite as quickly as a wooden tally, though it is nearly the case with this label, when the materials are kept handy.

It is very common for labels to be trodden down and so lost, but owing to the length and shape of this one, the chances would be very slight of such loss. Something might be said on the matter of quality of zinc, but suffice it to say, that after many experiments with different brands a quality has been pitched upon for these labels which gives off a minimum quantity of exudation. This favours the clearness of the black lettering on the imperishable property of the whole label.

Nursery Notes.

CHILWELL NURSERIES, NOTTINGHAM.

Messrs. J. & R. Pearson & Sons have a high reputation, and the long period the firm has existed, the condition of their extensive establishment, and the high state of culture presented, bespeak pleasant and profitable relations with their numerous customers, both home and foreign. Of course, during the many years of its life, the nurseries have had to make changes in the matter of specialties, in order

Fig. 34.—Woods' patent zinc label.

to keep up with the times, and it has probably been owing to the aptness with which these have been made that the vitality and up-to-date character of the concern has been maintained.

In the time of the late Mr. J. R. Pearson, who was an enthusiast in all that he took in hand, and who followed some of his hobbies with all an amateur's liberality, the raising of new zonal Pelargoniums was a great feature of the place, and some of the best of their day came out at Chilwell, and even now the raising of new varieties of these plants is continued by them with undiminished success; so also with Vines in pots, for which these nurseries have always been noted, and the growth of which accounts for the large and lofty dimensions of many of the glass structures. Of late years, Chrysanthemums have been largely and well-grown by Messrs. Pearson, their large orchard-house, in which are still the remains of what has been one of the chief floral attractions of the Midland Counties, being evidence of the fact. For the general stock and the show plants for next season, a propagating-house is entirely filled with cuttings in single pots, of all the best varieties. Starting on a tour of inspection of the main block ef houses, consisting of twelve or thirteen structures, each 100 feet in length, and varying in width up to 25 feet. In the first were found a grand display of a very fine strain of Cinerarias, some fine specimens of Cœlogyne cristata, Freesias, the pretty pink-flowered Rogeria gratissima, and other greenhouse plants. In the second house entered, one of the finest batches of the Chatsworth variety of Cœlogyne cristata we have ever seen, extending along the whole side of the house, and bearing a profusion of bloom, the vigour of the plants accounting for eight flowers being found on many of the spikes. In this house, a batch of Cymbidium eburneum was finely bloomed; a number of Dendrobium nobile, grown up to their best; Oncidium flexuosum (a great favourite for cutting), very strongly grown, and sending up flower-spikes very profusely; and lesser batches of Cypripedium Chamberlainianum, Miltonia vexillaria, Zygopetalum Mackayii, and other Orchids, as well as a healthy lot of Kentias of a useful size. A collection of Orchids is not attempted at Chilwell, but good showy species of use for cutting purposes are well grown there, the cool lean-to Odontoglossum-house affording a good instance of successful Orchid culture. It is filled mainly with good large plants of O. crispum and O. Pescatorei, which are sending up spikes freely, the smaller division having already a good show of O. Rossii majus, with a plant or two of Sophronitis violacea and other species. The next, a warm range, is on one side furnished with grand plants of Tabernæmontana coronaria flore-pleno, some 3 or 4 feet in height, bushy, leafy, and covered with bunches of pure white flowers, and very different from the scraggy plants often seen of it in gardens. With them is a fine lot of Gardenias in bud, a well-grown selection of Crotons for table decoration, a small lot of Dendrobium Phalænopsis Schroderianum, D. bigibbum, and D. Dearei, all plants with very stout growth.

Next, we come to a large and lofty vinery, built twenty-eight years ago, but still in a good state of preservation; here, beneath the Vines, are grown Maidenhair Ferns and double white Primulas, as well as a batch of the useful Asplenium Colensoi, the fragrant Boronia megastigma, &c. Then follows a house of Pelargoniums, with Ivy-leaved Pelargoniums forming arches at intervals along its whole length; then the Chrysanthemum show-house before alluded to, and next a greenhouse, in which, among other things, is a very large stock of Yucca filamentosa variegata — some thousands of plants— a charming plant tolerably hardy and beautiful in flower and leaf. A house of Tea Roses and Clematis comes next, and then a very large warm house, down one side of which numerous plants of Eucharis grandiflora are giving a fine supply of flowers. In this house the whole roof is covered with Stephanotis grandiflora, and its stages are used for bringing on a fine supply of flowers of Azalea indica alba, Lilium Harrisii, and other plants for forcing. Here, and in several of the other houses, are large quantities of the red-berried Ardisia crenulata, which some growers have abandoned on account of the three years necessary for the plants to fruit and be fit for sale; but as they last a considerable time, either in a greenhouse or dwelling-house, when they are fit, they are well worth waiting for.

The next large house, 100 feet by 25 feet, has a singular feature in it, in the matter of a dividing wall put down one side from end to end by the late Mr. J. R. Pearson, in order to provide a shady house (practically a lean-to) in which to grow and prove his summer Pelargoniums. It answered admirably, and is at the present time filled with new seedlings, which will be tested this year. The back wall of this house is densely covered with the growths of Asparagus plumosus, from which a cartload of foliage could well be cut without it being missed.

Among the other items we found a quantity of Carnations in a structure originally built for raising seedling Rhododendrons, a houseful of Cytisus and double white Primulas, several houses full of Tea Roses, Maréchal Niel being especially fine; an orchard-house, 90 feet by 20 feet, furnished with Peaches, Nectarines, &c.; a large house of similar size, in which an immense quantity of Vine-eyes are being struck; a fine Camellia-house, well furnished

with double white-flowered Camellias, and a large plant of the now rare single white with its golden anthers, and which many would prefer to the double variety. Then we come to several propagating houses devoted to the propagation of Roses, Clematis, or whatever it may be desired to increase, and passing the bouquet-room, the fruit-room, in which the fruits of Newton Wonder Apple were observed as beautiful and sound as in the autumn, the garden with its magnificent clumps of Rhododendrons is crossed, and the oldest house on the place is reached. It is a curiosity in its way, built partly of wood, with iron rafters, wall plates, &c., some seventy years ago. The house is still sound. Its roof was formerly covered by a Vine, which entered the house through a hole made for it in the hard stone coping, some 9 inches thick, but so irresistible was the gradual pressure of the thickening stem, that after it had filled the space allotted to it, it split the coping. A pretty rockery is outside this house, and near at hand, are the offices, seed and bulb warehouse, packing-sheds, &c., the whole being kept in proper order.

The Fruit Tree Nurseries have received steadily increasing attention at Chilwell for many past years, and notwithstanding the fact that an area of 50 or 60 acres is occupied by a capital stock of trees, among the whole of which not a single instance of canker or blemish of any sort is to be met with; 5 or 6 acres have to be added annually, for despite the increasing numbers grown, Messrs. Pearson find the area under fruit inadequate to meet the demand, especially in varieties of Apples, which the better knowledge of recent time have brought greatly into notice. In their fruit culture, Messrs. Pearson begin at the beginning by growing large quantities of their own special stocks, the Paradise Stock, so largely used by them for pyramid Apples, which they deem the trees of the future, having been, after comparative tests, selected as the best by the late Mr. J. R. Pearson over forty years ago, and the firm have always propagated largely, and worked on this stock with the best results, for on it the trees are found to make plenty of fibrous root, and to grow in the exact proportion of vigour necessary to favour early cropping. So also with the Quince stocks for Pears; it is alleged that the Chilwell stock of properly-cultivated Quince when worked will produce trees that commence to fruit when no larger than a good-sized Gooseberry bush—a direct contradiction of the old proverb, "He who plants Pears, plants for his heirs."

Coming to the general stock, we find that Messrs. Pearson have cast aside all doubtful or inferior varieties of all sorts of fruits, and grow only the best. Beyond this, they recommend the planting of a few kinds only in each district, the kinds planted being those which are known to do well; and further, it is found that the selection must be varied according to the soil and climatic peculiarities of the district intended to be planted, and on all these matters, having made a special study of the subject, they are willing, nay, anxious to give advice. Some of the Apples, either new or worthy varieties, which they are cultivating largely, are Newton Wonder, sent out by J. and R. Pearson & Son, one of the finest and longest-keeping kitchen Apples introduced; Gascoyne's Scarlet Seedling, Bismarck, Beauty of Bath, Chelmsford Wonder, King of Tomkin's County, Lady Sudeley, Peter the Great, Royal Jubilee, and Prince Albert, as well as such favourites as Ecklinville, Russian, or Duchess of Oldenburg; Cox's Pomona, Cox's Orange Pippin, Blenheim Orange, King of the Pippins, New Northern Greening, Ribston Pippin, Warner's King, &c. Passing to the main fruit nursery of over 25 acres, which, like the rest of the ground, is staked out in quarter-acre pieces, the readier to compute work done, we find some 30,000 one, two, and three-year-old Apples on Paradise stocks, and some 20,000 on Crab stocks, with proportionate quantities of Pears; some 10,000 dwarf-trained of both Apples and Pears, a lesser quantity of cordons, &c. One great and costly feature is that all the things are staked, some 40,000 short and 70,000 long stakes having been used, it is said, last year. Of course, the better rooting of the trees warrant it, but it is a matter which many fruit tree growers shirk as much as possible. Next we come to a fine lot of Plums, which are here from the earliest stage horizontally trained, as it is found that when so treated they have not that tendency to run up when planted. Further on, is a grand lot of trees of the old Shropshire Damson, three years old; another of Cherries, and so on throughout this and the newer piece of 15 acres, and the lesser pieces all are filled with grand stock—clean, straight, and well furnished. Passing to the old fruit garden, which is interesting by reason of a wall a mile and a quarter long running round it, and built in a very ingenious manner by direction of the late Mr. Pearson. It is of a single course of brick, and in order to give it strength is built in recesses, i.e., the wall in 10-yard lengths, with 1 yard deep set-off continued round the whole of the ground. This wall is planted with Peaches, Nectarines, Apricots, &c., and in the nursery itself is kept the old proved trees of any kinds which may be wanted for

FIG. 35.—PHAIUS TUBERCULOSUS. (SEE P. 234.)

propagation in limited quantity at any time. Beyond these there are lesser pieces for bush fruits, but despite the large and fine stock, Messrs. Pearson still intend to increase, for, as they justly remark, if persons who have worthless trees or unprofitable kinds could be induced to get rid of them, and plant such as we now know to be profitable, their stock of trees, together with those of kindred firms, would be but as a drop in the ocean, to say nothing of new plantations.

HOME CORRESPONDENCE.

SAGE.—The old lines alluded to on p. 208 of the last issue of *Gardeners' Chronicle*, are:

Cur moriatur homo, cui salvia crescit in horto?

but the answer,

Contra vim mortis, non est medicamen in hortis.

The Stockholm M.S., 1290, has

Also seyth Macrobius,
Averse yât is yûs,
Cur moriatur homo dû salvia crescit in horto.
"Why of seknesse deyeth man,
While Sage in gardyn he may han."

It is, of course, quoted in the *Schoole of Salerne*, and in Cowley's *Plantarum*, and probably in all the old herbalists who wrote on the virtues of plants. *H. Ellacombe, Bitton Vicarage.*

HARDINESS OF EUCALYPTUS COCCIFERA.—I entirely agree with your Tasmanian correspondent, Mr. MacPherson, p. 207, as to the desirabilty of Eucalyptus coccifera being further tried. I have mislaid the number of the *Gardeners' Chronicle* in which the original note appeared, but I think it was stated that, although the seeds were collected from trees encrusted at the time with snow and ice, the seedlings did not survive the winter at Kew. I cannot help thinking that had they been in a cold house during their first winter, they would have proved quite hardy when planted out. I have a tree at Loch Hourn Head, Inverness-shire, west coast, which was planted in 1885, when about a foot high. It has never been even touched by frost, although last winter was a severe one, the sea water being frozen over for 2 or 3 miles down the loch, and it is now (I am writing from memory) 10 or 12 feet high, and the trunk nearly 18 inches in circumference. Two or three small trees, planted in 1891, were much cut back during the winter, but when I left Scotland in November they were looking well. E. amygdalina, coreaiac, urnigera, and Gunni, planted as very small seedlings in 1891, also lived through the winter, though much cut by the severe frost. I only wish I knew where seed of E. coccifera is to be obtained, as I am very desirous to plant it more extensively, but I have been unable to procure seed either in England or France. Eucalyptus coccifera is a very handsome tree, not growing in the straggling way of E. globulus. I would like to mention what at least is a curious coincidence, with reference to the general belief in the efficacy of the oil of Eucalyptus as a safeguard against influenza; last winter, the only house in the district which did not suffer from a severe form of the prevailing epidemic was that of one of my keepers, within a few yards of the tree I have mentioned. I do not suggest that it was more than a coincidence, but at least it was a very marked one. *Robert Birkbeck, 20, Berkeley Square.*

—— With reference to the interesting communication upon the hardiness of Eucalyptus coccifera, which appears in your issue for Feb. 18, I would wish to remark that several years ago I had planted some young trees in the grounds of the Atkinson-Morley Convalescent Hospital at Wimbledon. They remained unharmed during many winters of great cold, until about two years ago a very heavy snowstorm occurred, which broke off several branches (I may observe that the trees had now attained a considerable height, say 12 to 15 feet), a severe frost supervened and penetrating the wound, caused by the fracture, proved fatal to all the trees. Had there been no lopping off, there would have been no death. Frost alone would not have killed them, for they had withstood several winters quite as severe but without snow. *John Colebrook.*

—— It may interest your readers to know that about five years ago I purchased a dozen very small plants of Eucalyptus coccifera, and planted them on the hill (at varying elevations) which rises immediately behind my sister's house, Wansfell Holme, Windermere. These plants (now trees, for they are from 15 to 20 feet high, as far as I can judge without actual measurement) have all withstood the severe frosts of these five winters, and only one has suffered serious injury. This one lost about 4 feet of its top in the winter of 1892, but broke back freely when the growing season came round again. I must just add that E. globulus has also been tried, but is much too tender to withstand our severe frosts. *O. O. Wrigley, Bridge Hall, Bury, Lancashire.*

GALANTHUS FOSTERI is a fine, showy, and distinct Snowdrop. We have here a nice lot of it coming into bloom at the present time. It gets bespattered with soil and sand when planted in cultivated ground in common with other Snowdrops, but I hope to have a considerable colony of it established in the grass by another year. Mr. Max Leichtlin kindly sent me last year a bulb of a very interesting and rare Galanthus from the Isle of Thasos. It is now in bloom, and is similar to G. Fosteri in the flower and markings on the cup. The leaves are broad, like those of G. Fosteri, but instead of being of a dark green like G. Fosteri, they are of a light green, more like the green of G. nivalis. *D. Melville.*

TREATMENT OF GOLD FISH.—In reply to your correspondent, Mr. M. E. Mills, the frequent washing of the gravel would obviously be inconsistent with my plan of non-disturbance from year's end to years' end. If, however, he is troubled with an abundant confervoid growth on the gravel, due presumably to strong light, it may be removed by means of a syphon, the short end of which if directed to any undesirable accumulation will at once suck it up and discharge it. I am not, however, in favour of sup-

pressing such growth, except where it obscures the view by covering the glass; inasmuch as it helps to oxydise the water, and favour animalcular life, upon which the fishes undoubtedly feed. Subdued light is probably the best cure, as my aquarium stands well away from the window upon a sideboard, and gives me no trouble of the sort described. The two fish have been eight years in the aquarium—a pretty fair proof of sound treatment. *Chas. T. Druery.*

PLUMBAGO CAPENSIS BEDDED-OUT.—At a recent meeting of the Birmingham Gardeners' Association, one of the members alluded to his having repeatedly seen Plumbago capensis planted out in four large beds, as a bedding-out plant, at Wilton House, near Salisbury. Strong established plants were used, pegging them down and planting Calceolaria amplexicaulis amongst them, and that he thought the Plumbago was still used there for that purpose, although it is thirty years since he was there. It will be interesting to know if any other of your readers have had experience of this plant for bedding-out purposes. *W. D.*

"TUFTED" PANSIES.—We are very glad to see the protest against such a misleading application, viz., to call Violas or Bedding Pansies by the name of "Tufted" Pansies. It is so misleading, that several of our lady customers and others told us that it was a new class of Pansies altogether, and that we did not have them. We concur in every word that Mr. Dean has said, and will stick to the name "Bedding Pansies and Violas." This includes all, excepting what we call Show and Fancy Pansies, so we hope we shall hear no more about "Tufted" Pansies. *James Cocker and Sons.*

—— You say, "We are puzzled to understand the application of the word 'tufted' to the bedding Violas. We are told that the term tufted has been used to distingnish plants of a spreading habit, like Pinks, Aubrietias, &c., from plants with simple erect stems, such as the Stock. To apply the term tufted to plants of a spreading habit is a complete contradiction of terms, &c. But in the employment of popular names there is no guide but custom and caprice." Among the plants to which botanists have applied the term, the most familiar, and one of the prettiest, is the dainty little Campanula cæspitosa, often used as an edging, and of which there is a good white as well as the ordinary bluish form. Now, the close or tufted habit is well shown in this plant, with its dense, close habit, so very different to many plants of the same genus, some of them even reaching 6 feet in height, and showing every degree of vigour and looseness of habit. Well, if this plant possessed a dozen lives, it could not increase more vigorously at the root, and spread, than it does, without losing its tufted habit; so that if one plants it as an edging in narrow walks, it will often meet in the middle, and leave no room for the feet between; while, if we take it up, a thousand plants may be made from one, owing to its spreading habit. I planted it near some flagstones, and have found it runs both over and under them. Take, again, a native plant less known in gardens, but not uncommon, the tufted Rockfoil (Saxifraga cæspitosa), which represents in the same way as the little Harebell did among its kind, the tufted habit of its great alpine family. Now, while always preserving their close tufted habit, these plants spread over the earth like magic. If the Saxifrages of the mossy section are dotted over beds or borders, they will soon close together, and give little chance to the annual weeds that infest most garden ground. If we take up a plant, we find innumerable rootlets already at work in the moist, close tuft, always pushing its gentle, but not very slow, way over the ground. Just in the same way as these two types of well-known plants show the tufted and spreading habit, so are the mountain Violets, V. calcarata, V. cornuta, and others which, while tufted in habit, spread at the same time at the root; this excellent character they have given to their garden progeny, the tufted Pansy—crosses between the alpine Violets and the newer garden forms of V. tricolor, or whatever the garden Pansies may have come from, a point on which good botanists are not agreed. What is beyond dispute is, that all these plants are hybrids and varieties, and, therefore, by the express wisdom of the scientific, allowed only to possess an English name. The term tufted is a true and good name in every way from a botanist's or gardening point of view, and gets rid of the never-ending confusion among gardeners in attempting to draw a distinction between Viola and Pansy, which is impossible and ridiculous. *E. J. L.*

PEACH-BUDS DROPPING.—From time to time during many years all sorts of reasons have been advanced to explain bud-dropping in Peaches, and many injurious theories have been laboriously built up and promulgated; but, so far as I have read, no one has been able to prescribe a cure for the complaint. I have forced Peaches extensively for the past twenty-four years, and I can assure your readers that for twelve years I have not had a bud drop, to my knowledge, and I am satisfied in my own mind that I have found a cure for the complaint. In a few words, it is this:—See that your borders are thoroughly well drained, and replant your trees periodically, adding some fresh loam, and a small quantity of bone-dust, and ¼-inch bones, at each time; the replanting should be done as early in the autumn as possible, which will be as soon as the trees are sufficiently ripe. Young trees up to six years old should be replanted every other year, and older trees every four years. Very old trees I do not lift entirely, but the roots within a few feet of the main stem are all taken up and relaid in new soil every six or seven years. When this work is systematically carried out, it is not at all so laborious a business as many would imagine, for the trees, by frequent lifting and the addition of virgin soil, form a solid mass of fibrous roots within a few feet of the stem of the tree, which are almost as easily and effectually fed and nourished as are trees in pots. I do not wish to imply that insufficient disbudding, and the consequent overcrowding of useless growth in summer may partially account for this complaint sometimes; but I am confident the mischief is at the roots, and I would strongly advise any gardeners who are troubled in this way, to take my advice, and replant their trees at frequent intervals, and I can promise them immunity from Peach-bud dropping for ever afterwards. Winter irrigation, with weak liquid-manure water, is also no doubt beneficial to Peach trees under glass, and especially so under this system of frequent lifting, as the mass of roots formed close to the tree are much nourished and benefited by a liberal application during the time the trees are seemingly at rest. Are the roots at rest in winter? I had occasion to take a tree up a few days ago which had been replanted early in the autumn, and found that it had made a large number of splendid white roots—was this winter root-growth the result of the replanting in the autumn?—or would the growth have taken place had the tree been left undisturbed? *O. T., F.*

MR. MEREDITH AND MUSCAT CHAMPION GRAPE.—The "late Mr. Meredith" (according to "Vagabond's" account), called here last week, and very pleased I was to see him, looking as well as ever. I put the question to him about the Muscat Champion. His reply was, "There is not a word of truth in it, for I never grew that variety." I know a copy of your issue of January 7 was sent to him. I asked him why he did not reply, and let the gardening world know that he was still alive; he said he did not think it was worth his while to do so. I should advise "Vagabond" to be quite certain as to the veracity of his anecdotes before he rushes them into print. *J. Wallis, Keele Gardens.*

FREESIA REFRACTA ALBA.—Seeing several notices in the *Gard. Chron.* lately of Freesias, I have pleasure in herewith sending a small bunch, and may remark that my mode of treatment differs in some measure from that recommended by some of your correspondents, and particularly in that I never cover the pots with anything when the bulbs are planted—I mean, I do not bury the pots or boxes in sand, coal ashes, or other material, as Hyacinths are done, and I think the plan a very bad one. I have grown Freesias largely some years, this year I have 50,000 bulbs. Lachenalia pendula, a bunch of which I enclose, I treat in the same manner as the Freesias. I have about 1000 in bloom now, and a very remarkable and pleasing patch of colour they make. *H. Elliott, Christchurch, Hants.* [Excellent blooms. Ed.]

GROS COLMAR GRAPE.—The correspondence on the above Grape is most interesting, and in some cases instructive; but your correspondent, Mr. Stephen Castle, makes (to my mind) rather singular statements. He considers it "prudent" of the gardener to take light crops from this variety, and "better to err on the side of a short weight of fruit than overcrop;" and yet, farther on, he would have one to believe, that to take a great weight of fruit from the Vines is conducive to high flavour. Does he really mean that to get good flavour in them they must be cropped to the extent of preventing them colouring well? if so, that is contrary to what I have found in practice; and I should like to hear what others have to say on the subject. I have frequently observed that the bad coloured fruit of this, or any other variety, fails to command the highest price in the market; and it is strange to hear that these are the best flavoured. I very much doubt if any grower would prefer to produce bad coloured than "sloe-black" fruit. It would be interesting to know the length of rod which Mr. S. Castle takes "crops up to half a hundredweight" from, "planted 3 feet apart?" This is, I consider, a very unsatisfactory method of describing a crop. If growers were to state the weight of fruit produced by a Vine, or Vines covering a certain space, it would be far more satisfactory. It is of no importance to a Vine whether it produces half a hundredweight or half a ton, providing it is allowed the necessary space to make provision for the crop. Some persons in giving the weight of fruit taken from Vines, do so rather indiscriminately, and often draw upon their imagination; but such statements are often misleading, and serve no useful purpose. *W. Simpson.*

—— In reply to your correspondent "Vagabond," p. 111 of the *Gardeners' Chronicle*, respecting the flavour of the above Grape, my experience is as follows:—Some years ago, when planting a house with Muscat Vines, two canes of Gros Colmar were also planted, and from being grown under Muscat treatment they produced for some years fruit of taking appearance and good flavour; but Gros Colmar being a very late variety, requiring a long season to fully ripen its fruit, I tried as an experiment the inarching of one rod on a Muscat Vine. The fruit from this union did not show any improvement in flavour, although there was an advantage, it always coloured and ripened quite a fortnight in advance of those Gros Colmar which were on their own roots. The Muscats having become exhausted in time, they were grubbed out, and the house replanted last spring; and Muscat Grapes being preferred, only one cane of Gros Colmar was planted, and this one was inarched on the Black Hamburgh, the motive for doing so being to ascertain if it would ripen any earlier on this stock than on its own roots, I may on some occasion report on the result of this experiment. *T. J.*

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

February 14.—Present: Prof. M. Foster, in the chair; Dr. M. T. Masters, Sir J. T. D. Llewelyn, Mr. McLachlan, Rev. W. Wilks, Dr. Michael, Prof. Church, Prof. Oliver, Prof. Farmer, and Rev. G. Henslow, Hon. Sec.

Soil with Mites, &c.—Dr. Michael reported upon a sample of earth sent from Jura Forest, and found that it contained wireworms, some Thysanuridæ and mites (Gamasidæ). The mites were in this case not injurious to plant life, but rather "friends," as they were predatory on other animals. In another sample sent there were Thysanuridæ and wireworms, but no mites. The soil being in a bad condition, should be treated with gas-lime, or other usual remedies for wireworm. Mr. McLachlan observed on the importance of such investigations as the present, as they revealed what creatures were "friends" to the cultivator, such being very often regarded unwittingly as "foes."

Parsnep devoured by a Vole.—Mr. J. Weathers exhibited for Mr. Noble a specimen from Bagshot, in which the whole of the interior had been consumed, nothing but a thin shell of cortex being left. He also showed a drawing of a monstrous Turnip, which had grown not unlike a Mandrake in form.

Burr Knot on Apple Roots.—Dr. Masters showed a specimen similar to the growth on the "Burr Knot" Apple, and which are sometimes used for propagating purposes. It was referred to Professor Farmer for examination.

Fog Report.—Prof. Oliver presented the second report on his investigations upon "The Effects of Urban Fog on Cultivated Plants," which will be printed and circulated for discussion at the next meeting. The following is a brief abstract:—"The report deals especially with the physiological aspect of the question, matters of more purely local interest being reserved for a forthcoming communication. The observed action of fog upon plants is described in detail, and the share taken in this action, by the reduction of light on the

one hand, and by atmospheric impurities on the other, is critically discussed in the light of the writer's experimental results. The position taken up by the author is, that 'fog' is, physiologically speaking, a much more complex affair than has been suspected. In presenting his report, Professor Oliver explained that the present contribution could only be regarded as a very imperfect statement of the subject, and that he was busily employed in following up some of the more novel lines which he has indicated." Professor H. Foster moved, and Mr. McLachlan seconded, the motion, that the report should be presented to the Council.

Arum with Two Spathes.—Dr. Masters exhibited a specimen of this common phenomenon, and remarked that no florist had made any attempt to fix it. The question was raised whether it was desirable to do so, as some thought that two spathes were no improvement to the flower.

African Produce.—Messrs. J. Wrench & Sons forwarded samples of leguminous and other seeds raised in S. Africa from English origin. As a general result they had remained constant in character. The Committee expressed their thanks to the exhibitors.

NATIONAL CHRYSANTHEMUM.

February 20.—The annual general meeting of members took place at Anderton's Hotel, Fleet Street, on the above date, Mr. Robert Ballantine in the chair.

The annual report was read by Mr. R. Dean. From this report we are enabled to glean the following particulars:—The Society has steadily increased in numbers and in importance, as shown by the large increase of members and affiliated societies. At the present time the members number 620, 73 of whom joined during the past year, and there are 100 affiliated societies, an increase of 14 during the year.

The supplemental catalogue of Chrysanthemums has been sold in a number of copies, and it is a valuable appendix to the list published in 1890.

The committee have entered into an arrangement with the Royal Aquarium Company to hold during the present year three exhibitions: one in October, one in November, and they have revived the mid-winter show by providing for a third exhibition in December. The September exhibition will be held by the Royal Aquarium Co., the committee providing prizes for several classes of Chrysanthemums. The conference on the subject of enlarged showboards for Japanese blooms, which was held at the Royal Aquarium in October last, brought together a number of persons interested in the exhibition of Chrysanthemums, and the result of the deliberations was a resolution carried in favour of enlargement. When the result came before the committee, they were of opinion that the time was not ripe for a compulsory enlargement, and by a considerable majority they resolved to adhere to the regulation already in force, which leaves it optional with exhibitors.

The income of the Society from all sources, amounted to the sum of £936 14*s.* 3*d.*, and the expenditure to within a few shillings of that sum.

The report and balance sheet were adopted, and thanks were given to the auditors—Messrs. F. Cobbold and G. J. Ingram. Sir Edwin Saunders was re-elected president. The names of Lord De L'Isle and Dudley, Sir Trevor Lawrence, Bart., Sir H. W. Peek, Bart., Leopold de Rothschild, Esq., W. Herbert Fowler, Esq., and C. C. Paine, Esq., were added to the vice-presidents. Mr. R. Ballantine was re-elected chairman, and Mr. E. C. Jukes vice-chairman of the committee. Mr. J. R. Starling as Treasurer; and Messrs. R. Dean and C. Harman Payne, General and Foreign Corresponding Secretaries.

Mr. H. Williams, Victoria Nurseries, Holloway, was unanimously elected one of the Auditors for the present year. Votes of thanks were passed to the President, Sir E. Saunders, and also to Lady Saunders; to the Auditors, and the Catalogue Revision Sub-committee; a vote of thanks to the Chairman closing the proceedings.

SCOTLAND.

SCOTTISH HORTICULTURAL ASSOCIATION.

A series of Technical Lectures in Horticulture is now being given under the auspices of this society. Mr. W. Ivison McAdam gave the first series, on "The Chemistry of Plants and Soils;" Mr. A. N. McAlpine, the second, on "The Structure and Physiology of Cultivated Plants;" and was followed by Dr. John Wilson, who took for his subject, "The Hybridisation, Selection, and Improvement of Plants." These lectures began on November 28, and have been delivered every Tuesday since that date.

February 15.—Mr. A. F. Barron, of Chiswick, lectured to the members of the Scottish Horticultural Association on "Hardy Fruits." Mr. M. Dunn, Dalkeith, occupied the chair, and there was a large attendance. During the last ten years, said Mr. Barron, a great amount of interest had been aroused in this country in fruit-growing. Various societies had been formed with that object, and if any dearth of literature on the subject existed prior to the date mentioned, it had been made up for since. Among this literature he mentioned *British Apples*, now in its second edition, as well as some works by Mr. Dunn and others. He was in favour of horticulture being taught in schools; it would be of far more use to many in their later years than the Greek or Latin they were at present being taught. Mr. Barron then proceeded to speak of various fruits; their pruning and training, planting and selection of soil, &c. Speaking first of Apples, he said there was a certain influence of scion over stock. The objects in pruning and training were two-fold—the obtaining of form and symmetry, and the production of fruit, and he admitted he liked to see trees well trained. In gardens they should always be a feature, for any fruit tree might be made very ornamental as well as useful. One of the leading principles in this training should be to keep the branches and shoots well apart, so that every part of the tree might be kept well open to light and air. They heard a good deal nowadays about the neglected state of their orchards, which used to be the glory of the country. What, he asked, was the cure for that? "Prune," said Mr. Barron. He next referred to planting and selection of soil for Apple trees, and afterwards spoke on Pears, their growing, gathering, and ripening; and Strawberries, Raspberries, and Gooseberries. Mr. Barron was awarded a vote of thanks for his paper.

Mr. George Phippen.—We learn with much regret, as this sheet is passing through the press, of the death, on the 23rd inst., of Mr. G. W. Phippen, of Reading, in his 29th year. Mr. Phippen was a very energetic man of business, and will be much missed.

MARKETS.

COVENT GARDEN, February 23.

[We cannot accept any editorial responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. Ed.]

Supplies unaltered, with prices firm. *James Webber, Wholesale Apple Market.*

Fruit.—Average Wholesale Prices.

	s. d.	s. d.
Apples, p. half-sievel	0	3 6
— Nova Scotia, per barrel	10 0	17 6
Cobs, per 100 lb.		
Grapes, per lb. ...	1 0	3 6
Lemons, per case ...	12 0	20 0
Pine-apples, St. Michael	4 0	6 0
Oranges, Florida, per case...	10 0	16 0

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.
Arum, per doz. bl. ...	1 0	3 0
Azalea, dozen sprays	0 6	0 9
Bouvardias, per bun.	0 6	1 0
Carnations, 12 blms.	2 0	4 0
Chrysanthemums, p. doz. bunches ...	4 0	9 0
Cyclamen, doz. blms.	0 6	0 9
Daffodils, dble., doz. bunches ...	0 4	0 9
— single do. ...	0 4	1 6
Eucharis, per dozen	2 6	4 0
Gardenias, per dozen	6 0	12 0
Heliotropes, per doz. sprays	0 6	0 9
Hyacinths, Roman, doz. sprays	0 6	1 0
— dozen spikes ...	3 0	6 0
— French, 12 bun.	0 6	1 0
Lilac, white French, per bunch	3 6	5 0
Lilium Harrisii, doz.	6 0	9 0
Lily of the Valley, doz. sprays	0 6	1 0
Maiden Hair Fern, 12 bunches ...	6 0	9 0
Marguerites, p. doz. bunches	4 0	6 0
Mignonette, 12 bun.	3 0	6 0
Mimosa, French, bun.	1 0	1 6
Narcissus, various, French, doz. bun.	2 0	6 0
Orchids:— Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blms.	2 0	6 0
Pelargoniums, scarlet, p. 12 bun.	6 0	9 0
12 sprays ...	1 0	1 6
Primroses, doz. bun.	1 0	2 0
Primulas, double ...	0 6	1 0
Roses, Tea, per dozen	2 0	4 0
— coloured, dozen	3 0	6 0
— yellow (Maréchals), per doz.	4 0	9 0
— red, per dozen...	4 0	9 0
— (French) p. doz.	1 6	4 0
Snowdrops, doz. bun.	0 9	1 6
Tuberoses, 12 blms.	1 0	1 6
Tulips, red, doz. bm.	0 6	0 9
— white, doz. blm.	1 6	2 0
— yellow, doz. blm.	1 0	1 6
Violets, Parme French per bunch	2 6	3 6
— Czar, French, per bunch	2 0	2 6
— small French, p. doz. bunches	1 6	2 0

Orchid-bloom in variety not in quantity.

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.
Arums, dozen pots ...	12 0	18 0
Azalea, per doz. ...	24 0	42 0
Adiantum, per doz.	6 0	12 0
Aspidistra, per doz.	15 0	30 0
— specimen, each	7 6	21 0
Cineraria, per doz,...	8 0	12 0
Cyclamen, doz. ...	9 0	18 0
Cyperus, per dozen	4 0	10 0
Dracæna, each ...	1 0	5 0
Erica, various, doz.	9 0	18 0
Ferns, various, doz.	4 0	9 0
Ferns, small, per 100	5 0	8 0
Ficus elastica, each	1 6	7 6
Genista, per doz. ...	9 0	15 0
Hyacinth, doz. pots	8 0	12 0
Lilium Harrisii ...	24 0	36 0
Lily of the Valley, 12 pots	12	18 0
Marguerite, per doz.	6 0	12 0
Mignonette, doz. pots	6 0	12 0
Palms, various, each	2 0	10 0
— specimens, each	10 6	84 0
Solanum, per doz.	9 0	12 0
Tulip, per doz. pots	6 0	9 0

Vegetables.—Average Retail Prices.

	s. d.	s. d.
Beans, French, lb. ...	1 6	2 0
Beet, red, per dozen	2 0	3 0
Carrots, per bunch...	0 4	0 6
Cauliflowers, each ...	0 3	0 6
Cucumbers, each ...	0 9	1 6
Endive, per dozen ...	2 0	3 0
Herbs, per bunch ...	0 9	1 0
Lettuces, per doz. ...	1 6	2 0
Mushrooms, punnet	2 0	-
Mustard and Cress, punnet	0 4	...
Parsley per bunch...	0 3	0 6
Seakale, per basket...	2 6	...
Shallots, per lb. ...	0 6	...
Tomatos, per lb. ...	1 0	1 6
Turnips, per bunch...	0 4	0 6

Potatos.

The week's trade in old has been very bad. Stocks increase, and prices are anything but firm. Unless heavy orders for exporting come to hand, the outlook is a bad one for the remainder of the season.

New Potatos.—Arrivals this week comparatively lig' t, and prices well maintained. *J. B. Thomas.*

SEEDS.

London: *Feb.* 22.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that a quiet steady business is now doing. Many country seed merchants have already made their first purchases, and are consequently now pausing before further operating. All varieties of Clover seed exhibit great firmness. The frozen up German seed is still delayed, and it may be weeks before same reaches England. For imported and perennial Rye-grasses the tendency is still upwards. Spring Tares sell briskly at the late substantial advance; available supplies seem very nearly exhausted. Linseed is strong. In Bird seeds there is no new feature. Peas and Haricots are neglected. Mustard and Rapeseed show no alteration.

FRUITS AND VEGETABLES.

Borough: *Feb.* 21.—Quotations:—Savoys, 3*s.* to 5*s.* per tally; Sprouts, 8*d.* to 1*s.* 3*d.* per half-sieve; Turnip-tops, 3*s.* to 4*s.*; Broccoli, 1*s.* 6*d.* to 2*s.* per bag; Greens, 1*s.* 6*d.*; Parsley, 3*s.*; Carrots, 2*s.* 6*d.* to 3*s.* 6*d.*; Turnips, 1*s.* 6*d.* per dozen bunches; English Onions, 10*s.* to 12*s.* per cwt.; Dutch, do., 7*s.* per bag; Horseradish, 2*s.* 3*d.* to 2*s.* 6*d.* per bundle; Apples, 4*s.* 6*d.* to 6*s.* per bushel.

Spitalfields: *Feb.* 21.—With a good all-round supply demand was very dull, and prices consequently unaltered.

Stratford, *Feb.* 21.—There has been an excellent supply of all kinds of produce at this market during the past week, and a brisk trade has been done as under:—Savoys, 2*s.* to 5*s.* per tally; Greens, 1*s.* to 1*s.* 6*d.* per bag; do., 2*s.* to 2*s.* 6*d.* per dozen; Cauliflowers, 9*d.* to 1*s.* 6*d.* per dozen; do., 3*s.* to 7*s.* per tally; Turnips, 40*s.* to 45*s.* per ton; Carrots, household, 46*s.* to 50*s.* do.; do., cattle-feeding, 26*s.* to 34*s.* do.; Parsnips, 6*d.* to 1*s.* per score; Mangels, 17*s.* to 20*s.* do.; Swedes, 17*s* to 20*s.* do.; Onions, English, 210*s.* to 230*s.* do.; do., Dutch, 7*s.* 9*d.* to 8*s.* 6*d.* per bag; do., Bordeaux, 8*s.* to 8*s.* 6*d.* per case; Apples, English, 2*s.* to 6*s.* per bushel; do., American, 12*s.* to 20*s.* per barrel; Brussels Sprouts, 1*s.* to 1*s.* 3*d.* per half-sieve; Turnip-tops, 2*s.* 9*d.* to 3*s.* 3*d.* per bag; Brussel-tops, 1*s.* to 1*s.* 6*d.* per bag.

Farringdon: *Feb.* 23.—Quotations:—English Onions, 11*s.* to 12*s.* per cwt.; Carrots, 50*s.* to 60*s.* per ton; Turnips, 40*s.* to 50*s.* do.; Broccoli, 1*s.* 3*d.* to 1*s.* 6*d.* per bushel; Savoys, 4*s.* to 5*s.* per tally; Apples, Baldwins, 15*s.* to 18*s.* per barrel; Greenings, 16*s.* to 18*s.* do.; Grapes, Almeras, 16*s.* 6*d.* per barrel; Pine-apples, 1*s.* 9*d.* to 2*s.* 6*d.* each.

POTATOS.

Borough: *Feb.* 21.—Quotations:—English Magnums, 45*s.* to 60*s.* per ton. Other sorts unchanged.

Stratford: *Feb.* 22.—Quotations:—Magnums, 45*s.* to 65*s.*; Bruces, 50*s.* to 70*s.*; Imperators, 50*s.* to 60*s.*; Scotch Magnums, 60*s.* to 75*s.*; Main Crop, 90*s.* to 100*s.* per ton.

Farringdon, *Feb.* 23.—Quotations:—Main Crop, 90*s.* to 100*s.*; Sutton's Abundance, 80*s.* to 90*s.*; Bruce's Magnums, 65*s.* to 75*s.*; English do., 60*s.* to 65*s.*; Black-lands, 45*s.* to 50*s.* per ton.

London Averages: *Feb.* 22.—Quotations:—Magnums, 50*s.* to 70*s.*; Hebrons, 65*s.* to 70*s.*; Regents, 60*s.* to 75*s.*; Imperators, 60*s.* to 70*s.*; Snowdrops, 70*s.* to 80*s.* per ton. New:—Jerseys, 4*d.* to 8*d.* per pound.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 80*s.* to 112*s.*; do., inferior, 70*s.* to 75*s.*; hay, best, 75*s.* to 102*s.*; do., inferior, 65*s.* to 75*s.*; and straw, 28*s.* to 44*s.* per load.

CORN.

Averages.—Official statement of the average prices of British corn, imperial measure (quarter) for the week ending February 19, and for the corresponding period last year:—1893: Wheat, 25*s.* 7*d.*; Barley, 24*s.* 11*d.*; Oats, 17*s.* 10*d.* 1892: Wheat, 32*s.* 1*d.*; Barley, 28*s.*; Oats, 20*s.*

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending February 18.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1893.	Below 42°, difference from Mean since January 1, 1893.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1893.	Total Fall since Jan. 1, 1893.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1893.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	1 —	2	38	+ 1	+ 43	4 +	39	9·0	29	16
1	1 —	4	42	— 13	+ 34	5 +	35	4·1	33	20
2	2 +	15	26	— 2	+ 24	2 +	29	2·6	20	18
3	3 +	18	29	— 2	+ 66	0 aver	35	3·0	19	20
4	2 +	17	30	+ 6	+ 39	2 +	33	3·3	16	20
5	3 +	27	13	— 3	+ 63	3 +	33	3·6	19	18
6	0 aver	7	25	+ 9	+ 9	12 +	36	7·1	18	20
7	2 +	24	15	+ 20	+ 12	7 +	33	4·2	16	15
8	1 +	26	11	+ 5	+ 25	10 +	33	6·0	17	24
9	0 aver	14	25	+ 10	— 19	7 +	38	5·8	29	18
10	0 aver	30	14	+ 11	— 17	6 +	35	6·7	28	20
*	2 +	32	1	+ 16	+ 7	4 +	37	4·8	26	22

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; (* Channel Islands.)

THE PAST WEEK.

The following summary record of the weather for the week ending February 18, is furnished from the Meteorological Office:—

"The *weather* during this week continued very unsettled and rainy in all parts of the kingdom. Much cloud prevailed over the country as a whole, but in Ireland and the greater part of Scotland many bright intervals were experienced.

"The *temperature* just equalled the mean in Ireland and in the west of Scotland; it was slightly below it in 'Scotland, N. and E.,' but elsewhere it was in excess by 1° to 3°. The highest of the maxima were recorded on the 18th, when they ranged from 58° in 'Ireland, S.,' and 57° in 'England, N.W.,' to 53° in 'Scotland, N. and W.,' 'England, S.W.,' and 'Ireland, N.' The lowest of the minima were registered during the earlier part of the period, when the thermometer fell to 9° in 'Scotland, E.' (at Braemar), to 16° in 'Scotland, N.' (at Glencarron), to between 23° and 31° in most other districts; and to 38° in the 'Channel Islands.'

"The *rainfall* just equalled the mean in 'England, E.,' but exceeded it in all other districts, the excess being very considerable in the west and north.

"The *bright sunshine* exceeded the normal in Ireland and the north and east of Scotland; but was deficient in all other districts. The percentage of the possible duration ranged from 18 to 33 in Scotland, from 28 to 29 in Ireland, and from 16 to 20 over England."

NOTICES TO CORRESPONDENTS.

Black Soap: *D. K.* Another name for "soft soap."

Books: *E. Nash. The Propagation and Improvement of Cultivated Plants* (F. W. Burbidge), William Blackwood & Sons, London and Edinburgh. It is, we believe, out of print; second-hand price, about 5*s.* *The Rose Garden* (W. Paul), ninth edition. Price, not less than 30*s.* Kent & Co., 23, Paternoster Row, London; also of the author, at Waltham Cross, Herts, and many cheaper books. *Chrysanthemums and their Culture* (E. Molyneux). Published at 171, Fleet Street, E.C., price 1*s.* *Handbook of British Mosses.* *Synopsis of British Mosses* (C. B. Hobkirk), L. Reeve & Co., price 7*s.* 6*d.* *British Ferns* (E. J. Lowe, Swan, Sonnenschein & Co.), and many others.—*J. P.* Johnson's *Gardeners' Dictionary*, new edition, G. Bell & Son, York Street, Covent Garden; *Carnation Manual*, published by Messrs. Cassell & Co. for the National Carnation Society.

Bothy Life: *H. R., C. H. W., A. F. D., and Others.* Great improvement has taken place in bothy life, but much remains to be done in places. We have no doubt that the gradual spread of education, and the formation of a race of student-workers instead of labourers, will effect a change for the better in all ranks of gardeners; but the change must be gradual, if it is to be general and permanent. Agitation will only do mischief.

Dendrobes in Flower: *John Laing & Sons.* The flowers sent of D. nobile cœrulescens, D. Wardianum, D. crassinode, and D. Ainsworthi variety are fairly good. The first is not so good as the finer forms of D. nobilis nobiliar.

Modern Journalism: *B.* Do you think it right to write on the same subject to several papers, and to expect to be paid for your contributions from each of them? There are cases, of course, where the fullest and widest publicity is desirable, but this is not one of them, and, if you are a paid contributor to one journal, you should not, as a rule, in our opinion, write on the same subject in another. Readers of the papers naturally do not want to see the same subjects handled by the same writers in all the journals, nor do editors care to pay for what is everyone's property. We cannot interfere in the matter.

Mushrooms: *A. P.* The growth of the Mushrooms has been arrested by want of heat in the bed.

Names of Fruits: *W. C. C.* Apple Golden Reinette.—*T. C.* 1, Brabant Bellefleur; 2 and 5, Dumelow's Seedling; 7, Tibbett's Pearmain; 8, Malster's; 9, Syke House Russet. Others too much bruised.

Names of Plants: *W. W.* 1, Eranthis hyemalis, or Winter Aconite; 2, Helleborus fœtidus; 3, Rubus rosæfolius.—*G. H.* 1, Eranthis hyemalis; 2, Celsia cretica; 3, Eupatorium grandiflorum album.—*T. B.* 1, Eucalyptus globulus; 2, Agapanthus umbellatus variegatus.—*J. Krupp.* The purple marking on the leaves of Lælia crispa and some other Orchids is perfectly natural, and many growers regard it as an indication of good health.—*G. A.* A very fine variety of Cattleya Percivaliana.—*Thos. W.* Dendrobium primulinum.—*H. W. W.* 1, Odontoglossum Andersonianum; 2, O. crispum, a very fine variety.—*Wm. W.* 1, Cœlogyne flaccida; 2, Cypripedium Hookeræ var.; 3, Dendrobium Findlayanum.

National Rose Society: *H. W. D.* There is no difficulty in becoming a member. The secretaries are Rev. H. H. D'Ombrain, Westwell Vicarage, Ashford, Kent; and Mr. Ed. Mawley, Rose Bank, Great Berkhamstead.

Staff of Gardeners in a Garden of 2½ Acres, with Stove, Greenhouse, Vineries, Conservatory, Mushroom-house, Lawns, Flower-Garden, &c.: *X.* The number of workmen would greatly depend on the style in which the gardens have to be kept; and if a constant supply of vegetables, flowers, and fruit is expected, or only for a season, or if the needs of the family are large; plain gardening, not much forcing of vegetables and plants carried out, and no labour supplied to the house, you might, with careful apportioning of the various jobs, manage with two good men and one boy. If, on the contrary, plant growing and flower and vegetable forcing, receive much attention, lawns are frequently mown, and sweeping and rolling well carried out, bedding out of tender plants practised, or carpet-bedding is a feature of the garden, or there is much Box or other edging and hedges, and the kitchen garden walls are planted with large fruit trees, the staff would not be too strong if fixed at four men, and one boy or woman.

Tobacco Cloth: *F. J. B.* The cloth is as described, and does very well for large plant houses, but we should not recommend such material when fumigating Orchids. In such a case it would be much safer to use pure tobacco, or better still some of the fumigating cones advertised by the sundriesmen, and which have been specially prepared for use amongst choice and delicate plants.

Variegated Brussels Sprouts: *J. F.* The specimen sent shows a pretty kind of variegation, but even if fixed and coming true from seed, it does not seem to us to have culinary or decorative merit.

Vine Growth: *Foreman.* The rule is not absolute; the figure you speak of was probably a correct representation of what the artist saw. A well-known Grape-grower says he has often seen it so. It would be interesting and useful to know if particular varieties show any differences in this respect. Keep a look out.

Winter Aconites: *A Subscriber, Worksop.* The difference in the time of flowering of patches A and B may be traceable to some slight difference in the porosity and texture of the soil; also to the fact that A, the earlier bloomer, being longer planted than B, has lessened vigour from loss of nutriment in the long-occupied soil, and has its roots nearer the surface, and consequently is more readily excited by the sun's heat. There was no difference in the form of the two flowers beyond what a more vigorous growth in the case of one of them might account for.

Worms: *R. N.* They are not the true eel worms which require a powerful microscope for their detection. We do not think the grubs you send are injurious, they eat the decayed vegetable matter

Communications Received.—Messrs. Chadborn & Coldwell.—H. Evershed.—A. J. B. (next week).—C. H., Copenhagen.—Heath & Son.—Hugh Low & Co.—F. M. B.—R. Y.—J. O'B.—T. E. H.—Thorburn & Co., New York.—M. Grilli, Florence.—C. W. D.—J. B. F.—W. W.—S. P. O.—J. W.—G. H.—M. D.—M. B.—F. B.—G. H. S.

Hybrid Orchid Lists, Received for Transmission.—W. L. L. & Co.—R, Y.—F. M. B.—H. L. & Co.—Sir W. M. Heath & Son.

Photographs Received.—A. O. (many thanks; previously figured).—J. T. (under consideration).

Specimens Received.—H. F.—Lea Green.—Hurst & Son.

DIED.—Thomas Harrison, of 85, London Road, Leicester, on February 11, 1893, in his 45th year.

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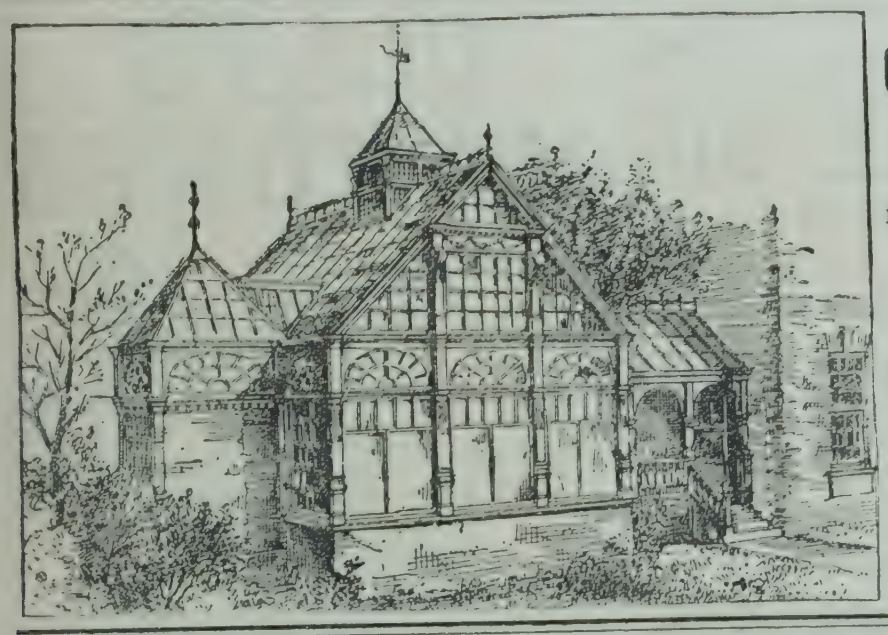

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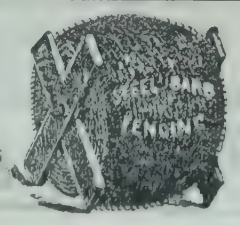

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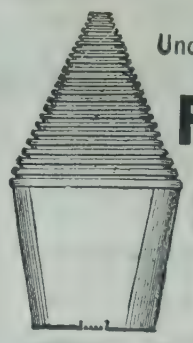

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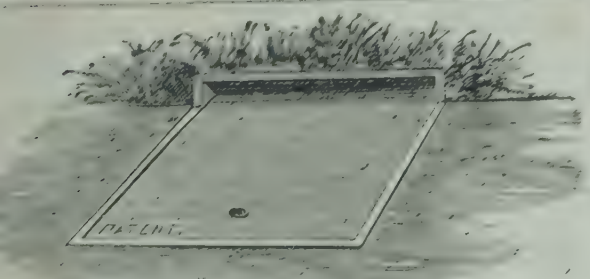

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WANTED, a thoroughly experienced FOREMAN, for the Furnishing Department of a high-class London Nursery. A middle-aged man, of good address, to wait upon Ladies and Gentleman at their houses, and competent to give Estimates, and to suggest improved ideas in the art of Floral Displays. To the right man this will prove a permanent and lucrative situation.— Apply, in first instance by letter only, to KENTIA, care of Messrs. Osman & Co., 132, Commercial Street, London, E.

WANTED, as WORKING FOREMAN, an experienced and energetic MAN, to Build Large Vineries well and cheaply, this Spring and Summer, and take charge of what may eventually become an important Fruit-growing Farm (all under glass). In addition to wage, a 10 per cent. bonus upon net profits will be given. Only practical men who have had marked success with the profitable Growing and Sending to Market of large quantities of Grapes, Mushrooms, Tomatos, &c., need apply, by letter, with reference, stating wage required to TURO, Dunellen, Putney, S.W.

WANTED, a PROPAGATOR, used to General Inside Work. ALSO a young MAN, used to Cucumbers, &c., Potting and Watering.—Apply, stating wages required, to WALSHAW AND SON, Scarborough.

WANTED, a good PROPAGATOR and GROWER under a Foreman.—Specialties, Chrysanthemums, Table Plants and Cut Flowers in quantity. Must be a good hand at Wreaths, Posies, &c., and have had experience in Decoration for Weddings, Balls, &c. Apply, stating age, references, wages required, two last situations, to JAMES SMITH, Nurseryman, Birkenhead.

WANTED, a young MAN, who has served his time at Herbaceous Plant-growing, and thoroughly understands the Propagation of same. A good writer indispensable.—Apply, by letter, to R. N., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a young MAN, where Cucumbers, Tomatos, &c., are grown. Must be quick at Watering, Potting, and Tying. Wages, 18s. per week. — Apply, YOUNG AND SON, Town Road Nursery, Lower Edmonton, N.

WANTED, SIX young MEN, used to General Nursery Work, Roses, Carnations, Chrysanthemums, &c.; also TWO accustomed to Potting and Tying. —Apply, stating wages, and where last employed, to G. BECKWITH AND SON, Florists, Hoddesdon, Herts.

WANTED, a young MAN, accustomed to General Plant Work, in the Houses under Foreman. —Full particulars to RICHARD SMITH AND Co., St. John's Nurseries, Worcester.

WANTED, for a Small Nursery, an energetic industrious MAN, with a general knowledge of Nursery Work, Inside and Out, able to Work up Stock, Grow for Market, and take charge in absence of principal. Particulars and wages expected, to OVA. *Gardeners' Chronicle* Office, 41, Wellington Street, Covent Garden, London, W.C.

WANTED, a young MAN accustomed to Market Work, Palms and Ferns principally. Must have good references. State age, experience, and wages. Permanent situation. — H. MARSHALL, The Nurseries, Barnham, Bognor.

WANTED, a young MAN for a small Market Nursery and to do Jobbing Work. Wages, 18s. per week.—J. T., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a young MAN, for Plant and Fruit Growing under Glass; none but experienced hands need apply, by letter only.—WM. TAYLOR, Bently Priory Gardens, Stanmore.

WANTED, young MAN, about 18, quick at Potting and Tying.—PATES AND SHARPE, Imperial Nurseries, Cheltenham.

WANTED, MEN, experienced in Fruit and Flower Growing under Glass. Wages from £1 per week, with overtime in addition.—Apply to FOREMAN, Thomas Rochford, Turnford Hall Nurseries, near Broxbourne, Herts.

Trade.

WANTED, a good INDOOR MAN, well up in the Growing of Market Plants, &c., to take the place of one going abroad. State age, wages, and experience to WM. TROUGHTON, Nurseryman, Preston, Lancashire.

WANTED, an IMPROVER, one accustomed to work under Glass. State age, wages expected, and references, to CRANE AND CLARKE, Hillside Nursery, March, Cambs.

WANTED, a young LADY for Seed, Flower, and Fruit Shop, and willing to Assist with House-work To live out. Wages, 18s. per week.—J. T., *Gardeners' Chronicle* Office, 41, Wellington St., Strand, W.C.

WANTED, a respectable energetic young MAN, for Pleasure Grounds. Accustomed to Scythe, machine, and general Pleasure Ground work. Wages, 15s. Bothy.—Address, stating age, &c., to THE GARDENER, Frensham Place, Farnham, Surrey.

Cashier and Head Book-keeper.

MESSRS. JAMES VEITCH AND SONS REQUIRE a thoroughly experienced person in the above capacity. Character must bear the strictest investigation. —Apply, by letter only, to ROYAL EXOTIC NURSERY, King's Road, Chelsea.

WANTED, a JOURNEYMAN, Inside, under a Foreman.—12s. per week, bothy, and vegetables.—GARDENER, Sezincot, Moreton-in-March, Gloucestershire.

WANTED, a first-class ASSISTANT for Florist's shop. Must be a good Salesman and Arranger. ALSO WANTED, a MAN for the Houses. Good Soft-wooded Propagator and Plantsman. State full particulars to H. ENGLISH, Clevedon Nurseries, Clevedon.

WANTED, a young MAN, for the Houses, used to Covent Garden Trade and Bulb Forcing preferred. Expenses paid, and permanent place for suitable man —A. MAWER, Clarendon Nursery, Sale, near Manchester.

WANTED, active and intelligent young MAN, of good character, for working in the Houses, and general Nursery Work. Apply to Mr. W. RUMSEY, Joyning's Nurseries, Waltham Cross.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. on Wednesday will, in all probability, be held over to the next week.

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

GARDENERS.—Our complete and extensive register of GARDENERS OPEN FOR ENGAGEMENT is at the service of any Lady or Gentleman wishing to secure the services of trustworthy reliable men.—DICKSONS AND CO., 1, Waterloo Place, Edinburgh. Established over a Century.

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character, and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—
F. SANDER AND CO., St. Albans.

THOMAS BUTCHER can recommend several HEAD and UNDER GARDENERS of first-rate character and proved ability. Gentlemen seeking such may have particulars free.—Apply to THOMAS BUTCHER, Seed Merchant and Nurseryman, Croydon.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. All particulars on application.
Telegraphic and Postal Address—"DICKSONS, CHESTER."

GARDENER (HEAD); age 35, married.—Mr. W. SWAN, Gardener and Steward to J. P. Bryce, Esq., Bystock, Exmouth, can with confidence recommend a thoroughly practical man, conversant with the requirements of a good establishment. An excellent Orchid Grower and General Plantsman. Land and Stock if required. Highest possible character.

GARDENER (HEAD); age 30.—J. DUMBLE, Gardener to Sir Charles Philipps, Bart., Picton Castle, Haverfordwest, is desirous of recommending his General Foreman, H. Butcher, to any Lady or Gentleman requiring a thoroughly competent man. He has a good knowledge of the different branches of Gardening, is well acquainted with the Cultivation of Fruit (Indoor and Out), Flowers and Vegetables, is also a good hand at Table Decorations.

GARDENER (HEAD), where four or more are kept.—Age 35; has had thorough experience in all branches. Can Manage Small Farm if desired. Excellent testimonials.—Apply to J. CHEAL AND SONS, Nurseries, Crawley.

GARDENER (HEAD). — J. BEESLEY, Gardener to Lord Ashcombe, Denbies, can recommend his Foreman as a good practical Man. Good testimonials.—F. WELLS, 29, Hampstead Road, Dorking.

GARDENER (HEAD, or where help is given). —Age 33, married, two children; good knowledge of Vines, Melons, Peaches, Flower and Kitchen Garden; some knowledge of Orchids. Nearly six years' good character in present situation.—J. HOLLAND, Heart's Hill, Debden Green, Loughton, Essex.

GARDENER (HEAD); two children, age 14 and 11.—G. J. CLOKE, Gardener to Sir W. Rose, Bart., begs to offer his services to any Lady or Gentleman. Thoroughly practical. Leaving through no fault, with five and a half years' good character and testimonials.—Moor Park, Farnham, Surrey.

GARDENER (HEAD) and ORCHID GROWER.—WILLIAM SHARP, Head Gardener to C. L. Wood, Esq., Freeland, Forgandenny, N.B., can with confidence recommend his Foreman, William Hutchinson, who has been with him two and a-half years. He is a thoroughly practical all-round Man, well up in his profession. Can be well recommended by previous employers; three and a half years' previous Foreman's experience.

GARDENER (HEAD).—£5 will be paid on the first quarter's salary to anyone assisting to obtain a good place. Eighteen years' good general experience in large places. Well recommended.—WILTS, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

GARDENER (HEAD).—A Head Gardener can with confidence recommend his son as above, who has his work thoroughly at heart. Life experience. Two years Foreman in good gardens in Cornwall. The last three years Foreman in a well-known Duke's establishment in the Midlands, where high-class Gardening is carried out.—THOS. FOOTE, Clowance, Camborne, Cornwall; or T. FOOTE, Woburn Abbey Gardens, Woburn, Beds.

GARDENER (HEAD); age 36, married.—A. BURGESS, Grove Park, Kingsbury, N.W., begs to offer his services to any Lady or Gentleman requiring a practical Head Gardener. Twenty-one years' experience (seven and a half years as Head) in the Growing of Pines, Vines, Melons, Cucumbers, &c., also Forcing in all branches.

GARDENER (HEAD).—Age 44, married; long practical experience in Management of good establishments. Highest references, and ten years' good character from last employer.—H. COOK, Box Hill, Dorking.

ORCHID GROWER and GARDENER (HEAD).—Age 39, married, no family; twenty-eight years' practical experience with Orchids, Stove and Greenhouse Plants, Vines, &c. Highly recommended as a thorough good all round man. Thirteen years in last situation. Good character and excellent testimonials. — M. C., 5, Raleigh Road, Enfield.

GARDENER (HEAD WORKING). — J. WHEELDON, Gardener to the late John Elliott Howard, Esq., seeks an engagement with any Lady or Gentleman requiring a first-class man. Twelve years' character from late employer.—2, Gretton Road, Church Road, Tottenham, N.

GARDENER (HEAD WORKING).—Age 37, married; twenty years' experience in all branches. Ten and a half years' last place; sixteen and a half years' good character.—H., 48, Bedford Road, Ealing Dean, W.

GARDENER (HEAD WORKING).—Age 40, married; experienced in all branches, Orchids, &c. Good references.—GARDENER, Ranksborough Hall, Langham, Oakham, Rutland.

GARDENER (HEAD WORKING).—Thoroughly experienced in Early and Late Forcing, &c. Five years' highest references from present and previous employers.—T. W., 7, Effingham Road, Reigate, Surrey.

GARDENER (HEAD WORKING).—Age 32, married; thorough practical knowledge of his profession in all its branches. Good characters from present and previous employers.—GARDENER, Ringsfield Hall, Beccles.

GARDENER (HEAD WORKING).—Age 28; life experience in large private establishments. Understands the General Routine of Gardening. Leaving through no fault, with four years' excellent character, and nine years previous. Abstainer.—C. HOWELL, West Hill House, Gravesend.

GARDENER (HEAD WORKING), where more are kept.—Eighteen years' experience in good all-round Gardening; eight years unexceptional character from last place.—A. B., Mr. Holloway, 3, Crown Lane, Chislehurst, Kent.

GARDENER (HEAD WORKING).—Age 44, married, no family; practical in all branches, including Orchids. Understands the Management of Land and Stock. Can be highly recommended.—W., 4, Trehern Road, Mortlake, Surrey.

GARDENER (HEAD WORKING), where two or three are kept.—Widower. Twenty years' experience in Stove and Greenhouse Plants, Forcing, Kitchen, Flower, and Pleasure Gardens. Thirteen years' good character.—W. B., 21, Wingmore Road, Herne Hill Road, Camberwell, S.E.

GARDENER (HEAD WORKING).—Age 40, married; thoroughly good, practical, and competent Gardener. Twenty-five years' experience in Growing Grapes, Peaches, Figs, Melons, Cucumbers, Tomatos, Mushrooms, Stove and Greenhouse Plants, Orchids, and Flower and Kitchen Gardening. Abstainer; highest references.—GARDENER, Compton, Stockbridge, Hants.

GARDENER (HEAD WORKING).—Age 27; thoroughly experienced in all branches. Can be highly recommended by present and previous employer. Clergyman desires to find situation for the above.—Rev. ROBERTS, Blackwater, Hants.

GARDENER (HEAD WORKING), where two or more are kept.—Age 32, married, one child (age 5).—Experienced in all branches, including Orchids.—H. WEEKS, Upper Long Ditton, Surrey.

GARDENER (HEAD WORKING).—Middle-aged; thoroughly practical in all branches, Land and Stock if required. Fifteen years first-class character from present and former employers; leaving, March 25, through expiration of lease. Over twenty years total abstainer.—T. HILL, Rolleston Hall, Leicester.

GARDENER (HEAD WORKING); age 32; abstainer.—W. KELLAND, late Foreman, Ashton Court, Bristol, seeks situation as above. Highly recommended.—48, Crompton Road, Nechells, Birmingham.

GARDENER (HEAD WORKING), seeks re-engagement.—Proficient in all branches; equally practical in the management of Land and Stock; a life experience. Wife well up in the management of Dairy and Poultry if required. Middle-aged; good character.—A. WATTS, The Gardens, Dyffryn Park, Neath, S. Wales.

GARDENER (HEAD WORKING), where two or more are kept.—Age 28, married, one child; twelve years' practical experience. J. MINTON, Head Gardener, Rawdon Hill, Arthington, Leeds, can recommend H. Burborough, to any Lady or Gentleman in want of a good all-round man. Four and a half years' character.

GARDENER (HEAD WORKING).—Age 36, married, one child; twenty years' experience in all branches of Gardening. Four years in present situation. Good reference.—GEO. McLEOD, The Gardens, Observatory House, Honor Oak Park, S.E.

GARDENER (HEAD WORKING), where help is given.—Middle-aged, married; twenty-five years good character from last situation. Left through death.—C. FENN, Fern Cottage, Cromwell Road, Walthamstow.

GARDENER (HEAD WORKING).—Age 30; thoroughly practical in growing Fruit, Flowers, and Vegetables. Can be highly recommended by present and previous employers.—C. TINDALL, The Gardens, Monk's Orchard, Beckenham, Kent.

GARDENER (HEAD WORKING), or FOREMAN (GENERAL); age 28—MR. ELPHINSTONE, Henley Park, Guildford, wishes to recommend H. Russ as above. Thirteen years' experience.

GARDENER (HEAD WORKING).—Married, two children, twelve and fourteen years of age. Advertiser is seeking a re-engagement as above; life experience in Vines, Tomatos, Melons, Mushrooms, &c., Stove and Greenhouse Plants. Flower and Kitchen Garden. Seven years in last situation. Excellent character.—E. LEWIS, High Street, Brampton, Huntingdon.

GARDENER (HEAD, or SINGLE-HANDED).—Age 33, married; knowledge of Orchids Twenty years' experience; ten years in present situation. Total abstainer.—ROGERS, 50, Newington Green Road, London, N.

GARDENER (HEAD, or SINGLE-HANDED), where good Plant and Fruit Growing are required.—Age 44, married, no family. Two and a half years' good character, twelve previous.—E. GREGORY, The Oaks, Belvedere Park, Kent.

GARDENER (SINGLE-HANDED).—Age 30, single. Good knowledge of Vines, Peaches, Melons, Cucumbers, Strawberries, Plants, and Kitchen Garden. Good character.—A. NICHOLS, Hemsby, Great Yarmouth, Norfolk

GARDENER (good SINGLE-HANDED, or with help).—Age 23; abstainer. Seven and a half years' practical experience, Inside and Out. Highest references. No objection to Cows.—T. Y., The Cottage, Gainsborough Road, Leytonstone, E.

GARDENER (SINGLE-HANDED), or where help is given.—Age 21; seven years' experience Inside and Out; five years' good character from present situation.—W. PARSONS, Alma Cottage, Erith Road, Bexley Heath, Kent.

GARDENER (SINGLE-HANDED, or SECOND), where more are kept.—Age 26, married, no family; good experience; good character.—W. MAY, 1, Malcolm Terrace, St. John's, Sevenoaks.

GARDENER (good SINGLE-HANDED).—Young Man, well experienced in all branches of the profession, and can be highly recommended.—C. HURTON, Fiskerton, near Lincoln.

GARDENER (SINGLE-HANDED, or where help is given).—Age 28, single; fourteen years' experience in Growing Flowers, Fruit, and Vegetables. Two years in present place, and six years previous.—C. GIBBONS, Grove Park Gardens, Kingsbury, Middlesex.

GARDENER (SINGLE-HANDED, or UNDER).—Age 27; two years' character from present situation.—G. S., 26, Woodcote Place, West Norwood.

GARDENER (SINGLE-HANDED), or otherwise.—Age 25, married, no family; thoroughly experienced. Good characters from last and previous situations.—W. TAYLER, 37, Clarendon Road, Hornsey, N.

GARDENER (SINGLE-HANDED).—Age 22, single; eight years' experience Inside and Out. Good character.—H. H., 20, Princes Road, Notting Hill, W.

GARDENER (good SINGLE-HANDED, or otherwise.)—Age 40, married, no family. Twenty years' experience Inside and Out. Good character from employers.—C. B., Spike House Stables, Great Church Lane, Hammersmith, W.

GARDENER.—Good single-handed Place. Age 27, single. Eight years' good experience Inside and Out; good characters.—F. COOK, Chessington, Surrey.

GARDENER, where assistance is given.—Age 28; practical experience in Houses, Flower and Kitchen Gardens, &c. Good references. Personal character if required. Disengaged in a week.—G. CHEAL, Loseley Park Gardens, Guildford.

GARDENER (SECOND, or SINGLE-HANDED), where help is given.—Age 25, single; good experience in Glass, Flower and Kitchen Garden. Good character.—A. D., Prospect, Pewsey, Wilts.

GARDENER (SECOND), Inside and Out.—Age 23; used to Flower and Kitchen Garden. Seven years' experience.—T. NICHOLLS, Low Hill, Bu-hbury, Wolverhampton.

GARDENER (SECOND), where three or four are kept.—Age 22, single; three years Outside and four years Inside, including Orchids; leaving through a death. Excellent character; total abstainer.—EDWARD TAYLOR, The Gardens, Micklefield Green, Rickmansworth, Herts.

GARDENER (SECOND, or good THIRD).—Age 21; good character.—E. WOOLDRIDGE, Arborfield, near Reading.

GARDENER (SECOND), where three or four are kept.—Seven years' experience; good references.—S. A. CHEFFINS, Croft, Wainfleet, R.S.O., Lincolnshire.

GARDENER (SECOND), or JOURNEYMAN (FIRST), in the Houses, in a good establishment.—Age 23. Bothy preferred. Good character.—RICHARD HEATH, Boraston, near Tenbury, Worcestershire.

GARDENER (SECOND).—Age 24; nine years' experience Inside and Out.—Mr. J. ATKINSON, Matfen Hall Gardens, Newcastle-on-Tyne, wishes to recommend T. Haggitt as above.

GARDENER (SECOND), in a good Establishment, Inside and Out, or as JOURNEYMAN (FIRST), in the Houses.—Age 24; good reference.—E. DUNNINGTON, Healaugh, Tadcaster, Yorks.

GARDENER (SECOND).—Age 25; good knowledge of work, Inside and Out. Excellent character.—A. P., The Gardens, Ulcombe Place, Staplehurst, Kent.

GARDENER (UNDER), by a young Man (age 24, single), used to Kitchen Garden work; good character from last place.—S., Post Office, Copthorne, Sussex.

GARDENER (UNDER).—Age 22; well recommended; abstainer.—E. H., 13, Farm Avenue, Streatham, S.W.

GARDENER (UNDER).—Age 24, single, seeks a situation in Flower and Kitchen Garden. Used to Scythe and Lawn Mowers. Good character.—H. K., Holmbush Potteries, Faygate.

GARDENER (UNDER).—Age 23; respectable. Has been employed chiefly in Kitchen Garden and Pleasure Grounds. Help Inside, if required. Good references may be had by applying to THOMAS FRANKLIN, Shipton, C. Norton, Oxon.

GARDENER (UNDER).—Age 26, married, one child; well up to Lawn and Kitchen Garden. Good references from last employers.—H. B., 4, Bedford Road, Twickenham, Middlesex.

GARDENER (UNDER).—Age 21; three years' present situation. State wages. Leaving to gain more experience.—F. DOUCH, Denny Bottom, Tunbridge Wells.

GARDENER (UNDER), Inside and Out, where three or four are kept.—Age 22; bothy preferred.—J. MARTIN, The Gardens, Ashley Park, Walton-on-Thames.

GARDENER (UNDER), Inside, or Inside and Out.—Age 20. Good reference. Two years' in present situation. Total abstainer. Bothy preferred.—H. TIDY, Field Place, Horsham, Sussex.

To Nurserymen.

PROPAGATOR, or GROWER.—Age 24; well up in Ferns, Stove, and all kinds of Hard and Soft-wooded Plants, and Cut Flowers for Market. Ten years experience in leading Nurseries. First-class references.—W. H. B., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

To Nurserymen.

PROPAGATOR or GROWER.—Age 21; six years' experience in Growing General Market Stuff, Flowers, Ferns, Palms, &c. Used to Making-up. State wages.—G. S., 1, College Terrace, Church End, Finchley.

To Nurserymen.

PROPAGATOR and FERN RAISER.—Age 25; ten years' experience in London and Provincial Nurseries. Excellent references.—W. ELSTON, Alphington Cross, near Exeter.

GROWER, or otherwise, in a Market Nursery.—Well up in Grapes, Cucumbers, Tomatos, Chrysanthemums, &c.—A. A., Frith Farm, Walton-on-Hill, Surrey.

To Nurserymen.

GROWER and PROPAGATOR.—Age 27. Twelve years' experience in leading London Market Nurseries, Soft-wooded Stuff, Ferns, Fruit, &c. Good references.—H. WILLIAMS, Middleton Cottage, Long Parish, Hants.

FOREMAN, in a good establishment.—Age 25; ten years' experience; reliable testimonials from previous and present employers.—T. H. BOLTON, The Gardens, Milnerfield, Bingley, Yorks.

FOREMAN, in a good establishment.—Age 26; good Plant and fruit Grower. Excellent references as to character and abilities. Has been Foreman twice previous.—H. S., 10, Bury Street, Fulham Road, Chelsea, S.W.

FOREMAN, in good establishment.—Age 26. Well experienced in Plants, Fruit, Melons, and Cucumbers; also Chrysanthemums.—A. H., Waddesdon Gardens, Aylesbury, Bucks.

FOREMAN, or JOURNEYMAN (FIRST).—Age 21; seven years' experience. Excellent references. Abstainer.—Mr. PORTER, The Gardens, Studley Castle, Redditch, would be pleased to recommend G. Cave, as above.

FOREMAN; age 26.—Mr. J. READ would be glad to recommend his present Foreman, who is wanting a change, having been at Bretby three years.—J. READ, Bretby Park Gardens, Burton-on-Trent.

FOREMAN, Inside, where two or three are kept; age 25.—Mr. LEADBETTER, The Gardens, Tranby Croft Hall, will be pleased to recommend Charles Gray as above.

To Nurserymen, &c.

FOREMAN, or PROPAGATOR and GROWER.—Age 31; able to produce in quantity all kinds of Pot-plants, Cucumbers, Tomatos, Mushrooms, and Cut Flowers; practical in all branches.—HORTUS, 8, Walsingham Road, Clapton, N.E.

FOREMAN, or good SECOND, Inside preferred.—Age 26; twelve years' experience; two years in present situation. Recommended by present employer. Excellent character.—J. HOLMAN, Weston Park, Stevenage, Herts.

FOREMAN (Inside or General), in a good Private Establishment.—Age 30; eighteen years' experience. First-class testimonials. Middlesex preferred.—E. B., Oldfield Nurseries, Altrincham, Cheshire.

FOREMAN FRUIT GROWER, &c., Inside and Out (age 26).—Mr. NORTH, The Gardens, Buskitt, Fletchwood, Lyndhurstroad, Hants, wishes to recommend his Foreman, V. Dallimore, who is a practical Grower of Grapes, Peaches, Melons, Cucumbers, Tomatos, &c., and the General Routine of Garden Work. Over nine years' experience. Excellent testimonials from previous employers.

FOREMAN or MANAGER, in a small Nursery.—Age 31; well up in Grapes, Tomatos, Cucumbers, Ferns, Palms, Flowering Plants, and all kinds of Bedding Stuff. Can do Repairing. Good reference.—X. FULLER, High Street, Finchley, N.

FOREMAN, in a good establishment.—Age 26; good experience in Orchids, Stove and Greenhouse Plants, Forcing, and Fruit Culture. Four years Foreman in present situation.—J. WHITE, The Gardens, Coleshill House, Highworth.

FOREMAN; age 27.—Mr. J. HUNTER, Lambton Castle Gardens, Fence Houses, co. Durham, would be pleased to recommend William Dryden as above.

FOREMAN.—Eight years' experience. Good character. Used to Table Decoration.—F. EVASON, Down House Gardens, near Blandford, Dorsetshire.

FOREMAN, in Market Nursery.—ADVERTISER seeks re-engagement as above. Over twenty years' experience in Growing Choice Cut Flowers and Plants for Market. — FOREMAN, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

TO THE TRADE. — Advertiser (age 30) desires engagement as FOREMAN, or PROPAGATOR and GROWER. Management of Branch requiring special business qualifications, and knowledge of Markets. Floral and Table Decorations to any extent.—A. Z., 5, Havelock Road, Bromley, Kent.

FOREMAN, or good SINGLE-HANDED. — Age 28, single; well up all-round. Life Trade experience. Good references and recommendations.—T. ROGERS, Church Street, Wetherby, Yorks.

FOREMAN.—Married; twenty years' experience in producing large quantities of Cut Flowers and Plants for Market, such as Chrysanthemums, Bouvardias, Double Primulas, Pelargoniums, Roses, Palms, Ferns, Eucharis, &c. Excellent references.—FOREMAN, 14, Hartfield Crescent, Wimbledon.

FOREMAN (Inside), in a First-class Establishment.—Age 28; fourteen years' experience, six as Foreman, in good places. Highest testimonials.—H. JONES, Harrow Weald Park, Stanmore.

FOREMAN, in the Houses, in a good Private Establishment.— Age 25; ten years' experience; excellent character from present and previous situations. Can be highly recommended.—H. BRADLEY, The Gardens, Dyffryn Park, Neath, South Wales.

JOURNEYMAN (FIRST), Inside, under a Foreman.—Age 21; eight and a half years' experience. Good character. Bothy.—F. SNELL, Burnt Mill Corner, Harlow, Essex.

JOURNEYMAN, Inside and Out, or otherwise. —Age 20; four years' experience. Good character.—J. PIKE, The Lodge, Whitestaunton, Chard.

JOURNEYMAN (FIRST).—H. EDWARDS, Eagle Gardens, Highgate, can with confidence recommend W. Baker, age 24, as above. Nine years' experience. —W. BAKER, 4, Pond's Square, Highgate, N.

JOURNEYMAN, in a good establishment.—H. ROGERS, Rendlesham Gardens, Woodbridge, would be pleased to recommend E. Ireland. Two years' excellent character from present situation.

JOURNEYMAN (FIRST or SECOND), where five or more are kept.—Age 22; good practical experience, Inside and Out. Abstainer. Excellent reference.—SIDNEY AISH, Findon, Worthing.

JOURNEYMAN.—F. BLACKITH, Gardener, Parkside, Ravenscourt Park, Hammersmith, can highly recommend A. Coggan as above. Age 19. Five years' experience. Three years in present place.

JOURNEYMAN, Inside preferred.— A. J. SANDERS, Gardener to Viscountess Chewton, Bookham Lodge, Cobham, Surrey, can strongly recommend a strong active Youth, age 17, as above. Four years' experience.

JOURNEYMAN, Inside, or Inside and Out.—Mr. HISLOP, Head Gardener, Bletchley Park, Bucks, wishes to recommend a young man, age 20, as above. Abstainer; Bothy preferred.

JOURNEYMAN (FIRST), Inside.—Age 24; ten years' experience. Good characters can be had. —F. MATTHEWS, Laurel Lodge, Barnet, Herts.

JOURNEYMAN, in the Houses.—Age 20; eight years' experience, excellent character.—H. WARREN, The Gardens, Frank's Hall, Farningham, Kent.

JOURNEYMAN, Inside, or Inside and Out.—Age 22. Five years' experience; well recommended.—FRANKLIN, Grove Road, Ealing, Middlesex.

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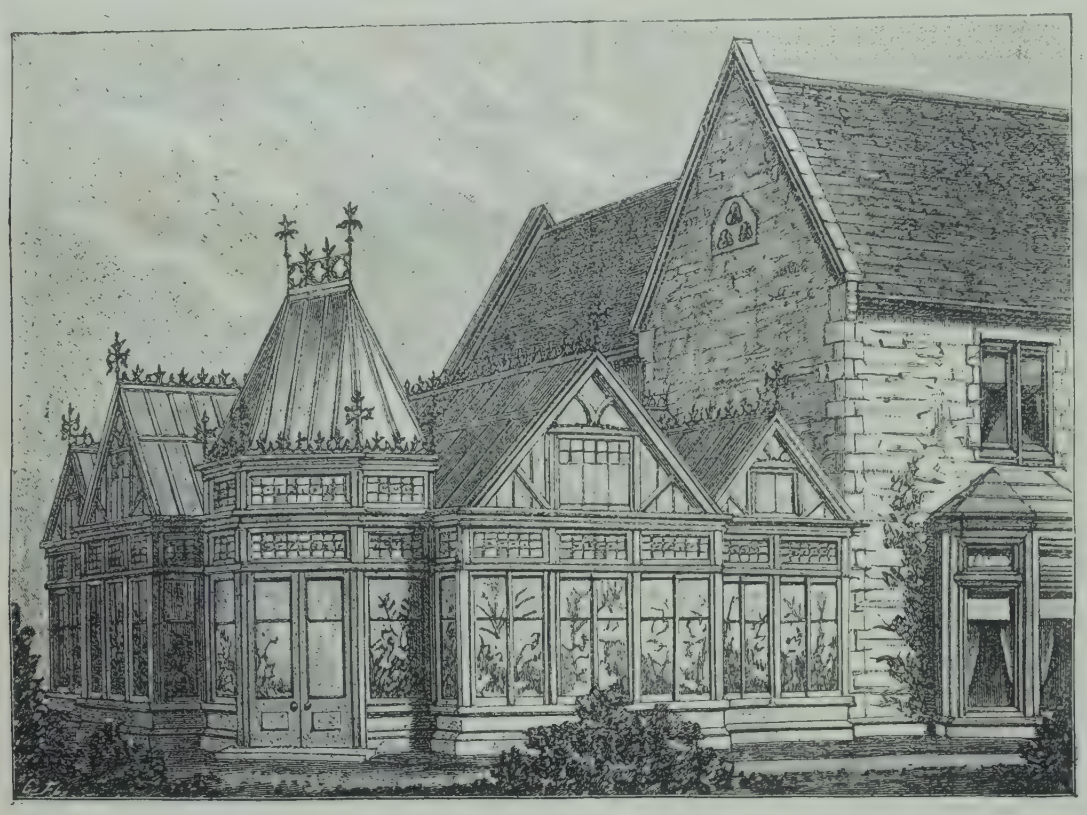

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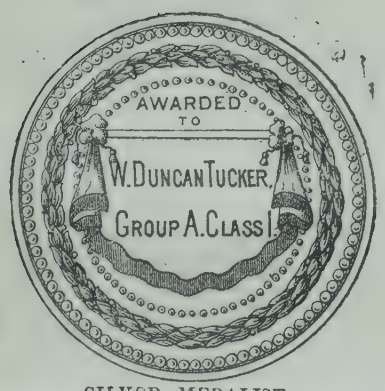

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CONTENTS.

Agricultural Returns for 1892 257
Amiens, market gardens 258
Apples, American and British 267, 268
Apple, Armorel 268
Asparagus, the growth of 259
Book notice—
The Rose 266
Burns, Robert, and gardening 265
Camellias at Titsey Park 267
Eranthis cilicica... ... 266
Fairlawn, Wimbledon ... 268
Flowers in season ... 265
Fruits, English, for Chicago 265
Gold fish, treatment of... 266
Irises, the Oncocyclus group of... 276
Kew notes 259
Lee, Mr. Jno. 259
Obituary—
Chautin, M. Antoine... 269
Phippen, G. W. ... 269
Orphan Fund, the Gardeners' 265, 267
Palms, list of garden ... 260
Parks, public, and lawn-tennis 266
Plants for decoration ... 262
Plants new or noteworthy—
Cattleya sub-var., Reineckiana 258
Galanthus Perryi ... 258
Lathyrus splendens ... 258
Plants, new, continued—
Magnolia salicifolia ... 258
Picea Breweriana ... 258
Senecio sagittifolius ... 258
Potato culture 267
Railway rates, the new, 264, 265
Deputation to the Board of Trade ... 269
Ramsgate, public park for 268
Royal Hort. Society's examinations 267
Societies—
Blackheath and Lewisham Horticultural... 265
Midland Counties Carnation and Picotee . 266
National Pink (Midland Section) ... 266
Northamptonshire Chrysanthemum ... 265
Royal Agricultural ... 265
Traveller's notes, a ... 260
Unemployed and emigration 265
Weed-killer, illegal sale of... 266
Week's Work, the ... 262
Apiary, the 262
Flower garden, the ... 262
Fruits under glass ... 263
Hardy fruit garden ... 263
Kitchen garden, the ... 263
Orchid-houses, the ... 263
Plants under glass ... 262

ILLUSTRATIONS.

Apple "Armorel" 267
Chinese Water Temple 261
Eranthis cilicica 266
Fairlawn, Wimbledon. (Supplement).
Lee, Mr. John 259
Plan of Public Park, Ramsgate 269

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On view morning of Sale, and Catalogues had.

Tuesday Next.—Special Sale.

IMPORTANT SALE of 2000 JAPANESE LILIES, AURATUMS, ALBUMS, RUBRUMS, LONGIFLORUM, CORDIFOLIUM, KRAMERI, TIGRINUM, PLATYPHYLLUM, and others; 1000 HYACINTHUS CANDICANS, 2400 KELWAY'S HYBRID and other GLADIOLI, 2000 ANEMONES in variety, 640 BEGONIAS, a grand strain; a few PALMS, GLOXINIAS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, March 7, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Wednesday Next.

60,000 SEEDS of SEAFORTHIA ELEGANS.
30,000 ,, PHŒNIX RUPICOLA.
Just received, in excellent condition.

MESSRS. PROTHEROE AND MORRIS will include the above in their SALE on WEDNESDAY NEXT.

On view morning of Sale, and Catalogues had.

Wednesday Next.

3630 LILIUM AURATUM, including 300 immense Bulbs, measuring 12 to 14 inches in circumference.
2980 LILIUM AURATUM MACRANTHUM.
95 ,, ,, PICTUM.
1200 ,, SPECIOSUM ALBUM.
1235 ,, ,, RUBRUM.
2400 ,, CORDIFOLIUM.
200 ,, JAPONICUM COLCHESTERII.
Being the contents of 150 Cases just to hand from Japan, in fine condition.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, March 8, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

The Celebrated Fernside Collection of Orchids.

SECOND PORTION.

ABSOLUTELY WITHOUT RESERVE.

PRELIMINARY NOTICE.

MESSRS. PROTHEROE AND MORRIS are favoured with Instructions from H. M. Pollett, Esq., to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY, March 15, at half-past 12 o'Clock precisely, the SECOND PORTION of this CELEBRATED COLLECTION of ESTABLISHED ORCHIDS. Amongst the many fine things which are to be sold may be mentioned—

Cattleya Warneri, in variety
,, Gaskelliana, in variety.
,, ,, alba
,, Dowiana aurea
,, Bowringiana
,, Lawrenceana
,, Trianæ, in variety
,, ,, alba
,, Schroderæ
,, Mendelii, in variety
,, ,, Wallisii
,, Rex, supposed to be the finest in the country, F.C.C.
,, gigas
,, ,, Sanderiana
,, labiata (autumn flowering)
,, ,, Warocqueana
,, Percivalliana
,, ,, Fernside variety
,, Waguerii, specimen
,, ,, three smaller plants
Cœlogyne Lowii
,, cristata alba, specimen
,, ,, ,, several smaller plants
Cypripedium Arthurianum
,, bellatulum
,, cardinale, finest variety
,, Crossianum
,, Harrisianum
,, Leeanum superbum
,, leucorrhodum
,, marmorophyllum
,, Morganiæ
,, œnanthum superbum
,, orphanum
,, roseum
,, Schlimii, very fine
,, Spicerianum
,, Schroderæ
Cypripedium Sedeni candidulum
Dendrobium Schroderæ
,, Phalænopsis
Lælia anceps alba
,, ,, Dawsonii, true
,, ,, Williamsii
,, ,, Stella
,, ,, Sanderiana
,, ,, Hillii
,, ,, Percivaliana
,, elegans alba
,, ,, Schilleriana
Masdevallia Harryana
,, ,, versicolor
Miltonia vexillaria, in variety
Odontoglossum crispum (Alexandræ)
,, ,, Bickleyense
,, crispum aureum
,, Edwardii
,, Pollettianum, F.C.C.
,, mulus, Bockett's variety
,, elegans, F.C.C.
,, Chestertoni, Lee's grand variety
,, Ruckerianum insigne
,, Wilckeanum
,, Andersonianum (fine varieties
,, Pescatorei, Tompsoniana, F.C.C.
,, blandum
,, citro-mum roseum grandiflorum
,, polyxanthum
Oncidium macranthum
Trichpilia lepida
,, crispa splendens
Vanda cœrulea, specimen, and fine variety
,, suavis Veitchii

Catalogues, with thirty-five Coloured Illustrations of some of the principal Odontoglossums, are now ready and can be had, price 2s. 6d. each, of Messrs. Protheroe & Morris, Horticultural Auctioneers and Valuers, Central Auction Rooms, 67 and 68, Cheapside, London, E.C.

N.B.—The *Reichenbachia*, complete to date, in three vols., thirty-six parts, in splendid condition.

Wednesday Next.

100 KENTIA FOSTERIANA, 100 COCOS WEDDELLIANA, 30 PHORMIUM VEITCHII, and 150 AZALEA MOLLIS, well budded, from Belgium; 200 Dwarf ROSES; 3000 GLADIOLUS, finest strian obtainable; BEGONIAS, from a well-known Amateur; 500 SPIRÆA JAPONICA; American Dwarf PEARL TUBEROSES, CALADIUM ESCULENTUM, 500 DIELYTRA Clumps, from Holland, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, March 8, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Thursday next.

SPECIAL SALE of HARDY PLANTS and BULBS, comprising Carnations, Picotees, Phlox, Delphiniums, Pyrethrums, Pæonies, Hollyhocks, and others. Also 800 Dwarf Roses.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, March 9, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Tuesday, March 14.

UPPER BURMAH ORCHIDS.

By order of Walter Keussley & Co., 147, Leadenhall Street, London.

A NEW IMPORTATION, just to hand, to be SOLD, ABSOLUTELY WITHOUT RESERVE, in Lots to suit the Trade and Private Buyers.

DENDROBIUM WARDIANUM HETEROCARPUS
,, THYRSIFLORUM FALCONERI
,, CHRYSOTOXUM BRYMERIANUM
,, SUAVISSIMUM
,, NOBILE—Collector says he is sure this is nobile nobilius
CŒLOGYNE BARBATA
CYPRIPEDIUM BOXALLI
CYMBIDIUM LOWIANUM, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY, March 14.

The Quorn House Collection of Orchids.

LOUGHBOROUGH.

Highly important CLEARANCE SALE, by order of W. E. J. B. Farnham, Esq. Without the slightest Reserve.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION, on the Premises, Quorn House, Loughborough, on TUESDAY, April 11, and following days, at 12 o'Clock precisely each day, the whole of this far-famed COLLECTION of ESTABLISHED ORCHIDS, splendidly grown, and containing many rarities. Amongst the principal items may be mentioned:—

Dendrobium splendidissimum grandiflorum, 13 matchless specimens
,, Cooksonii, several plants
Phalænopsis Portei, in spike
,, leucorrhoda
Sobralia xantholeuca, dwarf-growing variety
,, ,, alba
Cypripedium insigne, yellow variety, no spots
,, Saundersianum
Lycaste Skinneri alba, 12 plants, grand varieties
Cattleya Mendeli alba, Quorn House variety, F.C.C.
,, Brymeriana
,, Phœnicoptera
Dendrobium seedlings
Cypripedium do.
Calanthe Stevensii and Williamsii
Cattleya gigas varieties and imperialis, one with seed-pods crossed with the Quorn House variety of the white Mendeli
,, Trianæ alba, 5 plants of the true white variety
,, aurea, many fine varieties
Cœlogynes received from the East, probably different from known varieties
,, cristata alba, specimens
Cymbidium Parishii
Dendrobium Leechianum
,, nobile nobilius
,, endocharis
,, Ainsworthii
,, Wardianum and nobile, selected for the past 15 years—perfect marvels of culture
Masdevallia Harryana, the red variety
Aërides Fieldingii, wonderful plant, and special variety
Dendrobium Phalænopsis Schroderæ, 200 plants, the finest lot in the country, comprising many splendid varieties
Cattleya Schroderæ, a grand lot of plants
Lælia anceps Dawsoni, and other fine white varieties
Cattleya Skinneri alba, selected varieties
,, aurea polychroma
Odontoglossum elegans
,, crispum guttatum
,, Ruckerianum magnificum
Cypripedium Wallisii
Lælia purpurata ponderosa
Dendrochilum glumaceum, a grand mass
,, Wardianum album
Cypripedium Morganiæ, big specimen
Lælia anceps Amesiana
,, Gouldiana
Dendrobium Robinsonianum
,, Venus hybrid
,, hybrid, a batch of plants, Juno was raised from similar parents.
Cattleya Mendeli, special varieties
,, labiata, with nearly 100 bulbs
Odontoglossum cuspidatum
,, Wilkeanum (Cook's var.)
Cattleya Mossiæ, with 100 bulbs
,, Warneri, with 100 bulbs
,, Mossiæ Reineckiana
Dendrobium nobile Sanderianum
Cypripedium Doris, specimen
,, macrochilum
Odontoglossum mulus splendens
Vanda suavis maxima
Disa grandiflora, 200 plants, including several special varieties, all being remarkably well-grown.

Catalogues are being prepared, and may be had in a few days.

The Quorn House Collection of

PITCHER PLANTS,

PROBABLY THE FINEST LOT IN EUROPE.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions from W. E. J. B. Farnham, Esq., to SELL by AUCTION, on the Premises, Quorn House, near Loughborough, on TUESDAY, April 11, and FOLLOWING DAYS, without the slightest reserve, the whole of the unrivalled Collection of PITCHER and CARNIVOROUS PLANTS, containing the finest varieties raised by Messrs. J. Veitch & Son, and all the best species hitherto introduced.

Friday Next.

MESSRS. PROTHEROE AND MORRIS are instructed to SELL by AUCTION, at their Rooms, 67 and 68, Cheapside, E.C., on FRIDAY NEXT, March 10, at half-past 12 o'Clock, by order of Mr. F. Sander, St. Albans, valuable imported and established ORCHIDS, among which will be found a fine lot of the rare and beautiful

ONCIDIUM JONESIANUM

CATTLEYA SCHRODERÆ type, LÆLIA GRANDIS, original type,

ODONTOGLOSSUM PESCATOREI, strong and healthy imported plants,

CATTLEYA AMETHYSTOGLOSSA, semi-established fine plants;

CATTLEYA LEOPOLDII, Pernambuco variety, semi-established fine plants;

ODONTOGLOSSUM BLANDUM, healthy growing plants,
,, NÆVIUM MAJUS ,, ,, ,,
,, UNDULATUM ,, ,, ,,
ANGULOA CLOWESII, very strong imported plants,
LÆLIA WENDLANDIANA (?), ADA AURANTIACA,
A NEW CALANTHE,
PHAIUS SPECIES, MILTONIA SPECIES.
And many other fine and useful Orchids.

Also *Select Orchidaceous Plants*, by Robert Warner, with Culture Notes by Messrs. B. S. Williams & Son.

On view morning of Sale, and Catalogues had.

NEW WHITE GRAPE—"CHASSELAS NAPOLEON."

WM. CUTBUSH & SON having acquired the whole of the stock of the above from the raiser Mr. GEORGE REYNOLDS, Gardener to Messrs. Rothschild, Gunnersbury Park, Acton, London, W., are prepared to receive orders for immediate delivery of strong planting canes. It has been awarded a First-class Certificate by the Royal Horticultural Society.

Extract from *The Garden*, October 31, 1891. F.C.C., October 27, 1891, R.H.S.

"GRAPE 'CHASSELAS NAPOLEON.' — This is a white variety of much promise, with large Muscat-like berries, but of paler colour. The bunch shown was cut from a Vine worked upon a Muscat. It is a good keeping kind, and of capital constitution."

Extract from the *Gardeners' Magazine*, November 7, 1891.

"GRAPE 'CHASSELAS NAPOLEON.'—This appears to be a Grape of great promise. It is of the Sweetwater type, the flavour sweet, refreshing and pleasant, and the bunches large, well-formed, and handsome on the table; the berries white, large, and oval. It is hardy, free cropping, of fine appearance, hence the value to the exhibitor, and acceptable on the table. Small wood, carries good clusters. First-class Certificate, October 27, 1891, R.H.S.

Extract from the *Journal of Horticulture*, October 29, 1891. F.C.C., October 27, 1891. R.H.S.

"VINE 'CHASSELAS NAPOLEON.'— For this a First-class Certificate was awarded, as it was in extremely fine condition. The bunches large but compact; the berries large and oval, white, with an amber tint, fleshy, and of good flavour."

Extra Strong Planting Canes, 21s. each.

Grape Growers who have not secured LADY HUTT and APPLEY TOWERS GRAPES should do so as early as possible, as the Stock is being greatly reduced. Strong Fruiting Canes of each, 30*s.* each; Strong Planting Canes of each, 21*s.*

WM. CUTBUSH and SON, Highgate Nurseries, London, N.; and Barnet, Herts.

Wednesday Next.

500 Standard, Dwarf, and Climbing ROSES, to name; Pyramid and Dwarf-trained FRUIT TREES, Hardy Ornamental Flowering TREES, and SHRUBS, a very extensive Collection of BORDER PLANTS, LILIUMS from Japan, 10 000 FREESIAS, 20,000 LILY OF THE VALLEY Crowns, IRIS, 1000 BEGONIAS, Choice DAHLIAS, a Consignment of PALMS, AZALEAS, ARECAS DRACÆNAS, ARALIAS, RHODODENDRONS, &c., from Ghent, Home-grown LILIUMS, Choice and Scarce ROOTS, &c.

MR. J. C. STEVENS will SELL the above by AUCTION at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, March 8, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

Thursday next.

IMPORTED ORCHIDS, and a SMALL COLLECTION in FLOWER.

MR. J. C. STEVENS will SELL by AUCTION at his Great Rooms, 38, King Street, Covent Garden, W.C. on THURSDAY NEXT, March 9, at half-past 12 o'clock precisely by order of Messrs. F. Horsman & Co., an importation of ORCHIDS, comprising ODONTOGLOSSUM ALEXANDRÆ, and fine masses of LÆLIA PURPURATA in grand order. Also a small COLLECTION of ORCHIDS in FLOWER and BUD.

On view morning of Sale, and Catalogues had.

Thursday Next.

COLLECTION OF ESTABLISHED ORCHIDS.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, March 9, at half-past 12 o'Clock precisely, a well-grown Collection of ESTABLISHED ORCHIDS, comprising, amongst others:—

Cypripedium Dominianum	Lælia anceps alba
,, Curtisii	Cattleya gigas
,, Ashburtonæ	Oncidium tigrinum
,, Rothschildiana	Dendrobium Wardianum
,, Elliotianum	Cattleya labiata, &c.

On view morning of Sale, and Catalogues had.

Thursday Next.

5000 LILIUM AURATUM, L. SPECIOSUM ALBUM and RUBRUM, L. AURATUM PICTUM, L. LEICHTLINI, L. KRÆTZERI, &c., from Japan; 7500 FREESIA REFRACTA ALBA; 10,000 fresh Seeds of COCOS WEDDELLIANA; 30,000 Berlin LILY OF THE VALLEY Crowns, &c.

MR. J. C. STEVENS will include the above in his SALE by AUCTION at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, March 9.

On view morning of Sale, and Catalogues had.

PICTURESQUE COTTAGE TO LET.—Three Bed, 2 Sitting-rooms, Kitchen, &c., with large Garden and Glasshouses. ½ mile from Junction, within one hour of London.—C. BROOKLANDS, Bletchley.

EXCELLENT SITE for NURSERY!!—Eight-roomed House, Coach-house, Stable, and Shed, with about 3½ acres of rich Garden Land (Freehold), in the favourite neighbourhood of Hampton, for Sale, on exceedingly favourable terms; or would be Leased.

Apply Mr. F. G. HUGHES, The Estate Office, Hampton-on-Thames.

TO BE SOLD, by Private Treaty, the WHITTINGTON ROAD MARKET GARDEN PROPERTY, with excellent Greenhouses, all in good working order, and good Dwelling House.—For particulars, apply to—WILLIAMS AND NICHOLSON, Salop House, Oswestry.

SURREY, NEAR STATION.—Capital Market GARDEN, with Fruit Trees and Greenhouses FOR SALE in consequence of ill-health of owner. Splendid opportunity. Capital required, about £600.

Particulars of Messrs. PROTHEROE AND MORRIS, 67 and 68, Cheapside, London, E.C.

LONDON, N.W.—To Florists, Old-established BUSINESS, with extensive JOBBING TRADE. First-class neighbourhood, main road. Large Show-house, several Greenhouses, and Residence. Rent, £74. Incoming, £1000, or offer. Capital opening.

Apply to Messrs. PROTHEROE AND MORRIS, 67 and 68, Cheapside, London, E.C.

SMALL FLORIST and JOBBING GARDENER'S BUSINESS for DISPOSAL, in one of the most fashionable towns in England. Established eleven years. Five Glasshouses filled with a healthy stock of Plants.—For particulars apply to M., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

Exceptional Offer.—Splendid Opportunity.

OWING to the Decease of Mr. G. W. PHIPPEN, of Reading, the whole of the NURSERY BUSINESS is offered for IMMEDIATE DISPOSAL, comprising a thorough good Nursery Plant in flourishing condition, with Houses of the most modern construction and convenience.

Full particulars from HASLAM AND SON, Auctioneers, Reading; or C. FIDLER, Seedsman, Reading.

South England.

LARGE GARDEN, two Cottages, thirty large Green and Vine-houses. Easy terms.—PROPRIETOR, Portland Club, Southsea. Letters, enclose stamp.

TO LET.—ST. ANDREW'S NURSERY, Deal; Seven Glasshouses, with or without Stock. Apply to M. LANGLEY, High Street, Deal.

ACTON VALE NURSERY, W. (late J. Maize's). — FREEHOLD to be SOLD, with House adjoining, opposite East Acton Lane, in the Uxbridge Road, at low Ground Rent. Room for Show-house in front. Address, MARLAR, Halstead, Essex.

NURSERY for SALE, or to be LET, near Blackheath, S.E., in working order. Land 442 feet by 150 feet (more or less), at low ground rent. Contains seven Glass Houses, about 100 feet to 123 feet long, heated by three Boilers, three Cold Frames, about 100 feet long; Planting Ground, &c. Stock at valuations, if desired.—Apply to THOMAS PEACOCK, Warwick Square, London, E.C.

Fifty Nurseries, Market Gardens, Florist and Seed BUSINESSES to be DISPOSED OF.

MESSRS. PROTHEROE AND MORRIS' HORTICULTURAL REGISTER contains full particulars of the above, and can be obtained, gratis, at 67 and 68, Cheapside, London, E.C.

FOR ORCHIDS and GARDENERS to Grow Them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

JOSEPH MEREDITH, LANDSCAPE GARDENER and GENERAL HORTICULTURIST, Snape Hall, Whitmore, Newcastle, Staffordshire.

N.B.—Winner of our own Queen's Cup at the International Exhibition at Hamburg; Gold Medals in Paris, Brussels, Holland, &c., and the leading prizes for Grapes for many years in Great Britain and Ireland.

Author of a work on the Grape Vine.

FRUITING GRAPE VINES, hard, short-jointed Canes; Muscat of Alexandria, Madresfield Court, Gros Colmar, Foster's Seedling, Buckland Sweetwater, Gros Maroc, Muscat Hamburgh, Mrs. Pearson.

WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

To the Seed Trade.

H. AND F. SHARPE have posted their GENERAL WHOLESALE LIST to their customers and others, and shall feel obliged if those who have not received it will inform them, and another copy will be sent.

SEED GROWING ESTABLISHMENT, WISBECH.

FLORISTS' FLOWERS, a Specialty.—My Superb Collections of Antirrhinums, Auriculas, Begonias, Carnations, Dahlias, Delphiniums, Fuchsias, Gaillardias, Pæonies, Pansies, Pelargoniums, Pentstemons, Petunias, Phloxes, Pinks, Potentillas, Pyrethrums, Violas, Hardy Border and Herbaceous Plants, &c., are the grandest ever brought together. They have been awarded numerous Certificates and Gold, Silver, and Bronze Medals, by the leading Horticultural Societies in the kingdom, with emphatic eulogiums by the Press, and my Illustrated Catalogue of them for 1893, 134 pages, which should be carefully perused by all before ordering elsewhere, is the largest, most comprehensive, and most reliable ever issued on Florists' Flowers and Hardy Plants. It has been posted to my Patrons, who will please oblige by informing me if any have miscarried, when I shall be happy to post another copy, free on application.

JOHN FORBES, Hawick, Scotland.

EXHIBITION.

ROYAL BOTANICAL SOCIETY OF MANCHESTER.

The FIRST SPRING FLOWER SHOW of this Season will be held in the Town Hall, Manchester, on March 14 and 15. For particulars, apply to the undersigned.

Schedules for the Great Orchid Exhibition and Artistic Groups are now ready.

Botanic Gardens, Manchester. BRUCE FINDLAY.

CRYSTAL PALACE SPRING EXHIBITION OF PLANTS, FLOWERS, &c. SATURDAY, March 25.

Entries close Saturday, March 18. Schedules and Entry Forms on application to Mr. W. G. HEAD, Superintendent, Gardens Department, Crystal Palace, S.E.

ROYAL BOTANIC SOCIETY

Gardens, Regent's Park, N.W.

Arrangements, 1893:—

SPRING EXHIBITIONS, WEDNESDAYS, March 22 and April 26.

SUMMER EXHIBITION, WEDNESDAY, May 17.

SPECIAL FLORAL FÊTE, WEDNESDAY, June 21.

EVENING FÊTE, WEDNESDAY, July 5.

Schedules of Prizes and Tickets now Ready.

NURSERY PLANTS for Sale, by Private Bargain.—A Gentleman, having the following from his own Nursery to dispose of, will be glad to receive offers:—

48,000 PINUS LARICIO, 2-yr. seedling, 1-yr. transplanted.
40,000 ENGLISH OAK, 2½ to 3½ feet.
12,000 EVERGREEN OAK, drilled bushy, and well rooted.
1,200 ENGLISH YEWS, 9 to 10 inches, transplanted.
1,500 MAHONIA, 2 to 2½ feet.
12,000 BEECH, transplanted, 3 to 4 feet.
1,000 CHESTNUTS (Horse), 3 to 3½ feet, clean topped.
7,000 SILVER FIR, 1-yr. seedling, 1-yr. transplanted.

All healthy, well grown, and in a fit state for immediate removal. Offers to

JNO. M. ADAIR, Solicitor, Stranraer, N.B.

SMALL SHRUBS and CONIFERÆ.—Abies Albertii, 2-yr., 6 to 8 inches, 4*s.* per 100; A. Douglasii, 1-yr., 20*s.* per 1000; do., 1yr., 1-yr. transplanted, 6 to 8 inch, 4*s.* per 100; A. orientalis, 2-yr. transplanted, 30*s.* per 1000; Black A. Spruce, 2-yr. transplanted, 6 to 9 inch, 30*s.* per 1000; Cupressus macrocarpa, 1-yr., fine, 20*s.* per 1000; do., transplanted, 8 to 9 inch, 8*s.* per 100; Grass Pampas, fine, 30*s.* per 1000; Aucuba japonica, green, 6 inch, 8*s.* per 100; Cedrus deodara, 1-yr., 6*s.* per 100; Ivy, Irish, 2-yr., 4*s.*; Jasminum, white, 6*s.* per 100; Lilac, purple, 3-yr., 4*s.* per 100; Laurestinus, 6 to 8 inch, 7*s.* per 100; Laurel Colchic, 1-yr., 25*s.* per 1000; Olearia Haastii, 6 inch, 8*s.* per 100; Pinus cembra, transplanted, 6 to 9 inch, 40*s.* per 1000; P. Nordmannia, 2-yr., 2-yr. transplanted, 6*s.* per 100; P. nobilis, 2-yr., 2-year transplanted, 6*s.* per 100; Pittosporum undulatum, fine, transplanted, 8 inch, 12*s.* per 100; Privets, oval, 8 to 9 inch, 8*s.* per 1000; do., golden, new, 8*s.* per 100; Rhododendron ponticum, 4 to 6 inch, 40*s.* per 1000; do., 6 to 8 inch, 60*s.* per 1000; Thuya Lobbii, 10 to 12 inch, 40*s.* per 1000; do., 15 to 18 inch, 50*s.* per 1000; Veronica Traversii, 9 inch, 8*s.* per 100; V. Pingifolia, 9 inch, 10*s.* per 100; Yew, English, 3-yr., 26*s.* per 1000; Yucca gloriosa, pots, 9 to 10 inch, 12*s.* per 100.

GARLIES MITCHELL, Nurseryman, Stranraer.

GREAT SALE OF ORCHIDS,

BY ORDER OF THE LIQUIDATOR.

THE LIVERPOOL HORTICULTURAL COMPANY (JOHN COWAN), Limited, being now in liquidation, are offering their immense stock of ORCHIDS at greatly reduced prices.

Descriptive and Priced CATALOGUES of the Stock are being prepared in sections, and they will be forwarded as completed to all who may furnish their name and address for that purpose. Catalogues of Sections No. 1 and 2 are now ready. Inspection is earnestly invited.

The large stock of STOVE and GREENHOUSE PLANTS GRAPE VINES, TEA ROSES, FERNS, &c., will also shortly be offered, at a great reduction.

CATALOGUES will also be forwarded, when ready, free on application to the COMPANY,

The Vineyard and Nurseries,
GARSTON, near LIVERPOOL

NEW ZONAL PELARGONIUMS,

CANNAS, DAHLIAS, GLOXINIAS, CARNATIONS, ETC.

Catalogue now ready, free on application.

J. R. PEARSON & SONS,

CHILWELL NURSERIES, NOTTS.

SPECIAL CULTURE OF

FRUIT TREES AND ROSES.

A LARGE AND SELECT STOCK IS NOW OFFERED FOR SALE.

The Illustrated and Descriptive Catalogue of Fruits, post-free, 3*d*.

The Descriptive Catalogue of Roses, post-free.

THOMAS RIVERS & SON,

THE NURSERIES,

SAWBRIDGEWORTH, HERTS.

CARNATIONS. — CARNATIONS.

MALMAISON, Old Blush-white, in 3 and 5½ inch pots.
,, ROTHSCHILD'S, deep pink, in 3 and 5½ inch pots.
,, M. A. WAROCQUE, scarlet, in 3 and 5½ inch pots.
YELLOW GROUNDS in great variety.
BORDERS and SELFS in great variety.
Fine stuff, at moderate prices.
LAING AND MATHER, Nurserymen, Kelso-on-Tweed.

FLOWERS FOR THE HERBACEOUS BORDER.

Hardy—Ornamental—Permanent.

AGROSTEMMAS, DORONICUMS, GAILLARDIAS, HEPATICAS, PRIMULAS, and in endless and beautiful variety. Prices and full particulars on application.

DICKSONS NURSERIES, CHESTER.

BORDER CARNATIONS a Specialty.—Two First Prizes at International Carnation Show, Earls' Court, London, and Seven Firsts at Local Shows.
LADY SUTTON, grand new Apricot colour, 1*s*. 6*d*. each.
QUEEN OF BEDDERS, Award of Merit, R.H.S., Bright Rose, 1*s*. 6*d*. each.
GERMANIA, best Yellow, 1*s*. each.
GENERAL BOULANGER, Crimson-scarlet, 6*s*. per dozen.
MRS. F. WATTS, Pure White, 6*s*. per dozen.
MRS. REYNOLDS HOLE, Terra-cotta, 6*s*. per dozen.
ROSY MORN, Deep Rose, 6*s*. per dozen.
ALICE AYRES, White Flaked Carmine, 6*s*. per dozen.
PRINCESS ALICE, Salmon-Pink, 6*s*. per dozen.
GLOIRE DE NANCY, White Clove, 4*s*. per dozen.
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Best Varieties named to my selection, 6*s*. per dozen.
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ENGLISH YEWS, 2½ to 3 feet, 12*s*. per dozen, 70*s*. per 100.
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,, ,, 4 to 5 feet, 30*s*. per dozen, 200*s*. per 100.
,, ,, 5 to 6 feet, 42*s*. per dozen.
Every plant a perfect specimen. Excellent roots.

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GIANT BERLIN LILY OF THE VALLEY.—First consignment just to hand. Best Crowns we have imported this season. Satisfaction guaranteed, or money returned. 5000 at 25*s*. per 1000; 1000, 28*s*.; 100, 3*s*. 6*d*.; 25, 1*s*. 3*d*.

10,000 PANCRATIUM ZEYLANICUM GRANDIFLORA.—Just to hand, fine Bulbs, in splendid condition, the great Bouquet Lily, snow-white, sweet-scented, grand for Cutting. 20*s*. to 25*s*. per 100; 4*s*. per dozen. Gloriosa superba, the Flowering Lily, same price. Calla, Little Gem (New), pot now for December flowering, 3*s*. 6*d*. per dozen.

CRINUMS, fine large Bulbs, some 6 lb., and 2 feet long; fine Pot Plants; handsome flowers; very sweet-scented. 1*s*. to 5*s*. each.

PLEASE NOTE.—Having just imported many New and Rare Bulbs and Seeds, we shall be pleased to submit samples, named and priced, Carriage Paid to responsible persons. All New and Rare Bulbs, Plants, and Seeds, at low rates. Everything for the Garden, in good quality. Trade List free.
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CINERARIA, DIXON'S SUPERB GIANT.

The Choicest Strain in the Country.

In Sealed Packets, 1*s*. 6*d*., 2*s*. 6*d*., and 5*s*. each.

Price to the Trade on application.

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EARL'S COURT EXHIBITION.

EXHIBITION OF GARDENING and FORESTRY.

The Exhibition will Open on the 13th of May, and Close about the middle of October.

Exhibits have been promised by the British and several Foreign Governments, and the most prominent Horticulturists and Foresters have expressed their desire to help.

FORTNIGHTLY FLOWER SHOWS
WILL BE HELD, COMMENCING ON 13TH MAY.
For particulars see Special Schedule.

CLASSIFICATION of EXHIBITS.
Medals, and Certificates will be awarded.

Group 1.—Gold, Silver, and Bronze Medals and Certificates.—(*a*) Specimens of new and rare-flowering trees and shrubs; (*b*) Forest flora; (*c*) Collection of seeds, cones, &c.; (*d*) Forest fauna and entomology; (*e*) Specimens of damage done to timber and growing wood by insects, &c.

Group 2.— Gold, Silver, and Bronze Medals and Certificates.—Growing Collection of Trees and Shrubs: (*a*) Deciduous and evergreen, indigenous and exotic, in classes; (*b*) Deciduous and evergreen, indigenous and acclimatised, with special reference to the grouping for effect; (*c*) Undergrowth for coverts, &c.; (*d*) Fruit trees, trained.

Group 3.—Gold, Silver, and Bronze Medals.—(*a*) Garden and forest literature; (*b*) Working plans of Gardens, forests, and plantations; (*c*) Valuations and survey of estates; (*d*) Charts illustrative of the geographical distribution of trees, their adaptability to various soils, their rate of growth, &c.; of the sequence of plants, natural or artificial; (*e*) Specimens of fossil trees.

Group 4.—Gold and Silver Medals. — Hybridisation of Plants. (*a*) Specimens of a hybrid, accompanied by the two parent species or varieties, indicating which of these has furnished the pollen. (*b*) Specimens of a hybrid A × B produced by crossing the two species or varieties A and B—the plant A having furnished the pollen; and specimens of a hybrid B × A produced by the crossing of the same species or varieties A and B—the plant B having furnished the pollen. The plants A and B must accompany the hybrids.

Group 5.—Gold and Silver Medals.—Collection of Timber Specimens and Ornamental Woods, Rough and Polished: (*a*) Indigenous; (*b*) Exotic.

Group 6.—2 Gold, Silver, and Bronze Medals.—Wood-working Machinery; (*a*) Sawing, planing, moulding, lathes, &c.; (*b*) Implements and tools used in gardening and forestry; (*c*) lawn-mowers, rollers; (*d*) Digging and draining tools, axes, pruning tools, pumps, cutlery; (*e*) Appliances for the transport of timber; and (*f*) The transplanting of trees.

Group 7.—Gold Medal.—Wood Engraving, with Samples of Wood; special attention being given to the supply of Boxwood (Buxus sempervirens) or its substitutes.

Group 8.—Gold, Silver, and Bronze Medals.—(*a*) Woods used for ordnance and small-arms, backing for armour-plates, lance-stocks, &c.; (*b*) Wheels; (*c*) Sleepers and rolling stock of railways, telegraph-poles, &c; (*d*) Paving or street purposes; (*e*) Mining timber; (*f*) Bent timber.

Group 9.—Two Gold, Silver, and Bronze Medals.—(*a*) Woods used for parquetry, with examples; (*b*) Mosaic; (*c*) Wood-block flooring; (*d*) Ceilings, wainscoting, and internal wall decorations; (*e*) Household furniture.

Group 10.—Silver and Bronze Medals.—(*a*) Fibres; (*b*) Wood-pulp materials used for paper-making; (*c*) Ropes, lines, and twines; (*d*) Resins and oils; (*e*) Dyes and stains; (*f*) Barks; (*g*) Spices.

Group 11.—Gold and Silver Medals.—(*a*) Wood-carving; (*b*) Turnery; (*c*) Decorative painting on wood.

Group 12.—Gold, Silver, and Bronze Medals.—Processes for the preservation of timber.—(*a*) To resist wet and dry-rot; (*b*) To resist fire; (*c*) Paints and other wood-preserving compositions.

Group 13.—Silver and Bronze Medals.—Fertilisers and Artificial Manures.

Group 14.—Silver and Bronze Medals.—(*a*) Garden pottery; (*b*) Statuary vases; (*c*) Edgings, &c.

Group 15.—Silver and Bronze Medals.—Miscellaneous accessory Decorations to a Garden.

Group 16.—Silver and Bronze Medals.—(*a*) Fancy woodwork; (*b*) Baskets; (*c*) Bamboo canes, Willows, &c.

Group 17.—Gold, Silver, and Bronze Medals.—(*a*) Plant-houses; (*b*) Show and growing-houses; (*c*) Systems of glazing; (*d*) Heating.

Group 18.—Gold, Silver, and Bronze Medals.—(*a*) Fencing; (*b*) Gates; (*c*) Tree-guards.

Group 19.—Gold, Silver, and Bronze Medals.—(*a*) Summer-houses; (*b*) Châlets, kiosks; (*c*) Garden-seats; (*d*) Flower-stands; (*e*) Boats, canoes, &c.

Group 20.—Gold, Silver, and Bronze Medals.—Distillation and Preparation of Scents, and Flowers and Woods used.

Group 21.—Gold and Silver Medals.—(*a*) Settlements in new countries, showing camps and camping contrivances; (*b*) Cultivation of Tea, Coffee, Opium, Cinchona.

Group 22.—Gold and Silver Medals.—(*a*) Sporting trophies; (*b*) Pictures of forest trees.

Group 23.—Gold and Silver Medals.—Any Exhibit not particularised in the above Groups, in furtherance of the objects of the Exhibition, will be admitted.

All exhibits must be submitted to the approval of the Executive, who retain the absolute right to admit only such exhibits as they may approve, to appoint Judges, and award the Medals and Certificates. The Judges will be instructed to recommend additional medals should they think any exhibit worthy of special distinction; and the right is also reserved to withhold medals offered in any group should the Judges determine that the exhibit is not sufficiently meritorious. Application Forms, copies of the Rules and Regulations, and all particulars, can be obtained on application to the Secretary.

H. E. MILNER, Chairman.
GEORGE CADELL, (late) Indian Forest Department, Vice-Chairman of Committee, Forestry Section,
HARRY TURNER, Royal Nurseries, Slough, Vice-Chairman of Committee, Horticultural Section.
G. A. LOVEDAY, Earl's Court Exhibition, S.W., Secretary.

WONDERFUL VALUE!

£3 3s. COLLECTION, contains, amongst Various Other VEGETABLE SEEDS, 18 quarts of Peas, 7 quarts of Beans, 5 packets of Broccoli, 5 packets of Cabbage, 7 oz. of Carrot, 4 packets of Lettuce, 12 oz. of Radish.

£2 2s. COLLECTION contains, amongst Various Other VEGETABLE SEEDS, 10 quarts of Peas, 9 pints of Beans, 4 packets of Broccoli, 4 packets of Cabbage, 4 oz. of Carrot, 2 packets of Cauliflower, 3 packets of Lettuce, 5 oz. of Onion, 6 oz. of Radish.

£1 1s. COLLECTION contains, amongst Various Other VEGETABLE SEEDS, 6 quarts of Peas, 5½ pints of Beans, 2 packets of Broccoli, 2 packets of Cabbage, 2 oz. of Carrot, 2 packets of Celery, 3 oz. of Mustard, 4 oz. of Spinach.

10s. 6d. COLLECTION, for COTTAGE GARDEN, contains a most Liberal Allowance of Various VEGETABLE SEEDS.

N.B.—All the above are of the finest possible quality, and of excellent sorts. In the case of Peas, &c., the selection is made for succession. For full particulars, see SEED CATALOGUE, free on application.

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Seed Merchants and Nurserymen, WORCESTER.

PLANTING SEASON.

HARDILY-GROWN

FOREST, FRUIT,

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TREES & PLANTS, EVERGREENS, ROSES, &c.

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SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for List, free.—P. McARTHUR, The London Nursery, 4, Maida Vale, London, W.

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ORCHIDS.—New and rare species, a special feature. Catalogue forwarded post-free on application.
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New Roses.—Princess May and Corinna.
WM. PAUL AND SON are now Booking Orders for the above. Plants, 10s. 6d. each, are expected to be ready at the end of May. Orders will be executed in rotation as received.
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CARNATIONS, Crimson Clove, White Clove, 12s. 6d.; Raby (Pink), 16s.; Reynolds Hole, 30s.; Germania (Yellow), 64s.; Wallace Bond. 35s.; Double Crimson Velvet Primroses (Pompadour). 50s., all per 100.
HOPKINS, Mere, Knutsford.

New Roses for 1893.
BENNETT BROS. are now prepared to book Orders for the following:—Captain Hayward, H.P., price 7s. 6d. each; Climbing Souvenir de la Malmaison. price. 5s. each. Usual discount to the Trade. Strong plants of these will be ready for delivery early in May.
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ASPARAGUS, of fine quality—for Forcing, 5-yr. old, splendid roots, 12s. 6d. per 100, free on rail; 6-yr. old, extra fine, 15s. per 100. Cash with order. My Asparagus always makes top price at Covent Garden.
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To the Trade.
VINES.—DICKSON, BROWN AND TAIT, Manchester, beg to offer Black Hamburgh, strong fruiting Canes, very superior. Price on application.

Bulbs for Spring Planting.
E. H. KRELAGE AND SON'S New SPRING CATALOGUE (No. 463A), containing descriptions and figures of their extensive and celebrated collections of GLADIOLI, MONTBRETIA, IRIS, DAHLIAS, GLOXINIAS, BEGONIAS, and all other Bulbs and Roots for Spring Planting, is now ready, and may be had free on application to their Office at HAARLEM, HOLLAND.

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VEGETABLE SEEDS.—The best sorts only. Much valuable information. CATALOGUE FREE ON APPLICATION.
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THE VERY BEST
OF MANY THOUSANDS.
ENORMOUS LILIES.
GRAND FOR POT CULTURE.

	Each—*s.*	*d.*
LILIUM AURATUM, 12 to 15 inches round	2	6
,, ,, RUBRO-VITTATUM, 9 to 10 inches round ...	7	6
,, ,, PLATYPHYLLUM, 11 to 12 inches round ...	5	0
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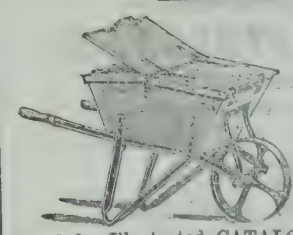

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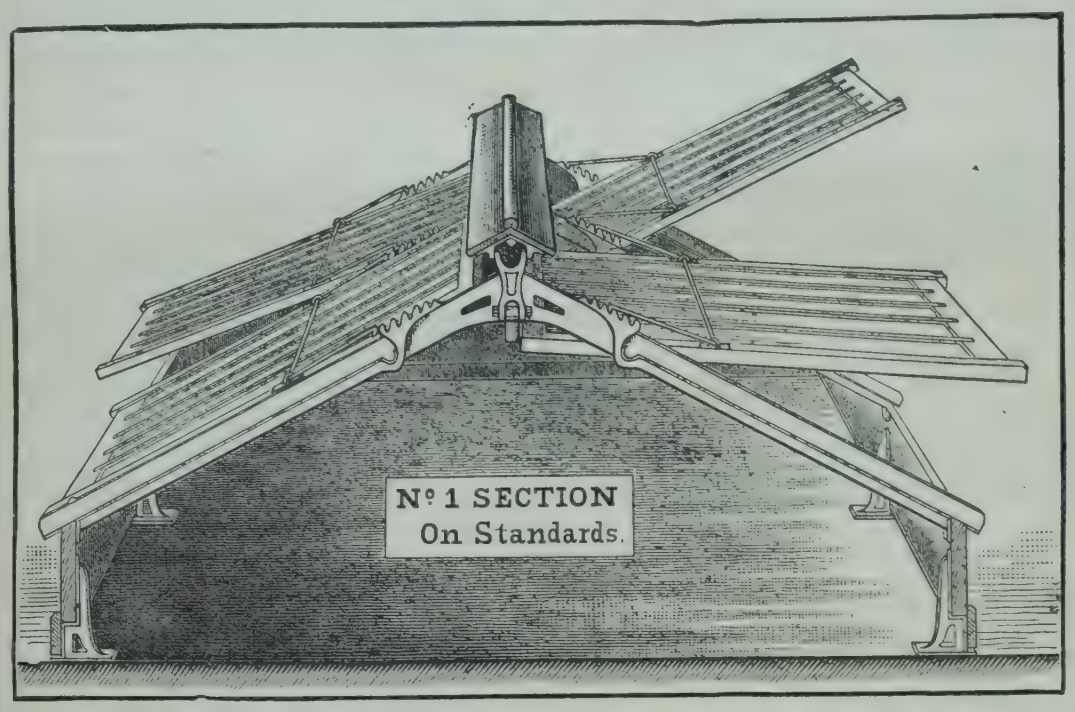

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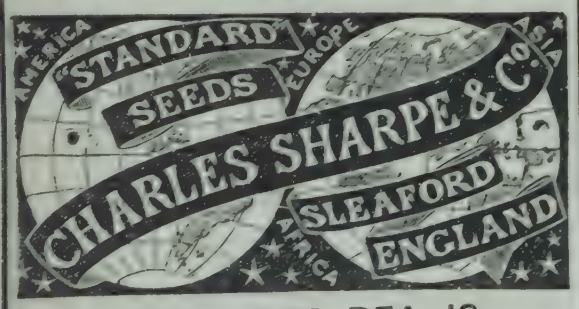

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SATURDAY, MARCH 4, 1893.

AGRICULTURAL RETURNS FOR 1892.

IT is not so long since farmers, and gardeners too, for that matter, objected to give any assistance in the compilation of official statistics. They had a wholesome dread of fresh or of increased taxation. They did not realise that the information obtained could be used for any but oppressive purposes, and they were too ill-informed to appreciate the value of carefully obtained and carefully digested statistics. The cultivator always professed his love for facts, but he did not care for any facts beyond those which he could glean for himself within the four corners of his own premises. For other people's facts he had a profound contempt. Improved education, and specially the stress of foreign competition, have altered this state of things. The love of "facts" is as great as ever—nay, greater; it has happily grown so that no one is any longer satisfied with his own limited range, but extends his gathering ground as widely as he can. Moreover, with the progress of time, has come a better appreciation of the proportion and of the relative importance of facts. The causes of any particular depression, if not known in their entirety, are at least now known to be complex, and not to be attributable to any one cause, and therefore not remediable by any quack remedy, however plausible it may be in appearance. A glance at the "Agricultural Returns of Great Britain" for 1892, which has just been published, at a cost of one shilling, by Eyre & Spottiswoode, and which may be had from any bookseller, will furnish the reader with abundant opportunities for indulging in this description of comment. Much of the information contained in the Report is out of our scope, so that we shall confine ourselves to calling the attention of our readers to one or two matters in which they are likely to be specially interested, leaving them to make fuller perusal of the document for themselves.

Arable land has steadily diminished in amount during the last twenty years to the extent of more than two millions of acres, but this diminution does not apply to Scotland, where there has been an actual increase of 78,000 acres. On the other hand, the area under grass has increased in greater proportion than the arable land has diminished, owing to reclamations and extensions.

Hops are chiefly grown in Kent, which yields more than one-half of the annual crop; nevertheless, there has been a diminution in the acreage during the last twenty years to the extent of nearly 4000 acres.

Nursery grounds in England covered in 1892 a total area of 11,331 acres—practically the same as in the preceding year. The largest county acreage is Surrey, with 1733—more than

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double that of any other county; the next in order being the West Riding of Yorkshire, with 702 acres; Chester has 597 acres; Hertford, 509; Kent, 728; Middlesex, 694; Worcester, 290; and so on, till we come to Rutland, with 12, and Westmoreland, with 11 acres only.

In Scotland, the total acreage of nursery grounds in 1892 is given at 1383, of which 372 are in the county of Edinburgh, 152 in Dumfries, 107 in Aberdeen, one only in Sutherlandshire; whilst Caithness, Kinross, Linlithgow, Orkney, and Shetland, have none at all.

Market gardens in Great Britain are accredited with a total acreage of 83,081, as compared with 81,368 in 1891. Kent heads the list with over 12,000 acres, Middlesex comes next with 8989, then Bedford with 6828; Worcester, 4856; Essex, 4105; Surrey, 3763. After these there is a sudden drop, and, after that, a gradual diminution, till, in Westmoreland we find only 24 acres returned as under market cultivation.

In Scotland alone there are 5322 acres under market gardens, the largest acreage being in Lanarkshire, 1378; and Edinburgh, 1020; whilst Sutherlandshire is at the other end of the list with 1 acre —one more than in 1891!

Orchards were represented in 1892 as occupying an area of 208,950 acres, a slight diminution in acreage as compared with previous years.

But it is to the returns relating to fruit culture that we desire particularly to call the attention of our readers. In Great Britain and Ireland it is satisfactory to find an increase of 3425 acres devoted to small fruit culture.

In the year 1892 we learn that the number of acres devoted to small fruits in the grazing or Western Counties of England was 17,064, a percentage of 0·1. In the corn-growing Eastern Counties, the figures are 39,438, and the percentage 0·3; the total percentage for all the English counties being still only 0·2. In reference to this subject, we take the following extract:—

"The area under small fruit again shows an increase. The area returned for Great Britain was 62,148 acres, of which 56,502 were in England. Although every English county now returns a certain acreage under this head, there are only five where as much as 2000 acres is returned. Kent heads the list with 19,821 acres; no other county at all approaches this total. The acreage returned in Middlesex is now 3718 acres, Worcester returns 2421 acres, Lancashire has 2192 acres, and Cambridge 2064. Full details are given in Table XIII., which indicates the extent to which Gooseberries, Strawberries, Raspberries, and Currants (all grouped under the title of small fruits) are cultivated either along with larger fruit trees in orchards, or in market gardens, or as a farm crop on other land."

The imports of fruit are alluded to monthly in our columns, and in the return before us we have a statement of the quantities and values of imported fruits, nuts, and vegetables for ten years. We can only say, by way of illustration, that in 1891, the number of bushels of Apples imported was 3,147,373, of the value of £1,033,997.

In the same year, 3,192,836 cwt. of Potatos, of the value of £1,196,824, were imported, which as we see by another table, means 9 lb. per head of the entire population.

Onions in 1891 were imported to the extent of 4,281,046 bushels, valued at £733,745.

The total value of all kinds of fruits, nuts, and vegetables imported in 1891, amounted to £8,311,209.

No fewer than 1,275,398,000 eggs were imported, valued at £3,506,000. France and Germany supply more than half of this enormous number, Belgium, Russia, and Denmark coming next. The Canadian quota has increased from 2,000,000 to 33,000,000 in a single year, and we have now laid under contribution a variety of minor sources, among which it is curious to note the Canary Isles, Turkey, and Egypt! These figures are certainly astounding. In another table we find that thirty-four such eggs were eaten by each member of the entire population of the United Kingdom. It is evident we could not raise enough for our own consumption within our small islands, but that it should pay commercially to bring such things as eggs from such very distant countries surely suggests a lesson to our people, and accounts for the difficulty of procuring new-laid eggs in London

The report goes on to enumerate the corresponding statistical details relating to agricultural products of foreign countries, and of our own colonies. These figures should be most carefully studied, and taken to heart, by Freetraders and Protectionists alike.

New or Noteworthy Plants.

CATTLEYA SUB-VAR. REINECKIANA.

This is a form of the Mossiæ variety of Cattleya labiata (*Gard. Chron.*, 1884, ii., p. 172, fig. 33). "This handsome Cattleya was originally described by Reichenbach in Seemann's *Bonplandia* for 1856, whence we learn that it was introduced from Caraccas by Karsten, and flowered first in the collection of Herr Decker, under the charge of his gardener, Reinecke. It was described as very beautiful, pure white, with the disc of the lip covered with radiating nerves of amethyst and yellow. In short, it is an albino of C. labiata var. Mossiæ, in which the amethyst nerves are present on the yellow disc, while in the other white sub-variety, Wagneri, the yellow disc alone remains, the coloured nerves being quite obliterated." *R. A. Rolfe*, in *Reichenbachia*, t. 51.

Galanthus Perryi, *Hort. Ware.*

This is a Snowdrop which was introduced not very long ago by Messrs. T. S. Ware & Co., from the Caucasus. It is intermediate between G. caucasicus and G. latifolius, and very nearly allied to G. Alleni. If Alleni is a hybrid between latifolius and caucasicus, this is probably a hybrid also, the strain of latifolius preponderating in Alleni, and of caucasicus in Perryi. They are so near in all botanical characters, that I have not attempted to give a Latin diagnosis. My description is drawn from a plant kindly sent to me by Mr. Jas. Allen, with whom it flowered this year at Shepton Mallet, the second week in February.

Bulb globose, an inch in diameter; sheaths truncate, 1½ to 2 inches long; leaves, at the flowering time much shorter than the peduncle, about 2 inches long by ½ inch broad, slightly glaucous on both sides, nearly flat, the edges not at all reflexed; peduncle slender, 5 to 6 inches long; pedicel about as long as the linear bract; ovary, green, globose, ⅛ to ⅛ inch in diameter; outer segments of the perianth oblong, very convex on the back, ⅝ to ¾ inch long; inner segments half as long, deeply emarginate at the apex, with a green horseshoe-shaped mark round the apical sinus, green inside, except at the edge, with distinct vertical white stripes; stamens much shorter than the inner segments; anthers apiculate. *J. G. Baker.*

Senecio sagittifolius.

We have previously alluded to this noble Composite, introduced from Uruguay by our excellent colleague, Ed. André. It was figured in the *Revue Horticole*, and is now offered for sale by M. Bruant, of Poitiers. The radical leaves covered with white down, measure 1 yard or more in length, and are provided with a peculiar crested outgrowth from the midrib on the upper surface. From the tuft of leaves the flower-stalk rises to a height of 7 to 8 feet, bearing at the top a loose panicle of white Aster-like flowers.

Lathyrus splendens.*

This is a perennial climbing plant, with large Pea-shaped flowers of great beauty. It is remarkable also for the variable character of the foliage, some of the leaflets being quite linear in form, whilst others are oblong. The leaflets are about eight to a leaf, the stipules small, semi-sagittate or sickle-shaped, rarely laciniate, sometimes subulate and entire. The flowers are very large, "scarlet-purple," but varying much in tint. Judging from the dried specimens, the description of the discoverer is by no means exaggerated. We have seen in the Kew Herbarium specimens from San Bernardino, Vasey! and Lower California, Pringle!

* *Lathyrus splendens*, Kellogg, in *Proc. Californian Acad. Science*, 1876, vol. 7, p. 90.

Picea Breweriana, *Watson.*

We have received seeds of this elegant weeping Spruce from Messrs. Thorburn, of New York, who are now offering seeds for sale. Messrs. Douglas, it may be remembered, undertook a journey to the Siskeyon Mountains to collect seed, and succeeded in obtaining a considerable amount, so that we may soon expect to see it in quantities. The cone was figured, and the tree described by Prof. Sargent, in our columns April 17, 1886. Its most remarkable features are its long lithe pendulous branches, like those of a Weeping Willow. The seeds measure about 1 cm. in length; in form they are obovoid, purplish, with darker spots, and surmounted by an oblique hatchet-shaped separable wing, covering the back of the seed, but leaving the other side exposed. The embryo we dissected had six cotyledons. *M. T. M.*

Magnolia salicifolia (*Maximowicz, Mel. Bio., viii.*, 509; *Sargent, in Garden and Forest, February* 8 1893, *p.* 65, *fig.* 12).

A Japanese species, new to cultivation, and of which Professor Sargent has obtained a good supply of seeds. It is described as a slender tree, 15 to 20 feet high. The bark, at first light green, becomes eventually dark reddish-brown. The ovate-acute leaves are silvery on the lower surface, and deliciously fragrant when bruised. The flowers are at present not known. It grows on Mount Hakkoda, in low wet situations.

The Market Gardens of Amiens.

The traveller from Calais to Paris by railroad will notice in the immediate neighbourhood of Amiens a large space of land devoted to market gardens. One might almost fancy them to compose a huge chess board, each square being divided by ditches, terminating at the ends in canals, those silent highways for the vegetable-laden barges. The French call these "Les Hortillonages," and they can only be visited in a small boat. No one knows when these marshes surrounding Samarobive (as Amiens was called in ancient times), were for the first time cultivated. The Latin etymology, Hortillones or Hortulini from hortus (garden) seem to indicate the residence of the Romans at the moment when the first attempt at cultivation began. In 1651 Bonneford, the author of the *Jardinier français* said, "The gardeners of Picardy well deserve to be called the most famous cultivators of all the provinces of France." M. T. Rattel has lately given to the world a book on these market gardens, and some of the details therein mentioned may prove interesting. They are divided into little islands, some a quarter-of-an-acre in size, others 1 or 1½ acres; they surround Amiens, and enclose a total space of over 1000 acres. From two thousand to two thousand five hundred gardeners are employed on the plots, which are of great value, many fetching as much as £200 an acre. Besides kitchen gardening, the land is used for the growing of fruit trees, Cherries, Plums, and Pears, the spaces in between the trees being filled with Currant bushes, which attain to great perfection. The sale of the Red Currants amounts on an average to £2400 a year, while Black Currants bring in £400. In the plots where vegetables are cultivated, there is not the slightest shrub to prevent the free access of sun and air. The English people who go to Amiens often express surprise at the amount of land given over to "salad" culture. The consumption of

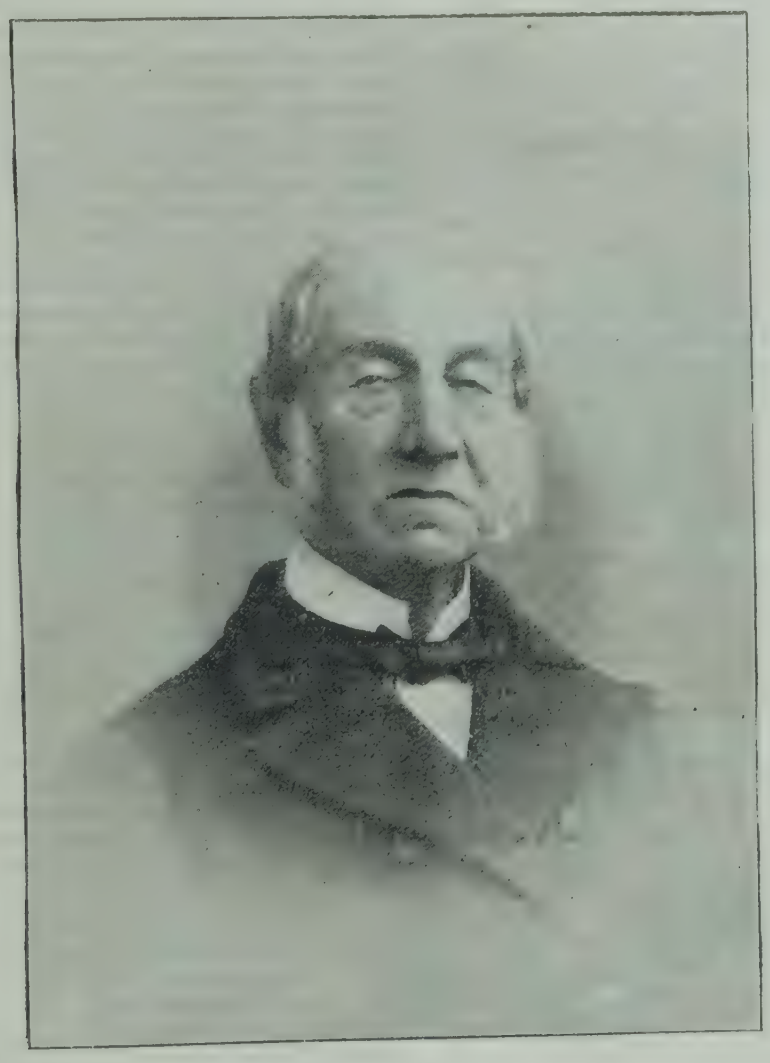
Lettuces in France is very great. Radishes and Onions are found in every plot. The market gardeners have always formed, and still do form a class apart from the rest of the community. Their mode of life isolates them completely. Up at daybreak, they loosen their boats, and soon reach their respective plots where they labour till the evening, digging, hoeing, weeding, planting, and with no distraction save their meals, and perhaps an occasional word shouted to a neighbour. It used to be the custom of these folk to wear a peculiar dress, a long blue vest with a jacket of red wool, black top boots and leggings. The last time they appeared in this fashion was on the occasion of a *fête* given by the Duchess of Berri at the inauguration of the canal of Angoulême. We learn that the picturesque appearance and the extraordinary skill with which they steered their craft (often with only a spade for an oar) excited general admiration.

Markets are held at Amiens two or three times a week on the Place Parmentier. The gardeners arrive in their boats, and mooring to the side of the quay unload their goods, and place them in orderly rows awaiting the customers. It is no unusual thing when the tide is high to see 130 of these craft lying by the quay. There is a rule of the municipal council that no goods may be carried off before five o'clock, but they do not prohibit the sale of the goods before hand. At five o'clock a bell is rung, and the real business of the day begins. All the fruit and vegetables which but a few moments ago were lying in orderly rows are now being rapidly transferred to the carts of the greengrocers and fruiterers of the town. Many economical householders may be seen with their baskets, intent on their purchases, even at this early hour.

The scene is a lively and animated one, and the majestic cathedral in the background lends a singular charm to the whole. On certain days as much as £2000 worth of produce is sold. In 1833 the Mayor computed the sales thus:—In spring, £10,000; in summer, £10 000; in autumn, £5000; in winter, £5000. That the prices realised to-day many times exceed these computations may be seen by the fact that on some days (as mentioned above) £2000 is often taken. *H. C. F.* [These gardens were figured in our issue for January 19, 1884. Ed.]

JOHN LEE.

John Lee is the honoured representative of a firm distinguished in the annals of horticulture, and, like himself, still in vigorous existence. The history of the firm has been given in our columns on more than one occasion, suffice it to recall to the memory of our readers that the founder of the firm was the correspondent of Linnæus, and the translator and adapter of one of his works. The story of the introduction of the Fuchsia is also a well-known incident in connection with the firm, and which is frequently repeated in the columns of the lay press. For many years the firm was represented by the brothers John and Charles Lee; then John, the elder brother, retired, but on the sudden death of Charles, he bravely returned to the scene of his labours, though then at an age when most men seek repose, and came to the aid of his nephew, the present proprietor. Vast are the changes that have occurred in the horticultural world during the long life of Mr. John Lee. The Heaths, the Proteas, the New Holland plants, for which the firm was once so famous, are well-nigh deposed in favour of other favourites; but throughout all the mutations of fashion and the changes of business, John Lee has maintained his youthful interest, not in one, but we may say in all branches of horticulture. He was at one time on the Council of the Royal Horticultural Society, and presided for several years over the Horticultural Club, a position for which his unique experience, his tact, and geniality rendered him specially suited. Rarely is there a gathering of horticulturists in the metropolis but is enriched by the presence of Mr. Lee. His retentive memory, his keen interest and sympathy with all matters relating to horticulture, secure for him the respect of all his colleagues, whilst his personal qualities endear him to all who have the privilege of his friendship.



JOHN LEE

KEW NOTES.

Anthurium Chamberlaini.—This fine plant was figured and described by Dr. Masters in the *Gardeners' Chronicle*, pp. 464, 465, vol. iii., n.s., from a specimen in the collection of the Right Hon. J. Chamberlain, M.P., at Highbury, Birmingham, where it has formed for many years a conspicuous feature in the conservatory. An offset from this, the only plant known, was presented by Mr. Chamberlain to Kew last year, and is now flowering in the T Range. It has shining heart-shaped leaves, the sinus unusually broad, and the apex tapering, the largest leaves 2 feet long on stalks 4 feet long. The inflorescence is composed of a broad, boat-shaped spathe, coloured coppery-red inside, tinged with green outside, and a thick curved spadix covered with dull purple flowers. The Kew plant is smaller both in leaf and flower than the parent described by Dr. Masters, which had leaves 3 feet long, and flowers 8 inches by 4 inches on a peduncle 1 foot long. It was introduced by chance on an imported plant of Cattleya Gaskelliana. A figure of it has been prepared for publication in the *Botanical Magazine*.

Hydnophytum.

A new species of this remarkable genus of Rubiaceæ was sent to Kew from the Botanical Gardens, Fiji, two years ago under the name of Myrmecodia vitiensis. One of the plants has lately flowered, and has been figured for the *Botanical Magazine*. This makes the third species of these epiphytic Rubiaceæ which have been introduced and flowered at Kew within the last seven years. The first was Myrmecodia Beccari (*Botanical Magazine*, t. 6883), described by Sir Joseph Hooker as one of the most singular plants ever imported in a living state into this country. It belongs to a group of genera which have long been known for their singular habit of forming often spinous tubers (swollen stems) of great size, the interior of which is galleried by ants. There are four genera known to possess this character, and they comprise some fifty species, all natives of tropical Asia, chiefly Malaya and New Guinea. They have no attractions in their flowers or leaves, but as members of the same natural order as Cinchona and Ixora they are really very remarkable plants; and in the fact of their galleried stems being the abodes of peculiar species of ants, they are a source of interest to naturalists generally.

Musa rosacea.

This is a handsome plant at all times, and specially so when in flower. It is smaller than the forms of M. sapientum, cultivated for their fruits, the strongest stems attaining only about 10 feet in height before developing an erect spike, clothed with large ovate rosy-purple bracts and yellow flowers. The fruits are rarely ripened, and when they do mature, they are of no value. There is a plant of this species in flower in the Palm-house, and there are also several groups of it in the beds among the large Palms. The smaller species of Musa are much more attractive when in flower than the larger kinds. For instance, M. coccinea, a Chinese species never exceeding 5 feet in height, has conspicuous erect spikes of bracts coloured cardinal-red and yellow tubular flowers; M. sanguinea is of similar stature, and is almost as handsome. There are also several species with variegated foliage, such as M. zebrina and M. discolor. These smaller Musas are most effective when mixed with Palms, Dracænas, Crotons, and other popular stove plants; but they are very rarely grown, except in botanical gardens.

ON THE GROWTH OF ASPARAGUS.

If the object of the gardener is to grow maximum crops of Asparagus, he must in some way furnish the plants with nitrogenous food, phosphates and potash, these constituents being in most demand for the successful growth of the crop. Asparagus is sold by the bunch, and the price ranges according to

earliness and quality. It is far easier to sell a good crop than a poor one, or even one of medium quality. The demand for the large tender shoots is so great that the market gardener often uses his fine bunches of Asparagus to sell the rest of his load. The following table shows the chemical composition of 1000 lb. of fresh Asparagus as gathered:—

	lb.
Water	929·7
Organic constituents	60·6
Nitrogen	3·7
Ash	6·0
Total	1000·0

The composition of this 6 lb. of ash is made up as follows:—

	lb.
Potash	3·02
Soda	0·07
Lime	0·26
Magnesia	0·23
Iron oxide	0·06
Phosphoric acid	1·31
Sulphuric acid	0·47
Chlorine	0·51
Silica	0·07
Total	6·00

From these figures we learn that one ton of Asparagus would, during its growth, remove from the soil, of potash 6·8 pounds, of phosphoric acid 2·9 pounds, and of nitrogen 8·3 pounds. An average crop of Asparagus may be reckoned at four tons per acre, which would remove from the soil during growth, say, in round numbers, potash 27 pounds, phosphoric acid 12 pounds, and nitrogen 33 pounds.

In order that we may get quick and vigorous growth, it is necessary that the plants be provided with their food in a readily assimilable form. With few exceptions all the artificial manures of mixed composition now generally sold, in proportion to the wants of plants, contain a larger proportion of phosphoric acid, potash, &c., than they do of available nitrogen, owing to the expensiveness of this latter element.

If we desire to raise maximum crops of Asparagus of first quality, we must therefore furnish the plants with available nitrogen. The cheapest and best form in which we can do so, is doubtless in nitrate of soda, as nitrate acts in most soils more quickly and powerfully than any other manure or fertiliser in the market.

The following mixture is recommended, as supplying the manurial ingredients necessary for the growth of good crops of Asparagus:—

Kainit salt	3	cwt. per acre.
Superphosphate of lime	2	,, ,,
Nitrate of soda	1½	,, ,,

The value and necessity of superphosphate for the Asparagus crop is shown in the analyses, by the quantity of phosphoric acid, sulphuric acid and lime contained in the ashes of the plants when burnt.

The kainit salt will not only supply the necessary potash, but will at the same time furnish magnesia and chlorine, two other of the constituents of the Asparagus plant.

The manure should be mixed together and sown broadcast over the beds when they are finally made up in the spring. To those who are using ordinary farm-yard or stable manure we say, continue to use it, but try to make it more available for plant-food by the addition of some other, and more quickly acting medium. *J. J. Willis, Harpenden.*

GARDEN PALMS.

(*Continued from p. 692, vol. ix.*)

Pinanga, Blume.—A genus of about twenty-four species, all natives of tropical Asia, extending from the East Himalaya to Borneo. They have slender erect unarmed Bamboo-like stems, varying in height from a few feet (P. Veitchii and P. maculata) to 20 or 30, or even 50 feet (P. Manii). Some of the species have solitary stems, but the majority appear to be soboliferous or tufted. The leaves are unarmed, pinnate, generally irregularly divided, sometimes merely bilobed. They are small for Palm leaves, and in some of the species they are variegated or mottled. The flowers are produced on drooping branched spadices below the head of leaves, male and female flowers together, the stalks being usually red or orange-coloured. The fruit is egg-shaped or round, less than an inch in diameter, with a fibrous husk, which is brightly coloured, usually yellow or orange-red when fresh. The seeds have ruminated albumen. Seedling leaves bifurcate.

The genus has not long been cultivated in Europe. It is not included in the list of Palms cultivated at Kew between 1760 and 1864, published in Smith's *Records of Kew*, and although several species have since been introduced and brought prominently under notice, they have not found much favour with horticulturists. This is probably due to their requiring a decidedly tropical temperature and plenty of moisture all the year round. P. maculata appears to have been in cultivation in Belgium in 1863. P. Veitchii, collected in North Borneo by Mr. Burbidge in 1877, and distributed in 1880 by Messrs. J. Veitch & Sons, is a very pretty little Palm, with short tufted stems and elegant bilobed leaves, coloured rich green, blotched and shaded with bronzy-brown. It failed, however, as a garden plant, and I am not aware of a single example of it in cultivation now. P. maculata, P. malaiana, and several others have mottled foliage, especially when young.

The species represented at Kew, named below, are not without attractions at any time, some of them when in flower being quite ornamental, the flower-stalks are bright red or yellow, the seeds also, when they mature, assuming a bright colour. P. Dicksoni, which was liberally distributed from Kew a few years ago, and which is also known as Areca and Seaforthia, is evidently a free grower, with yellowish-green leaf-stalks, bright green blades, and graceful in outline. It ultimately forms a tree 20 or more feet high, with a solitary stem 2 inches in diameter.

P. coronata, Blume, Java.
P. Dicksoni, Blume, India.
P. disticha, Blume, Penang.
P. decora, Hort.
P. Kuhlii, Blume, Sumatra, Java, &c.
P. latisecta, Blume, Sumatra.
P. maculata, Porte, Philippines.
P. malaiana, Scheff., Penang, Malacca.
P. paradoxa, Scheff., Malacca.
P. patula, Blume, Sumatra, *Botanical Magazine*, t. 6581.
P. Sanderiana, Hort., Sander (1885).
P. Smithii, Hort. (recently flowered in the Palm-house at Kew).
P. spectabilis, Hort., Bull (1886).
P. ternatensis, Scheff., Moluccas.
P. Von Mohli, Hort., Linden (1890).

The garden plants in this list marked Hort. may belong to one or other of the species already described by botanists; they are not included in the total number of species given above. P. rubricaulis, of Linden, may be the "red-stemmed Palm," Cyrtostachys Renda, which is very like a Pinanga in habit and foliage, but is remarkable for the rich orange-red of its leaf-stalks and stems. *W. W.*

(*To be continued.*)

A TRAVELLER'S NOTES.

(*Continued from p. 230.*)

Canton.—Canton is eight hours' journey from Hong-Kong, up the Pearl River—a large stream, sometimes with hilly, and sometimes with flat banks, where Rice is cultivated. The approach to Canton is very curious, on account of the immense number of small and large "sampans" and "junks," usually arranged in lines, forming complete streets. It is estimated that 300,000 human beings have their home in this enormous fleet, and have never had a house on shore.

Canton is exceedingly interesting. One is forced to have a guide, or risk being hopelessly lost in a very few minutes, as the streets—varying in width from 6 to 12 feet (they usually average 10 feet)—form a most bewildering maze. These narrow lanes are paved with large slabs of stone, often very uneven and very dirty. I arrived in Canton during a heavy rain, which lay about the streets just as it fell. All are very dark, on account of the innumerable long signs—usually in scarlet and gold—hanging from the higher stories. Often in looking up, all to be seen is a thin streak of light; some are entirely roofed in. On each side are shops, usually very neat and clean, and entirely open to the street, each shop being usually its own factory, where one could see the articles for sale being produced. The only way to get about in these narrow, thickly-crowded lanes is in a chair borne on the back of three coolies, and always getting out to see anything. One can enter any shop, and be courteously received; amongst the most interesting are the silk and Jade stores.

Canton has over 1,000,000 inhabitants, and the huge wall surrounding it, 15 to 25 feet wide, is 6 miles in circuit; the whole being filled up with a maze of narrow lanes as described. The place is full of temples, every street has an altar, and every shop and house a niche, in front of which is a bundle of burnt and half-burnt joss-sticks.

The best temples are the Temple of the 500 Genii and the Temple of Horrors. The former comprising many courtyards, huge guardian images, pavilions, and a small pagoda is the most visited. In the centre hall, arranged in aisles, are the 500 images, life-size, no two alike, in a sitting position, and all richly gilt. Much money is spent when the idols, watched over by seventy priests, are appealed to on certain great occasions. The courtyards of this temple were almost deserted, affording a striking contrast to the large one in front of the Temple of Horrors, so-named from its large plaster groups of almost life-size figures representing the mode of inflicting and the variety of punishments in the Buddhist Hell.

The courtyard of this temple is thronged with a most motley lot of riff-raff, gamblers, fortune-tellers, pedlars, quacks, &c., the noise being deafening. The gambling is usually for coins called cash, 100 of which are equal to 7*d.*

The famous Examination Hall containing 11,616 cells, is not a hall at all, but a huge courtyard flanked on either side by rows of cells 5½ feet by 3⅔ feet, in which, with a wooden board for a bed, the students are locked until the time allotted for answering a paper has elapsed. The examination occupies three sessions, of three days each, and only about 130 are passed for government service.

The execution ground, used as a potter's field, is a small triangular piece of ground, only 75 feet by 25 feet at the widest end. The average number of annual beheadings (an operation performed with great celerity and dexterity) is 300, in batches of ten to twenty at a time.

Against the wall lean several wooden crosses, on which females and offenders of the worst description are tied and put to death with attendant horrors.

I also visited a species of police court, that created much interest. A row of minor officials, little boys and hangers-on, collected in front, and discussed "the red-headed barbarian;" the texture of my overcoat was examined, and I was gratified to notice, that it was apparently approved of.

On my arrival the Court was not sitting. In a yard, the lower end of which was roofed over, were three small wooden tables, with two chairs on each side. On a bench lolled, what appeared to be minor officials; against two posts squatted two wretched unkempt heavily chained animal-like looking men, whilst a third was huddled up in a basket, having had to be carried into the place. After waiting some time, four more or less richly-dressed men appeared and seated themselves at the tables. One of the prisoners was led forward and grovelled on his knees. He was cross-examined (witnesses are, I believe, unknown), but refused to answer, so was tied on a form by his big toes, thumbs, and pigtail, and placed against a post resting on his knees alone to think it over. The position was uncomfortable, but to Chinese coolies certainly not torture; what they can stand without flinching or uttering a sound is extraordinary. Another prisoner was then led forward, and his cross-examination began, the one in the basket being asleep all the while, the whole thing evidently rather boring him than otherwise. The high officials now had refreshment; plates of little sweets and hot tea, after which they smoked a kind of double-barrelled metal pipe, refilled by a servant for every puff, one filling of tobacco only giving one puff of smoke.

The two prisoners under examination were, I am told, accused of burning twenty houses, and killing three people. The system pursued is to get them to confess under the bastinado, hitting on the jaws with heavy flaps (all of which hang on the court-wall,

ready for immediate use), or some other torture, and then by cross-examination, either to break down or support the confession.

Situated at one end of the town on the city wall is the five-storeyed pagoda. It is reached by the same narrow lanes, which in this quarter smell to such an extent as to be absolutely painful. From the top of the pagoda a fine view of the hilly country beyond is obtained, those hills immediately under the walls being honeycombed with thousands of graves, small stones marking the spot where the poor are laid, whilst large tiers of semicircular brick-work with gaudy lettering, much resembling the entrance to a railway tunnel, denote the burial-places of the rich and the great.

Fig. 37.—CHINESE WATER-TEMPLE.

Hearing there were some gardens on the opposite bank of the river, I went across and visited three. The impossibility of being understood (for the guide, as in India, knows but very little English) was a drawback. These gardens have only plants in pots—large porcelain, variously-coloured (usually a shade of blue) jars, filled with stiff lumps of blackish earth, quite wet. I could not find out where this came from. The porcelain jars are arranged on stages, one row above the other, for about four to five rows. The most interesting thing I saw, and it was really clever, was the training of a small thick-growing (Ligustrum sinense) Privet-like looking plant into various shapes—such as men, women, fish, dragons, sampans—the hands, feet, heads, and,

in the case of animals, eyes being constructed in porcelain in a most realistic manner, and inserted or attached to the figure in an equally ingenious manner. Everything was in proportion, the work must have taken considerable time, and the plant is rather old. They usually varied from 2 to 3 feet in height. Bamboos were trained in zig-zag fashion. I did not notice any other system of training.

Camellias, low bushes, in flower, or covered with bud, were largely represented, as were also Hydrangeas, foliage Begonias, Euphorbia sanguinea in flower, Nasturtiums, low-growing Dahlias, Lonicera japonica, Tagetes, a small single purple Malva, flowering freely; Poinsettias, in bad condition—too cold just now, I think; Oranges, China Roses, nice dwarf bushy plants, flowering well; a single red and a purple Azalea; one species of red Dracæna, and very many Tree Pæonies—strong clumps which, when they had not a flower-bud, were huddled together, one on the top of the other in confusion. If they had a flower-bud, they were removed to a stage, and looked after, a dollar being asked for each plant. Whether this was "white man's" price or not, I cannot say, and could not bargain, as I did not mean to buy. I saw three only in flower out of several hundred—they were not remarkable. I also saw a fine piece of Magnolia Soulangeana nigra bearing many flowers, and several dozen flowering pots of Phaius (Bletia) hyacinthina. *J. H. Veitch.*

(To be continued.)

SELECT DECORATIVE FOLIAGE PLANTS.

(Continued from p. 134.)

Aralias.—The slender-growing species are very elegant subjects for table decoration. A. Veitchi, A. V. gracillima, A. elegantissima, and A. leptophylla are the most useful. A. reginæ may also be included, but this is not often met with. All of the above are rather difficult to propagate, and the only reliable method is to graft them. A. reticulata is the best stock though sometimes A. Guilfoylei is used; both of these may easily be propagated from cuttings. When A. reticulata is used, the tops cut off will make good cuttings for a succession. The grafts should be put on the stocks as close to the base as possible; the operation must be performed very carefully, and they will also require attention afterwards. Keep them in the close propagating pit until united, and give but little moisture. These Aralias should all be potted in light peaty compost; it is better not to treat them too liberally, or they grow out of character, and lose that elegance which is their great attraction. They are usually grown in a stove temperature, but I have seen them in a flourishing condition growing among new Holland plants in a cool greenhouse. A few years ago I saw a large plant of A. Veitchi in the greenhouse at Pendel Court. It was planted out, and had made such vigorous growth that one could hardly identify it with the slender-growing plants usually seen.

A. Kerchoveana is a distinct and useful species; it is of more vigorous growth than those referred to above; the leaves are larger, and the leaflets broader, and of a pale green. It may be propagated from cuttings. Tops about 3 or 4 inches long, taken off and put into small pots, will root freely in the stove propagating pit. Light sandy compost should be used, with a little extra sand at base of cuttings. This Aralia must be grown in the stove; and if the temperature falls very low, the leaflets drop off, as do those of A. filicifolia, another distinct and useful species, which requires treatment similar to the above. For summer decorations they are very useful, but should not be used during the cold winter weather.

Aralia Chabrieri (Elæodendron orientale) makes a fine plant either for the table or as a larger specimen. Erect in growth with horizontal branches, the long narrow leaves, which are of a dark metallic green, give the branches the appearance of pinnate leaves. It may be propagated from cuttings; if side shoots are taken they will grow horizontally for some time, but eventually they will break at the bend—and after this is well started, the long horizontal growth may be cut away, and a good plant will soon be established. This will succeed well under the same treatment as A. Veitchi, and though requiring stove treatment, it will last well when used for indoor decoration.

Aralia Sieboldi has now become one of our most popular plants for market work, and it is one of our most useful plants for indoor decoration; it will last quite as well as Ficus elastica. Although hardy, it is only when grown under glass that it makes a really useful plant, or, at the most, it should only remain outside during the summer-time, for the first autumn frost will nip the young leaves. This Aralia is grown from seed. The main supply of which is obtained from the Continent, though it is sometimes ripened in this country. The imported seed generally arrives in April, and as it soon loses its vitality, it should be sown as soon as received. The seed-pots may remain in warmth until the seed has germinated, and the young plants should be potted singly as soon as large enough to handle. In growing the plants on, they require plenty of light and air, and they must not be crowded. A good loamy compost should be used, and the plants potted moderately firm. Under favourable treatment, seedlings will make useful plants in about a year. The variegated variety is also useful, but is not much grown in this country, most of the plants being imported from the Continent. It is only from cuttings or grafting that this can be propagated, and it takes a long time to get much stock, as it does not branch out freely. Under favourable conditions, it makes a fine plant, and the variegation is distinct, but when grown under the shade of other plants, or in too much warmth, it is anything but attractive. *O.*

The Week's Work.

PLANTS UNDER GLASS.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

STOVE PLANTS.—Caladium tubers may now be potted, using for them well-drained clean pots, and loam, peat, and leaf-mould in about equal ratio, with plenty of rough sand. After potting, afford them a light place in the stove, and if they can have bottom-heat, it will be the better for them. Keep the soil rather dry till a start is made. Caladium argyrites is one that is best grown in small pots, it is then a very useful subject for table decoration. Strike cuttings of Gardenia Fortunei radicans and G. florida intermedia, Francisceas, Ixoras, and Tabernæmontana under hand or bell-glasses in a bottom-heat of about 80°. Young plants of the above which are growing in small pots should be potted into larger ones in a mixture of peat and leaf-mould, with a small quantity of turfy loam and plenty of sand; Tabernæmontana coronaria, fl.-pl., is as useful as a Gardenia, and in the same way, besides being easier cultivated; flowers white, and very sweet. With increasing daylight, the temperature of the stove may be raised to 80° by day, and by night to 70°, and the plants syringed twice daily, and moisture distributed freely about the house, so as to keep red-spider and thrips in check. All shading materials should now be put in order in readiness for stove and fernery. For the Camellia-house and the conservatory, summer-cloud shading is excellent, and looks neat if it is put on in wavy lines. Newly-potted Ferns in span-roofed houses or in those facing south will require a little shade from now onwards. Adiantum cuneatum required for cutting purposes should be grown in the light without shade.

TREE CARNATIONS.—Keep these plants free from green-fly by fumigation. Cuttings of these will strike well in heat at this season, and make fairly strong plants, but plants from layers taken later on will be still better and stronger. Stir the surface of the soil and top-dress the old plants, keeping the shoots neatly tied up to small sticks. Afford well-rooted plants diluted manure-water, or a pinch of some artificial manure to each pot. Young stock pot on, using good loam, leaf-mould, and small quantity of manure.

GREENHOUSE PLANTS.—Plants of Azalea indica which have been forced for bloom and are now past, should have all the flower-stalks removed and be placed in a temperature of 60° by night and 70° by day to make growth, well syringing them twice daily, and shutting up the house at 3 p.m. Those which require repotting should have attention, using good fibrous peat with a small quantity of light loam, and leaf-mould, and plenty of sand. The pots should be quite clean and well-drained, and the potting done firmly, but the soil should not be hammered hard so as to injure the tender roots. Remember to water them before re-potting, and pay great attention to watering afterwards; keep the soil slightly higher at the sides of the pots, to allow the old ball of roots to become thoroughly soaked with water when required.

ACACIAS.—These are among the most useful plants for the greenhouse, halls, or corridors. They may also be grown against pillars or on rafters in the conservatory. Some species are deliciously scented. With a little heat, Acacias may be had in flower at any time during the spring months; they are easy to cultivate, and as a potting or border soil, they like good loam and peat in about equal parts, with plenty of sand. Cuttings strike very well in a gentle bottom heat, but most of the varieties may be obtained from seeds, which, if sown now in heat, soon germinate, if previously soaked in water. Good species are A. cochlearis, A. dealbata, A. grandis, A. verticilliata, and A. longifolia.

THE APIARY.

By Expert.

SEASONABLE HINTS.—Bees have been giving abundant proof that breeding has commenced in earnest, as they have been taking in water and pollen very freely during the latter part of the past month. Several days were so fine and mild that it was quite safe to open the hives for the purpose of ascertaining the amount of stores, searching for eggs, or uniting queenless stocks. It is too early at present to give syrup for stimulating purposes, the weather not being uniformly warm enough yet for the bees to take syrup. Therefore, the proper kind of food is sugar-candy mixed with pea-flour, which may be placed over the cluster. Many bee-keepers do not trouble about spring stimulative feeding, preferring to arrange that their stocks are packed up strong in the autumn, and provisioned with sufficient food to carry them right through the following winter and spring. If this let-alone system is properly carried out, it is doubtless the best and most natural one, and saves the bee-keeper a great deal of trouble in the making and distributing of syrup in the spring. In districts where early flowers are scarce, it is doubtless conducive to continuous breeding to provide nitrogenous food in the form of pea-flower. This can be mixed with chaff, and put in a covered box, which should be put in a warm and sheltered corner near the hives. To enable the bees to find it out, if a little piece of comb containing honey be put in as well it will soon attract them. Water also should be provided where there is none near the apiary, as much is required at this season for thinning the honey that is used for feeding the brood. The value of alighting-boards, reaching from the ground to the hive, is more noticeable during March winds than perhaps at any other time, and the lives of many bees are saved by using them. If the ground, too, in front of the hives is kept strewn with ashes, sawdust, or any material of a like nature that will have the effect of keeping the surface warmer and drier, it will have a beneficial effect by saving the lives of numerous workers.

THE FLOWER GARDEN.

By T. H. Crasp, *Gardener, Canford Manor, Wimborne.*

GLADIOLUS.—The Gladiolus is raised from seed without difficulty, and from brood or spawn which is found clustered round the flowering corms or on the roots at the end of the season. The seed may be sown at the present time in large pans or pots, placed in a greenhouse or warm pit, the seedlings being thinned when they appear above ground, and the rest allowed to remain the first season in the pans, &c., in which the seed was sown. A light position and abundant ventilation should be afforded during the early summer months, in order to fit them for being placed out-of-doors in June. If the plants are well looked after during the growing season, not allowing them to lack water whilst in full growth, and gradually ripening them off in the autumn by withholding water by degrees, a good many of them will flower the next year. The only way to increase the stock of any particular variety or varieties is by means of the bulbils, which should be separated from the corms intended for flowering, and planted in lines a few inches apart, at a distance of 6 inches between the lines, in a warm,

rich border any time during the next few weeks. If looked after during the summer, and afforded plenty of water when the weather is hot, many of them will become sufficiently strong to flower the second year. To attain the best results with Gladiolus, a deep rich soil, and a sheltered sunny position should be selected. On no account should fresh manure be used at planting time, this tending to cause decay in the corms, should they come in contact with it before growth commences. The corms of Gladiolus Brenchleyensis, G. ramosus, G. "The Bride," or G. Colvilli, may now be planted, as if left out of the ground much longer they are likely to shrivel and lose much of their vitality, especially the last-named. The planting of the choice varieties of G. Gandavensis should commence in the second week in March, and be continued at intervals till nearly the end of the month of May, thus lengthening the flowering season. If very early blooms are required, the roots should now be potted and placed in a frame or pit from which frost is excluded, subsequently planting them out-of-doors when all danger from spring frost is past. Gladiolus corms should not be deeper in the soil than 3 inches, and if they are in masses, 1 foot is sufficiently wide apart. Groups of four or five roots in the space of 1 square foot in mixed borders or shrubberies look well. Each root, when planted, should be provided with a neat stake to which to tie the flower-shaft. In hot and dry weather, water should be freely afforded; and a thick mulching of short manure is beneficial.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maiden Erlegh, Reading.*

NEWLY-PLANTED RASPBERRIES.—The pruning of canes should be performed forthwith, the length of canes to be left being determined by their strength, the stronger the longer as a rule; and as no fruit need be expected the first season, the strength of the plant should be utilised in the production of fine canes for next year. Some canes may be cut down to 6 inches from the soil in the case of the weakest, and at 18 inches in that of the strongest. Where stakes were put in to which the canes were fastened to avert injury by wind-waving, these may still be retained, and the young canes secured to them in time.

BUSHES AND TREES.—The ground being moist, the present is a good time to place stakes to all bushes, pyramids, and standard trees requiring them. The stakes should be strong ones, of Oak, Ash, or Hazel, in the case of young trees, whilst forked props may be necessary in the case of older trees, which may have got out of the perpendicular; and with these a soft and ample pad should be placed between the prop and the bark. For small trees, worn-out india-rubber garden hose may be used to protect the bark from being rubbed, and of several thicknesses as may be found necessary.

COBS AND FILBERTS.—No garden is complete without a few Nut-bushes, and no other kind of fruit gives such good return for the small amount of labour expended in its cultivation. The bushes should have clear stems of from 15 inches to 3 feet, according to the position they occupy, or the form of the heads, the latter height being suitable for bushes on turf. The root-suckers should be persistently removed. Nut-bushes grow well in strong loam, or even in clay, and where the soil is light or gravelly, a top-dressing of heavy clayey soil has a good effect on them. Nut-bushes require the same annual pruning as other fruits, and unless they are becoming too large for their position, thin out only the small and weak branches, so as to admit sunlight to the inner parts of the bush, as only those nuts which benefit fully from direct sunlight keep plump and fresh throughout the winter. Nut bushes being now in bloom, it will be seen if the blossom be scarce; and if that is the case, not much of it should be pruned away.

THE ORCHID HOUSES.

By W. Holmes, *Gardener, Pickering Lodge, Timperley.*

THE CATTLEYA-HOUSE.—Cattleya Aclandiæ, C. superba, C. Schilleriana, and C. Schroderiana, now starting into new growth, require to be placed at the warmer end of this house, after their rest of four or five months. During the rest, water will have been very sparingly applied, say, once a fortnight, and the pots or baskets hung close to the roof. The plants now showing signs of activity, and which may want some additional or new compost should be taken in hand forthwith; also those which stand in need of more roomy baskets. I think that it is a good method to pick out the old compost, then wash away all earthy matter before transferring the plant to a new basket. Doing it in this way is safer than pulling the plant out of the material if old established. The new basket should be large enough to allow of a small quantity of new peat, moss and clean crocks being used. These species of Cattleya, dislike a great mass of material about their roots. C. Aclandiæ prefers and does better on small Teakwood-rafts, with just sufficient moss in which to bed them, fastening the root-stock with copper-wire. With regard to plants on rafts, it is better to make new ones and place the old on these, than to tear the plants off the old ones. I find that these species are more successfully grown in this manner, and if they are also hung close to the roof on the south side. The temperature most suitable for these plants, now that they have started, is 68° to 70°, say, 5° higher than during rest, with more water afforded, and a moister state of the house in which they are standing. Cattleya calummata×, and Lælia elegans and its superb forms, L. Jongheana and L. Philbrickiana×, require the same kind of treatment as that recommended above, and all of them should be grown in baskets, with a plentiful supply of water at the roots; that is, watering them thoroughly when water is required. The air should be kept moist by damping down, &c. Cattleya Gaskelliana and C. G. alba will require more water now that new growths are showing. These species having been rested at the cool end of this house for the last four months, should have a warmer place found for them. Lælia Perrini is another that must be seen to, as its time for starting has now arrived; it is a useful species, coming into flower about August. Attend to the requirements of C. Warneri and C. maxima, now in full growth, avoiding any check from lack of water, which would cause very short bulbs, without flower-sheaths, which, instead of flowering, would probably start new growth.

THE KITCHEN GARDEN.

By H. C. Prinsep, *Gardener, Buxted Park, Uckfield.*

MUSHROOM-HOUSE.—Procure materials, and prepare them for replacing exhausted beds. In a properly situated and built Mushroom-house, Mushroom growing can be carried on the whole year. During the mild weather of late but little artificial heat has been needed, and the air of the house has not been dry, consequently there has been less water required by the beds, or distributed on the paths, &c., and the production of fine solid Mushrooms has been easy. In outhouses or sheds where Mushrooms have sometimes to be grown, the beds should be made thicker than in a Mushroom-house. The stable litter and manure should have the longest straw shaken out of it, and be well turned; and before it is made up into beds, and if it be dry it may need to be watered. If an open shed is at liberty, spread the materials on the floor lightly, about 1 foot thick. They will then heat regularly, and evenly, and should be turned twice a week. Beds in bearing in sheds or out-of-doors must be closely covered with long litter and mats to preserve the heat within them; and such beds should not be uncovered entirely when gathering the crop, but piecemeal, covering and uncovering as the search proceeds. In houses were but little fire-heat is used, the beds are better left uncovered after Mushrooms begin to appear. Do not use cold water, even to sprinkle the beds, or the running of the spawn may be checked. Keep the place fairly moist; sometimes the steam from a number of new beds still uncovered with soil is enough for this purpose.

GLOBE ARTICHOKES.—Offsets that were rooted in pots at the beginning of the year may now be put into cold frames to harden off, previous to being planted out early in the month of April. Should there be signs of their becoming pot-bound before that time, shift them into pots one size larger.

PEAS.—Special attention is needed for this crop, so as to maintain a constant supply. As there are now so many fine cropping varieties, there is no necessity for growing those that are second-rate; but to grow Peas to perfection, the land must be well tilled, and the plants liberally treated. I do not advocate the taking out of trenches for them as for Celery, as, if the ground is properly dug and manured, there is no necessity for this, although on thin soils the practice may be necessary. All our ground is dug 2 feet deep for every crop, and we never suffer in a dry summer. If trenches are taken out, they should be at least two spits wide, so that the roots may not be confined in a too limited space. Some decayed manure should be put into the bottom, to preserve moisture, and afford plant-food. In sowing, due regard must be given to the variety and the time of the year. If large wrinkled Peas are sown in the open quarters at the beginning of March, without protection, the seed should be sown much thicker than is the case where the rows are covered with glass, for seed which was imperfectly ripened will not germinate so freely as other, and on that account the seed is liable to rot, if the land be wet. I would recommend 1½ pint of seed to a row 20 yards long at this time of the year, when no protection is given, and three-quarters of a pint if covered. A month later the latter quantity will suffice for a similar row sown in the open. Nothing is gained by sowing too thickly, and ample space also should be allowed between the rows. I prefer a width of 7 feet, which allows for two rows of some dwarf crop being grown between, which will be off the ground in time to plant Celery, &c. In drawing the drills make them 6 inches wide and 4 inches deep, but do not cover the seed with more than 1 inch of soil if it be heavy. It will be better to cover the seed now with some fresh light soil.

FRUITS UNDER GLASS.

By Jas. Whitton, *Gardener, Glamis Castle, Glamis, N.B.*

VINES.—Where the Grapes in the early houses are fairly set, it is time to begin thinning the bunches, as once the berries are of the size of Sweet Peas, the work must be pushed on vigorously, thinning being more difficult and tedious when they get larger than this, besides the greater liability to injure the berries, and to waste the energies of the Vines. Few operations are more puzzling to beginners than Grape-thinning, and while it is very difficult on paper to direct how to thin Grapes properly, as it requires a knowledge of the variety and some practice to do the operation successfully, a few general hints may be given. Each variety must be treated according to its character; for example, those with short and stiff footstalks and compactly-formed bunches, such are Lady Downes and the Muscadines, do not yield so much during swelling of berries as those of looser build and longer footstalks do, taking Hamburgh as the type. Therefore the necessity of studying the peculiarities and treatment of each variety is obvious. A neat light stick about 1 foot in length is handy to support and steady the bunch. With a pair of clean Grape scissors begin at the point of the bunch, cutting out all small berries and most of the inner ones in the bunches; when so doing, one readily learns and discerns which are the best placed and most suitable berries to leave, to form a handsome bunch. Leave sufficient space for each berry to develop properly. Black Hamburgh requires about an inch; smaller berried sorts, of course, require less than this space. When at work, take great care not to rub the berries either with the hand or the scissors; in fact, from the time the Grapes form until they are eaten, they should not be touched in any way more than necessary. When thinning is finished, give the borders a dressing of superphosphate of lime, and a thorough watering if required. The pinching and tying of shoots must also be regularly attended to. Keep the temperature at night from 65° to 70°, until stoning is well forward, then push them on a little faster with slightly higher temperatures.

YOUNG POT-VINES.—Those intended for fruiting next year, and cut back and started early, will now be ready to move into fruiting pots. Before doing so, see that the balls of soil are thoroughly moistened, and the potting material warmed to the same temperature as the house in which they have been growing. Shift them carefully, without disturbing any more roots than is necessary to clear the ball of crocking materials. Pot them firmly. If the soil is in proper condition, they will not require watering for some days after potting. A light shading and syringing, with attention to atmospheric moisture, will keep them right until the roots begin to recover any injury sustained in moving, and take to the new soil. The Vines' eyes put in during January will now be starting, and until they make root-growth will require very careful treatment, especially in watering. If the soil gets sodden, count on failure. Where the pots or turves are on a bed of bottom-heat, with a suitable temperature in house, a slight dewing with the syringe is all they will require. Do not pot them until the roots are running freely around the sides of pot, and the top-growth is extending quickly.

EDITORIAL NOTICES.

LETTERS FOR PUBLICATION.—*All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

PLANTS, &c., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be carefully packed and numbered, and not more than six should be sent at one time.*

NEWSPAPERS.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Advertisements should be sent to the PUBLISHER.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

WEDNESDAY, MAR. 8—East Anglian Horticultural Club.
SATURDAY, MAR. 11—Royal Botanic Society.

SHOW.

WEDNESDAY, MAR. 8—Reading Spring Flower Show.

SALES.

MONDAY, MAR. 6—Japanese Iris, Hardy Plants, Begonias, and Gladiolus, at Protheroe & Morris' Rooms.

TUESDAY, MAR. 7—Japanese and other Lilies, Gloxinias, &c., at Protheroe & Morris' Rooms.

WEDNESDAY, MAR. 8—Large consignment of Japan Lilies, Azaleas, and Kentias from Belgium; Begonias and Tuberoses at Protheroe & Morris' Rooms.

THURSDAY, MAR. 9—Hardy Plants, Bulbs, Roses, &c., at Protheroe & Morris' Rooms.

FRIDAY, MAR. 10—Orchids from Messrs. F. Sander & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—41°.6.

Railway Rates.

THE very influential deputation from the trades connected with the production and distribution of horticultural produce of all kinds, which waited on the President of the Board of Trade on Wednesday last, may well be satisfied with the result. Not only did the traders prove their case up to the hilt, but in the statistics they brought forward, they showed unmistakeably how extremely important the garden industry is. We use the term garden industry in contrast to the term agriculture. We do not think the general public has any even remotely adequate idea of the extent and value of this gardening industry. Whatever may have been the case once, it is no longer a "negligeable quantity." It has attained its present position rapidly, and as it were, somewhat suddenly. Its growth has been simultaneous with the decadence of agriculture, and no doubt actually consequent upon it. Whilst agriculture has languished, market gardening and fruit-growing in the open and under glass have vastly increased. Small growers have multiplied, and in many cases they have developed into larger growers. Many more labourers have found employment in proportion than a farmer would employ, and the rate of wages is higher. It is evident, then, in the best interests of the country at large, that this now extensive industry should be fostered, and its operations facilitated so far as possible. Leaving on one side the purely luxurious side of the matter, we may say that it is a question of profitable employment of capital—a question of the employment of a larger number of labourers at a higher rate of wages—a question of food-supply for the people—a question of health.

All this will become apparent to the thoughtful reader of the statements made by various members of the deputation, and by the carefully-prepared statistics they brought forward. The President of the Board of Trade (Mr. MUNDELLA) was addressed by Mr. BERRY, of the Canterbury Farmers' Club, Kent; Mr. POUPART, the president of the Market Gardeners' Association; Mr. GEORGE MONRO, of Covent Garden; Mr. GEORGE COLEMAN, representing the interests of growers and salesmen of Potatos, vegetables, &c., for the million; Mr. MYATT, of Hextable, and others.

We refer to our report in another column for the full details, but we may here allude briefly to some of the principal points brought out. The complaints made by the traders referred in the main to the exorbitant, anomalous, and inconsistent rates recently imposed; to the preference shown to foreign competitors, and to the want of security against further rise of rates in future. The subject of classification of goods into certain classes could not altogether be avoided, although Mr. MUNDELLA deprecated the discussion of that subject as one already settled. Still, it came out that Potatos from Kent are charged as grain in spite of their smaller value and less liability to injury.

Mr. POUPART dealt with the question of manure, placing its use by the market gardener at the very low average of 20 tons to the acre, some of the members stating that near London 200 tons per acre were occasionally used! and sometimes as much as 400 tons!! The railway companies did nothing in this case but convey the manure in rough trucks, all cartage and other incidental expenses being borne by the producer. The rise in the price of railway conveyance would, of course, induce the grower to use less; consequently to produce less, and to employ less labour, whilst the sanitary condition of the great towns would be jeopardised by the retention of the manure within their boundaries. Mr. POUPART gave numerous illustrations of the rise in rates for the carriage of salads, green vegetables, turnips, trees and shrubs, pot-plants, &c.

Mr. MONRO alluded specially to the production of fruit, &c., under glass—the amount of which had, as we all know, enormously increased. In this case even, more than in others, it is requisite that the grower should be able to calculate the cost beforehand. If a grower at Broxbourne, who has been sending Cucumbers to Manchester at 21*s.* 8*d.*, suddenly finds the rate put up to 56*s.*, it is certain that he must give up that part of his business; so must he who, paying 11*s.* 8*d.* per ton for carriage of Tomatos from London to Dover, now finds himself mulcted of 28*s.* 2*d.* for the same quantity; so must he who has been sending to Brighton at 14*s.* 9*d.*, but is now charged 33*s.* 9*d.*—the more so as Tomatos are brought from the Canary Islands at £1 per ton! Mr. MONRO gave some figures which show the extent to which Grapes and Tomatos are grown under glass in this country. Thus, excluding what is received from the Channel Islands, his firm alone in the last year dealt with 260 tons of Grapes and 700 tons of Tomatos, all grown under glass! He pointed out that *hundreds of thousands* of labourers were now employed in this industry, and when asked by the President to substantiate his statement, had no difficulty in doing so, his statements being backed by many of those present, who gave interesting details as to the acreage and the amount of wages paid.

Mr. GEORGE COLMAN stated that green vegetables had been raised from 25 to 100 per cent., while small senders are charged such high rates in proportion that their labour is in vain. On the South-Eastern Railway the rate of transport from Higham to London for green vegetables, which was 8*s.* 4*d.*, is now 16*s.* 3*d.*; from Sandwich it was 15*s.*, but is now 16*s.* 8*d.*; from Wrotham (London Chatham & Dover) it was 8*s.* 4*d.*, but is now 16*s.* 3*d.*; and whilst such goods were conveyed from Norwich to London at 10*s.* a ton, the rate now is 16*s.* 8*d.*

Numerous similar statements were made, but perhaps the most galling were those relating to the Continental traffic. Belgian Grape-growers can send to London cheaper than our own growers can do, and whereas it costs 24*s.* 1*d.* to send English Apples from Folkestone to London, foreign fruit sent from Boulogne to London over the same line is charged only at the rate of 15*s.* 8*d.*

Mr. MYATT of Swanley gave some figures showing that, whilst it costs £3 16*s.* a ton to convey fruit from Paris to London, 283 miles, the rate charged from Swanley to London (20 miles) is £1 5*s.*; and from Swanley to Liverpool (220 miles), £5 12*s.* Grapes, Tomatos, and other goods are sent from Swanley to London at 1*s.* 3*d.* per cwt.; whereas, formerly the cost was 1*s.*—an increase of 25 per cent., or to Manchester and Liverpool, an increase of 33 per cent.

Confirmatory evidence of these statements was handed in, and in reply Mr. MUNDELLA, who evidently fully grasped the points, expressed his sympathy with the deputation; and pointed out that the charge made for transport of goods from the Continent, if it could be substantiated, was contrary to the Act of Parliament. As regards the remedy, by means of an appeal to the Railway Commission, he expressed his strong opinion that all such appeals should be made at a moderate cost, and not as now, at a cost which was practically prohibitive. In reference to what had already been done by the Board of Trade, Mr. MUNDELLA remarked that patience and consideration for the railway companies must be manifested, and that under such circumstances he had no doubt the companies would, in their own enlightened self-interest, adopt a more reasonable procedure; in illustration of which, he read letters from the Brighton Railway Company, conceding to the Worthing fruit-growers all they required, and further promising a similar reduction over the whole of their system of railways. As for security for the future, he thought that, guided by their present experience, the railway companies would, in the future, carefully avoid encountering such a storm as they were now involved in.

The deputation retired with a sense of gratification at the way in which they had been received, and at the clear perception manifested by the President of the Board of Trade of their case, and the reasonableness of their complaints.

One other point strikes us in the matter, and that is the fact, that the Royal Horticultural Society took no part in the proceedings, probably because they were not asked to do so. It seems to us very much to be regretted that on such occasions as these, the Society is not in its right place to the fore as the representative horticultural body of the nation. Can it be wondered at, that we have special societies and associations by the dozen, and local societies by the hundred, when the great and most appropriate influence of the Society in such cases as the present is not exerted.

View in the Grounds of Fairlawn, Wimbledon.

View in the Grounds of Fairlawn, Wimbledon.

RAILWAY RATES.—The following letter concerning the pending re-arrangement of railway rates was received by D. ALLESTER, Esq., Secretary of the London Agricultural Seed Trade Association, 6, Market Buildings, Mark Lane, E.C., and is forwarded to us for publication:—"Copy of your letter of the 31st ultimo to the Board of Trade has been laid before a meeting of railway managers, and in reference thereto, I am desired to say that, as the result of the general revision upon which the Companies have been and are still engaged, reduced charges have been adopted for a large number of articles affecting the agricultural and other interests, particulars of which are now obtainable at the stations. Any suggestions which the Companies may receive with regard to specific rates between particular stations will be carefully considered, and it is hoped that when the revision is complete, and all the rates are issued, the result will generally be regarded as satisfactory.—(Signed) WM. BIRT, Chairman of Meeting."

THE ROYAL GARDENERS' ORPHAN FUND.—The monthly meeting of the committee took place at the Horticultural Club, Hotel Windsor, on February 24, WILLIAM MARSHALL, Esq., in the chair. On the motion of Mr. J. WILLS, seconded by Mr. J. LAING, Mr. MARSHALL was unanimously re-elected Chairman of the Executive Committee for the ensuing year. The following special donations were announced:—Sir EDWIN SAUNDERS, a recently-elected Vice-President, £10 10*s.*; a friend at Edinburgh, £2 2*s.*; collecting-box, per Mr. N. KNELLER, Malshanger Gardens, Basingstoke, 9*s.*; and a few other small sums. A letter from the Secretary of State was read, announcing that, by the gracious permission of the QUEEN, the Fund may hereafter be known as the Royal Gardeners' Orphan Fund. The committee unanimously passed a resolution expressing to the Secretary of State the great gratification at the intelligence. A vote of thanks was also passed to Colonel STANLEY A. CLARKE for his co-operation in obtaining the consent of H.R.H. the Princess of WALES to have her name announced as the Patroness of the Fund. The Secretary submitted the result of the recent election of children to the Fund, and announced that the annual dinner was fixed for March 22, when Baron FERDINAND DE ROTHSCHILD, M.P., would take the chair. In the meantime, in spite of the title, it may be as well to say that the benefits of the fund are not confined to the orphans of royal gardeners!

THE BLACKHEATH AND LEWISHAM HORTICULTURAL SOCIETY.—The usual monthly meeting was held on Friday evening, February 24, at the Institute, Old Road, Lee, when Mr. H. J. JONES, F.N.C.S., F.R.H.S., the well-known Chrysanthemum grower, Ryecroft Nurseries, Lewisham, read a paper on "Chrysanthemums and their Culture." The room was crowded by listeners, and the lecture received marked attention; but owing to the very able and practical way with which he treated his subject, very little room was left for discussion. Mr. J. LAING, of Forest Hill, will read a paper on "Begonias" at a meeting to be held on March 21, at the same place.

FLOWERS IN SEASON.—There is an extraordinary brightness and depth of colour about the flower of the Orchids cultivated by Mr. JAS. CYPHER at the Queen's Road Nursery, Cheltenham, which is especially noticeable in the dull season. A box just received well exemplifies this. It contains Dendrobium nobile pendulum, D. n. pulcherrimum, D. n. nobilius, D. n. elegans, D. n. giganteum, D. Phalænopsis Schroderianum, two forms of D. aureum, the one with seven flowers on a spray; D. Cassiope×, D. Dominianum×, D. Ainsworthii×, D. A. Leechianum×, D. Boxalli, D. rhodostoma×, D. speciosum, D. fimbriatum oculatum, Zygopetalum crinitum, Lycaste Younghiana, Epidendrum Wallisii, E. O'Brienianum×, and its two parents, E. evectum and E. radicans, the hybrid very showy, and of a rich reddish-crimson. Oncidium splendidum and some Cypripediums complete the set, and show that the Orchid-houses at Cheltenham must wear a bright appearance, even at this season.

THE WOMEN'S BRANCH OF THE HORTICULTURAL COLLEGE AT SWANLEY.—The first annual report is before us, showing that the women go through the same course of study as the men, except that "they undertake no more of the hard physical work than they feel fit for." The students are trained in all branches of practical horticulture, and instructed in the principles of the sciences on which horticulture is based. An examination was held, with satisfactory results. The two ladies who gained the highest place in the examinations were immediately engaged by a local nurseryman for greenhouse work. The branch is hampered by want of funds, so that we may add that the Hon. Treasurer is Miss EMMELINE SIEVEKING, 17, Manchester Square.

DEATH OF DR. PATERSON'S "OLD MAN."—Dr. PATERSON, Bridge of Allan, is at present lamenting what he describes as the death of his "Old Man," a favourite Cactus plant (Cereus senilis), which has been the wonder and delight of the many visitors to Fernfield during a great many years. Imported from Mexico about sixty years ago, it has been under the care of the doctor for upwards of fifty, and during that long period has grown only about 3 inches. At its death it stood 2 feet high.

WOOLTON GARDENERS' MUTUAL IMPROVEMENT SOCIETY.—Mr. R. G. WATERMAN, Hon. Treasurer of the above, completed on Wednesday, February 22, a course of twelve lectures on horticulture at Eccleston Park, St. Helen's. The lectures, given under the auspices of the Technical Instruction Committee, were of a sound practical character, and among the subjects handled were the following: The culture of market flowers, Tomatos, Apples, Cucumbers, small fruits, vegetables, rotation of crops, preparation of ground, treatment of soils, and the application of manure to different kinds of soils. The average attendance, which numbered forty, consisted chiefly of market growers and gardeners.

A VEGETABLE BALL (CLADOPHORA AEGAGROPILA). — A correspondent sends us, from a Scottish loch, a specimen of this curious Alga, which grows in the form of a ball. The fine green threads, of which it is composed, radiate on all sides from a central core, in this case of mud. It resembles the balls of hair sometimes found in the stomachs of some animals, such as goats (whence we presume the name). The plant grows both in fresh and in brackish water. We have seen specimens from a lake in Shropshire, in which Larch, and other leaves, become entangled in the threads. Generally, the balls are found floating.

LABELS.—Mr. MAX LEICHTLIN writes as follows:—"It is not an easy matter to produce a good plant-label; what we want is a clean label of a light colour, not likely to get smashed by rough treatment, holding the writing well, and of a material that can be written upon with a pencil. The great drawback to the use of zinc is, that the writing must be effected by a special ink, and that it never looks clean. Wooden labels, which may have been cut from wood which four weeks before was part of a tree in full leafage, are very perishable, and, what is worse, are likely to favour the development of fungus in the soil. At the next meeting of the Royal Horticultural Society I shall lay before the members present the best labels I have been able to produce. If they are not perfect, I think they at least come nearer to perfection than any labels hitherto produced. For indoor use, for pot-plants or Orchids, they are unsurpassed."

CASSELL'S POPULAR GARDENING. — A reissue of this work in monthly parts is offered by Messrs. CASSELL. It is a valuable cyclopædia for gardeners, and will be specially useful for those preparing for examination.

WORK FOR THE UNEMPLOYED.—We are requested to publish the following letter:—"In view of the great distress existing in London and the country, will you allow me to state that the Committee of the Self-help Emigration Society are prepared to give financial and other assistance to men able and willing to work on the land, and also to families, to enable them to proceed to Canada in April next. Clergymen and others interested in particular cases should apply to me for forms without delay, as the funds in hand for this purpose are limited. The Society has over fifty representatives in Canada, who provide employment for its emigrants and subsequently look after their interests. The experience of the last nine years proves this work to be one of the best means of permanently relieving distress. EDWARD WILSON GATES, Memorial Hall Buildings, Farringdon Street, E.C., February 28, 1893."

SURVEYORS' INSTITUTE.—The next ordinary general meeting will be held on Monday, March 6, when a paper will be read by Mr. P. E. PILDITCH (Fellow), entitled, "Dilapidation Practice; particularly as affected by some Recent Decisions." The chair to be taken at 8 o'clock.

ROYAL AGRICULTURAL SOCIETY.—Mr. CECIL WARBURTON, M.A., of Christ's College, Cambridge, has been appointed Zoologist to the Society.

THE ROTHAMSTED EXPERIMENTS. — At a meeting of the Royal Agricultural Society on Wednesday last, the Prince of WALES in the chair, it was proposed that some means be taken to commemorate the jubilee of the inauguration of the celebrated field and laboratory experiments pursued on a continuous plan by the zeal and munificence of Sir JOHN LAWES, and his faithful aide-de-camp, Dr. GILBERT. We are precluded by circumstances this week from doing more than mention the matter, but hope to revert to it on another occasion.

NORTHAMPTONSHIRE CHRYSANTHEMUM SOCIETY.—At the annual meeting of this society, the report showed that for last season the total receipts amounted to £140 6*s.* 3*d.*, and the expenditure to £136 16*s.* 9*d.*, leaving a favourable balance of £3 9*s.* 6*d.* The last exhibition was considered very satisfactory, and it was arranged that the show for next season should be held on November 8 and 9 Mr. E. DRAPER received hearty thanks for his services during the past year, and was unanimously re-elected Hon. Secretary and Sub-Treasurer.

EXHIBITIONS OF ENGLISH FRUITS AT CHICAGO.—A well-known fruit-grower says, anent the above:—"English fruit-growers who intend to exhibit at Chicago might possibly be in a better position with regard to their fruit if they would meet and arrange to appoint an agent, who would undertake the care and transport in good condition of the specimens of English fruit to be exhibited."

BURNS AND GARDENING.—The speech of Mr. WILLIAM MILLER at the Warwickshire Burns Club at Coventry, on January 25, and a copy of which is before us, was a very happy, often humorous blending of grave and gay, of pleasing retrospect, and hopeful prospect. BURNS, it appears, was the son of a gardener, and began life as one, and afterwards spoke of the occupation in the following terms:—

> "When rosy morn comes in wi' showers,
> To deck her gay green birken bowers,
> Then busy, busy are his hours,
> The gardener wi' his paidle.
>
> The crystal waters gently fa',
> The merry birds are lovers a';
> The scented breezes round him blaw,
> The gardener wi' his paidle."

That BURNS was an observer of plants we have evidence in a letter to a correspondent to whom he casually made remark that he had some "favourite flowers in spring, among which are the Mountain Daisy, the Harebell, the Foxglove, the Wild Rose, the budding Birch, and the hoary Hawthorne, that I view, and hang over with particular delight." Mr. MILLER found an opportunity, or made one, of recom-

mending the farmers to take up the cultivation of hardy fruits, especially the Apple, and as Mr. MILLER is particularly well equipped for giving an opinion, his advice may be regarded as proportionately important, although he himself goes on to point out the dire disasters that ensued to the First Gardener, and to his descendants, from handling an Apple. The disaster, Mr. MILLER says, was due to the appearance and interference of the middleman!

LAWN TENNIS IN PUBLIC PARKS.—Innovations are not unmixed blessings, and opinions will differ as to the wisdom of the recent decision of the committee of the Royal Botanic Gardens, Regent's Park, to allow the games of lawn tennis and croquet being played there. The intimation in question runs as follows:—"It has been decided to allow the games of lawn tennis and croquet to be played in special parts of the gardens during the summer months, and under certain regulations." The decision, we think, will, on the whole, be regarded as a wise one, so long as the limitations are well defined, and strictly enforced. The spirit of the age is distinctly antagonistic to the reservation of open spaces for the advantage of the few and to the exclusion of the many, and a good deal of friction is often saved by practically recognising this fact.

LES PLANTES DE GRANDE CULTURE.—Messrs. VILMORIN, ANDRIEUX & Co., of the Quai de la Mégisserie, Paris, have just published a descriptive account of the principal agricultural plants, including cereals, forage plants, and those used in various industries, which are cultivated on a large scale. The object is to place before the grower accurate information on the nature and adaptabilities of the several races of cultivated plants with which the agriculturist and market gardener have to deal. Recognising the constant progress and ceaseless change going on in cultivated plants, the authors announce their intention of issuing a new edition occasionally, and request information accordingly from those who are able to give it. A brief description of each variety, an indication of its use, method of culture, proportionate weight of seed, and other particulars are given, accompanied, in many cases, by excellent woodcuts. One very useful chapter is devoted to information concerning the seeds of forest trees, and the proper quantities, per hectare, in which they should be sown. Lastly, there is an excellent index. Issuing from the house of VILMORIN, ANDRIEUX, & Co., this catalogue, which has nothing of the trade circular about it, may be thoroughly depended on.

THE MIDLAND COUNTIES CARNATION SOCIETY.—The schedule of this Society has been arranged, and will be shortly issued, and it will be very similar to that of last year, but with more prizes for those who have not previously won a prize. The exhibition will be held early in August in the Birmingham Botanical Gardens at Edgbaston, and the Botanical Society have also placed two Silver and two Bronze Medals at the disposal of the committee, to be awarded to the most successful exhibitors.

THE NATIONAL PINK SOCIETY: MIDLAND SECTION.—This Society purposes holding the next exhibition on July 11, 12, and 13, in conjunction with the Wolverhampton Horticultural Fête. Ten classes are arranged for Pinks; and the prizes in the class for twelve laced flowers have been increased, and there is a class for six bunches of border varieties. Mr. A. R. BROWN, of Handsworth, also offers liberal prizes for a bloom of his new Pink Amy. Mr. THURSTANS, the well-known Pink grower of Cardiff, has been elected President, and his son, Mr. Mr. C. F. THURSTANS, Pennfields, Wolverhampton, is still the Hon. Sec.

IRISES.—Professor MICHAEL FOSTER contributes to the *Garden* of February 18 a valuable paper on the "Oncocyclus Group of Irises," in which he enumerates the several species of the group, many of which have been described in our columns by Dr. FOSTER and Mr. BAKER. At the conclusion of his paper, Professor FOSTER gives a descriptive list of several hybrids raised by him.

ILLEGAL SALE OF "WEED KILLER."—The occurrence of several cases of poisoning by "weed killer" has, says the *Pharmaceutical Journal*, helped to demonstrate the existence of another source of danger arising from the improper sale of poison. In the prosecution of a seedsman at Barnstaple under the 15th section of the Act, and by authority of the Council, it was argued for the defence that the Pharmacy Act was intended to apply only to medicines, or to poisons "pure and simple," and not to such articles as "weed killer," containing arsenic combined with other ingredients. The judge held that the admission of this argument would destroy the protection against indiscriminate sale of poison which was intended for the benefit of the public, and as it was proved that the "weed killer" had been sold by a person not legally qualified to sell poison, he gave judgment against him. About the same time two other prosecutions under the 17th section of the Act were instituted by the police at Lewes, and convictions were obtained in both cases.

FIG. 38.—ERANTHIS CILICICA: A NEWLY-INTRODUCED WINTER ACONITE.

In Scotland, actions for damages were brought against a railway company and other persons concerned in the transport of arsenical "weed killer," by the leakage of which sugar had been contaminated with arsenic and had poisoned several persons. In these cases judgment was given for the plaintiffs. A similar case of injury caused by a leakage of arsenic shipped without being labelled to show the poisonous nature of its contents, was brought under the notice of the Council, and subsequently a circular was issued by the Board of Trade warning shipowners, shipmasters, and others concerned in the shipment of poisonous articles, that the provisions of the 17th section of the Pharmacy Act must be complied with in such cases.

ERANTHIS CILICICA.

(*Schott and Kotschy, in Œster. Bot. Wochen.*, 1854, *p.* 113; *Boiss, Fl. Orient.*, i., 60.)

A WINTER Aconite, of which roots have lately been distributed by Mr. Whittall, of Smyrna, from the neighbourhood of Adalia, is the Eranthis cilicica of Schott and Kotschy (see fig. 38). It is treated by Boissier as a distinct species, and as the only species which grows within the limits of the region dealt with in his *Flora Orientalis*. He says that it differs from E. hyemalis by its more deeply-incised involucre, with narrower and more numerous lobes (twenty-five to forty instead of twelve to fifteen), anthers ovate instead of oblong, sepals usually broader, and front carpels straight instead of falcate. This is certainly making the most of its difference, for it is easy to find an involucre with twenty lobes in the ordinary winter Aconite, and its fruit-carpels are sometimes quite straight, and never more than slightly curved. I should prefer to regard it as a sub-species only. I have just had it sent as a distinct form from Mr. James Allen, who says that it is just opening its flowers at Shepton Mallet the third week in February, whilst the old species has faded, and that it may also be recognised when growing by its bright red-brown stems. We had it flowering at Kew a year ago. The anthers are shorter than in the ordinary hyemalis, and the sepals are about six in number, and nearly half an inch broad. *J. G. Baker, Herbarium, Kew.*

BOOK NOTICE.

THE ROSE.

A revised edition of the late H. B. Ellwanger's little book under this title has been published by Dodd, Mead, & Co., of New York. Some enthusiastic rosarians no doubt read all the books that come out on their favourite flower. We too as reviewers have to peruse them as they appear. Singularly different are they in the way in which the subject is treated. In some cases it is handled in a severely practical manner, without a trace of imagination, in others jocosely and in a tone of levity, in others learnedly, in some [how few!] freshly; in others wearisomely — how we get to loathe the hackneyed quotations in which some indulge—as worn as the opinions of Bacon on gardening, which so many cite, as if any one in his senses now-a-days cared what Bacon's opinion on such a subject might have been! The author of the present dainty little volume wrote thus in his preface—"This book neither expects nor desires to supersede its predecessors, it asks admission to their fellowship, hoping that it contains enough that is distinctive and of merit to be considered companionable." Thus modestly was the book introduced to the notice of the rosarian. What his opinion was is proved by the revised edition now issued under the supervision of Mr. G. H. Ellwanger, the brother of the deceased author. At Chiswick the judges appointed to assess the merits of plants submitted for trial, mark their sense of merit by the application of one, two, or three crosses, as the case may be. We unhesitatingly append three crosses to this book, confident that the Rose public will fully endorse our judgment.

HOME CORRESPONDENCE.

GOLDFISH.—I read the remarks of Mr. Charles T. Druery and Mr. E. Mills in your issue of Feb. 11 and 18 respectively on goldfish, and as I am interested in them, I should like to add a few words to the subject. In each case I notice your correspondents have their fish in small glass vessels, so that my case varies a little from theirs, as I have mine in a tank in a warm fernery; the size of it is about 3 feet by 3 feet, and 18 inches deep; the rain-

water from the roof all comes through it, which practically changes the water, and the house being a warm one for exotic Ferns, the water is not very cold. When I first put them in about two years ago they were just imported, and three died the first few days, but since that time the remaining nine have done well, and grown to a good size. I notice your correspondents feed their fish on meat, but I have always used ants'-eggs, which are very cheap at a naturalist's, and they have evidently thrived on them. I should like to see them increase a bit; and as they have plenty of room, and the water chilled, I have been expecting they would do so, but have seen no signs yet. I have two nice males among them. I should be glad to hear if any of your readers have had them breed in a similar place, and if so, their experiences with them. *R. C. Williams, Crosswood Park, Aberystwith.*

CAMELLIAS AT TITSEY PARK, SURREY.—In one of the cool vineries at Titsey Park, several Camellias planted out on the back of a centre bed have been trained flat-wise and upwards, but somewhat slantingly to a trellis, so that they present a flattish and almost perfect front of foliage and bloom to the light. The earliest Alba-plena commences blooming very early in the winter—really about October—and a succession of flowers is continued until well into April—really six months of flowers from one house; when later the Vines give considerable shade, the Camellias seem rather to like it, for they make good growth, ripen their wood, and set their buds profusely. The bed is but 3½ feet wide, and the Camellias have been planted nine years. How very superior are they in every sense to pot-plants, and how profusely they bloom! They endure hard cutting every year well, and soon recover. Besides the old Double White, which can hardly be excelled, for at Titsey Park the flowers are very pure and perfect in form, there is the fine striped Countess of Orkney, Beatii, large red; Chandleri, semi-double, but still very beautiful, and others. It is probably rare to find Camellias and Vines thus conjoined. Of course, the Vines are planted outside. During the winter only enough of warmth is given to keep the Camellias comfortably growing, but it does not excite the Vines; indeed, when I saw the latter just recently, they had hardly begun to swell their buds. The glass range here is not extensive, and the most has to be made of it. I do not know any method by which a cool vinery can be more fully utilised all the year round than in the way thus indicated, and it is worked so admirably by the gardener, Mr. J. Dean, who is well known as an excellent one in that district. *A. D.*

POTATO CULTURE.—I have been interested in reading the experiments carried out by your able correspondent, W. H. Divers, with his Potatos, especially as it supports my contention, that land well looked after will pay, but must have more attention than the average farmer affords at the present time, and more labour bestowed upon the working of the same. I had two years ago rather more than half an acre of land well manured with night-soil (we have the earth-system in use), and after being thrown in ridges, the soil was dressed with 3 to 4 cwt. of salt. The crop of Mangels was a splendid one, averaging about 40 tons to the acre. The next season, without adding any more manure, the same plot was planted with Magnum Bonum Potato and Sutton's Early Regent. The Regents were dug in the early part of August, and stored, and to the present time my men have not found any diseased ones. The Magnums turned out a splendid crop, the whole averaging 13 tons to the acre, most of them of a useful size; besides, I have taken a fairly good crop of Savoys and Cabbages, and have a good piece of Thousand-headed Kale coming along, which was planted between the Potatos. We are obliged to make the most of our land, having a number of boys to feed, and many of whom work upon the land and in the garden. *A. J. Brown, School of Handicraft, Chertsey.*

PLANTING EARLY POTATOS.—The month (February) given by "R. D." on p. 174 for this, may be a very suitable one for Devonshire, but it is too early so far north as this place, for were I to plant in February the tops would surely be killed down, and every gardener knows that when that happens when the haulms are a few inches high, the crop will be small, if not worthless. The early varieties are much easier to start into growth in the spring than later ones, and I can best ensure the safety of the early crop by planting early in the month of April, and even then I have to be very careful in moulding them over on the least sign of impending frost. The later kinds do not come through so quickly, and we are able to plant them before the others with safety. I fail to see any protection from frost in the layer of short dung recommended to be placed on the top of the sets. We do not get frost at this period of the year to penetrate 6 inches into the soil; that the manure is useful as a fertiliser, no one will deny, but for my part, I would rather have it applied sooner, and mixed with the soil at digging-time. For the earliest crop, I find the old Walnut Leaf Kidney is still one of the best, as it produces more large tubers in proportion to the small ones than the ordinary Ashtop varieties do. Sharpe's Victor is of no use here as a first early on account of its poor quality, but for weight of crop it is not easily beaten at the beginning of the season, and I believe it is fit for use early on some soils. *W. H. Divers, Ketton Hall Gardens, Stamford.*

THE ROYAL HORTICULTURAL EXAMINATIONS.—I find with others who come into contact with gardeners and amateurs, especially in lecture classes, that very much interest attaches to both the proposed national examination in horticulture in May next, and the proposed scholarships competition. Some young men who have already sat for similar examinations fully understand them. Others regard them with much doubt, because they do not

FIG. 39.—APPLE ARMOREL: NEW VARIETY OF APPLE. (SEE P. 268.)

understand exactly how conducted, or the nature of the tests they will impose upon the candidates. I would venture to suggest that it would prove exceedingly helpful to these latter, and they are the larger number, could a paper of questions be formulated at once, based on the published syllabus, but yet entirely diverse from, yet neither easier or more difficult than the questions that will eventually be formulated for the actual examination. Having such questions, and the opportunity thus offered to understand their purport, and to practise answering them to the best of any intended candidate's ability, would be so useful, that very many more might in that way be induced to become candidates, whilst it might lead to the weeding out of many who find themselves to be utterly incapable of mastering the questions. Whilst it is urged that County Councils do not in all cases allow their lecture courses on horticulture to cover so wide a ground as the Royal Horticultural Society's syllabus does, yet in such cases intending candidates might do very much if young gardeners, to fit themselves for the examination by obtaining such books as bear upon the particular parts of the syllabus of which they know least. In some instances, a few youths or members of a class or association could unite and purchase two or three books, and each use them as needed. In other cases it is possible that head gardeners could help their young men from their own book-shelves, at least it should be the aim and the pride of every head gardener, not only to induce some of his juniors to sit for the examination, but to render them in the matter of opportunity and sound advice every possible assistance. In the examination held in the county of Surrey last year, growing out of the technical education horticultural course of lectures, school teachers gained the highest number of marks. That probably arose in a large degree, first from their great acquaintance with the routine of examinations, and capacity to take liberal notes; and second, because they have in most cases had class help in the subjects of natural or plant physiology, chemistry, geology, &c. On the other hand, if young gardeners would, with all the practical knowledge they have acquired, aided by the theoretical information they can gain from text-books, but enter the examination, they should be able to distance school teachers, who are not gardeners, easily. To that end, I think the setting of a series of trial questions, on the lines of the actual test questions that will be formulated for the examination, and distributing them at once, would be immensely helpful, and greatly serve to encourage the modest or timid to enter as candidates for the real examination in May next. *A. D.* [As soon as we can find room, we will reprint last year's questions, which will indicate the general character of the future examinations, probably. Ed.]

THE ORPHAN FUND.—Personally, I wish canvassing could be entirely abolished. I know cases where it has been a difficult matter to find the money for the purpose; but I would earnestly appeal to all my brother gardeners to give this Fund an increased amount of support, both by their presence at the annual meetings, and by their subscriptions. They need not trouble to send very far to pay their subscriptions, for there are local secretaries in each district, and I for one would not object (if some of them, who are not in receipt of very good wages, and have little or no show-money to take) to accept the smallest sum per month, and at the end of the year to forward it to head quarters. The hope of our country is centred in the children; and surely all sections of gardeners should support the little ones, for whom we find it difficult to make provision, knowing not the hour or day when we may be called hence. *A. J. Brown, Local Secretary for Chertsey.*

THE PROPOSED CITY FRUIT SHOW.—In one respect it is unfortunate that this proposed great fruit show has fallen through for this year, because there is ample reason to hope that we shall have a fine fruit season. On the other hand, it is well, perhaps, that the promoters are saved from the mad plan of erecting, at enormous cost, a special building for the show on the Thames Embankment; but the absence of this show should be the opportunity of the Council of the Royal Horticultural Society. What a pity it is, that for the sake of seizing so splendid a chance to make a grand hardy fruit display, the proposed Agricultural Hall Show cannot be held at the end of September rather than in August. House-grown fruit we can have at any time, let the season be what it may, but we cannot have a grand show of hardy fruit every year. The August show will clash with scores of provincial shows; one a month later it would clash with none, and I think, so far as fruit is concerned, and especially hardy fruit, that by far the larger number of growers would favour the later date. In making this suggestion, I am actuated by a desire to see the Royal Horticultural Society step in when it has the opportunity, and do for hardy fruit in London what no exhibition, however good, has yet accomplished. This is not a private suggestion for the Council; it is rather one for everybody interested, and it would be most useful could general opinion be gauged in the matter. *A. D.*

AMERICAN AND BRITISH APPLES, AND THE NEW RAILWAY RATES.—In reply to your question, How about New Railway Rates? inserted by you under the above heading in last week's issue, I beg to say those applicable to the points referred to in my letter are very little affected by the attempted rise. The increased new rates adopted may well be considered really a very sharp trick to outwit the public. By the Act the rates (maximum) were reduced. The companies, with few exceptions, charged up to the maximum, consequently being much in excess of old rates previously in force, naturally alarmed the public, who were expecting the much-needed lower rates, and now in their despair they cry for the renewal of old ones. Of course, it is part of the railway companies' tactics to make believe they will consider and reconsider the repeated request to adopt the old rates, that seemingly is being gradually done piecemeal under special pressure from the Board of Trade. The greater the difficulty in obtaining it the greater the satisfaction when obtained. If the

companies were honest, they would do at once what I believe they have decided to do; but they know that, by giving way without a good show of opposition, the door would be the more quickly opened for demands for rates more in accord with those that were promised by Act, which really are necessary and badly needed, specially by the market gardening interest. *J. B. Thomas.*

AMERICAN AND ENGLISH APPLES. — I was pleased to read Mr. Thomas' recent note on this subject. The price he quotes was realised up to December 3; then came a sudden fall in price on the arrival of the American fruit, and this for the finest fruit grown here this season. Blenheim Pippin and Cox's Orange Pippin were sent by me on December 9 to Covent Garden, so that they might hold their own against the imported ones, but these fruits only realised the price that I mentioned in my note. I do not question Mr. Thomas' statement as to the prices which came under his notice; nor do I question my salesman's returns, his long-standing and large connection placing him above suspicion. I am glad to hear that some growers got more for their fruit than I did; while others did not pay so much for their barrels of Apples; still, 40*s.* was the sum paid for two barrels of Apples of the first arrival. Mr. Thomas says, "It is nonsense to say the public hankers after what is grown abroad, but demand what they well know to be good, which has not been obtainable from English growers." How is it then, that, as he states, English fruit can be seen in many shops in Covent Garden Market displayed in American packages? Why, simply, it is to sell them at better prices. But until the consumers, housewife, and cook, and all awaken to the fact that one pound of home-grown Apples contains thrice the quantity of nature-distilled water, malic acid, and sugar, and is worth three pounds of the dry woody fruits sent to this country, the thing will go on [!]. He says, "I must know that it takes more than a few years to get up an orchard of Blenheim Orange and Cox's Orange." Yes, I do know that, for I have been well acquainted with these varieties for thirty years in the west-midland counties, sunny Kent, and sandy Surrey; but it only takes a few years to bring old trees, if healthy, into excellent bearing, and these trees bring the largest and by far the highest-coloured fruits. It is time and money wasted to destroy old treesof good varieties, if healthy. If people had been taken with Mr. Thomas' theory, and led to put it into practice, the present great advances in fruit culture would not be observed, and we might have to wait a very long time for them. All gardeners know that a neglected tree fifteen years old, if properly renovated, and the fruits thinned, will produce the best fruit, and is capable of so doing for fifty years afterwards, for it is not always age but bad treatment which is answerable for inferior fruit. We are twitted for not being alive to the requirements of the day, and as lacking in courage to put capital into the land. What sane man would put much of his capital in land held under unsecured tenancies? And, again, what would be the result if landowner and capitalist had done so in times past, and the home-grown fruit had competed with the enormous importations of the present day? why, the result would have been disastrous to all concerned. Mr. Thomas says there is nothing to fear from Tasmanian or Australian imports, owing to the great cost of transit, which amounts to 8*s.* or more per case to put on our markets. That is a wide margin from the freight bill I have lying before me, which is, Tasmania to London, usual cases, 4*s.* 6*d.*; Tilbury Docks to Depôt, 3*d.*; carting, toll, &c., 3½*d.*; total, 5*s.* 0½*d.* There is nothing to fear from any imported fruit if the produce of our orchards was bought on its merits. There is some encouragement held out to us by Mr. Thomas when he says that American orchards have passed their best time. I have a letter before me, just arrived, which predicts the rapid decay of American orchards. The Apple tree, it seems, cannot stand a short-growing season and excessive heat, hence the trees are becoming devitalised. But it is not so with ours; here the trees are, as it were, at home, and there are no Apples from any other country comparable to the juicy produce of Britain. There is one startling fact that has been brought out with regard to the imports of French fruit. The statistics of imports from that country to England furnish us with the most emphatic reply that could be given, and show that in 1884 the import of French fruit was valued at 21,824,616 fr.; in 1889 it had fallen to 12,725,861 fr., so that French imports to England were reduced by quite 6,000,000 fr. Let us hope that we may check the imports from America at the same rate; but there must be the cultivation of a taste for home-grown fruit, and persistent and unceasing endeavours made on the part of growers before this desirable change is brought about. I may note, that since the quantity of American fruits has dropped off, prices have gone up considerably. *A. Evans, Haslemere.*

HARDINESS OF EUCALYPTUS GLOBULUS.—This tree flourishes at Falmouth in rather exposed positions; at Penmere, 1 mile distant, there are several trees from 50 to 70 feet high, which flower and seed every year very abundantly. One of these trees has a circumference of 8 feet at a height of 2 feet from the ground; and 7½ feet at 6 feet from the ground. In my garden, which is sheltered, they grow too fast for their roots, and a strong gale blows them down. *Howard Fox, Rosehill, Falmouth.*

APPLE ARMOREL.

We are now enabled to give an illustration of this Apple (fig. 39, p. 267) from a specimen obligingly put at our disposition by Messrs. Cheal. It was raised, we believe, by Mr. Ross, of Welford Park Gardens, and its merits have been recognised by the award of a first-class certificate by the Fruit Committee of the Royal Horticultural Society. Good Apples are so common, and the number of Apples generally so great, that it is only those which have specially good qualities that are likely to obtain such an award. The Apple in question is "small," that is to say, it would belong to numbers 1 and 2 of the scale of magnitude of Apples that we adopted from the report of an American Pomological Society (see *Gardeners' Chronicle*, November 5, 1892, p. 568). It is globose in shape, depressed at base and at the top, with a short stalk and a closed eye. The skin is yellow, thickly covered with russet. The flavour is said to be excellent, and its keeping properties may be judged by the fact that it was shown in good condition by Messrs. Cheal at a recent meeting of the Royal Horticultural Society. Messrs. Cheal speak of it as a good cropper.

FAIRLAWN, WIMBLEDON COMMON.

[*See Supplementary Illustration.*]

Fairlawn House, Wimbledon, the residence of Sir Edwin Saunders, the President of the National Chrysanthemum Society, is most pleasantly situated on the east side of Wimbledon Common, having command of a somewhat extensive view, reaching to Roehampton on the right, the great common and Coombe Woods in the centre, and on the left the rapidly-growing suburb of New Wimbledon. In the rear of the mansion and grounds are woods and pleasant country roads, and it seems difficult to conceive of a suburban residence more admirably and conveniently situated than Fairlawn. On taking possession of the place—which is something like six acres in extent—some years ago, Sir Edwin Saunders had the advantage of the counsel of the late Mr. Robert Marnock, and the visitor can see evidence of the skill of this distinguished landscape gardener. Since the grounds were originally laid out, various alterations have been made with considerable advantage, but without in any way detracting from the appropriateness or merits of Mr. Marnock's plans.

The pleasure grounds are by no means extensive, comprising, in fact, only a few acres, but the most has been made of the space at command. The mansion stands back a little distance from the main road, allowing of a semi-circular carriage-drive; and between this road is a stretch of turf plentifully planted with evergreens and picturesque trees, with belts of evergreen and deciduous shrubs at both sides of the drive. The shrubs are kept cut in so as not to obstruct the view across the common, and on the outskirts of the common, by the main road, the trees are judiciously thinned, so that delightful vistas are opened up in various directions. On the south side is a spacious ornamental conservatory, gay with flowering plants at all seasons of the year, and especially in autumn, when the large collection of Chrysanthemums is in bloom. On the walls are various flowering plants, giving a succession nearly all the year round.

In the rear of the mansion is a broad stretch of the softest velvety turf, falling away along a gentle declivity to some distance. The admirable condition of the lawn does great credit to Mr. A. Newell, Sir Edwin's gardener, who takes great pride in it, and gives it the best of attention.

The illustrations of the grounds which accompany this article give, better than in the form of descriptive notes, some idea of the beauty of the grounds in summer. There is a judicious mixture of imposing trees, with belts, groups and specimens of evergreen and decidious shrubs, Rhododendrons being a leading feature; and what particularly strikes the visitor is the wealth of evergreens, which gives the place a well-furnished appearance in winter. Handsome specimens of Coniferous trees are to be met with here and there; but as the grounds are limited in extent, and the growth of some is rapid, annual prunings are necessary, but as this is done judiciously and with excellent skill, it is not noticed; nowhere does the overcrowding or overgrowth of tree and shrub meet the eye.

From the terrace at the back of the mansion, the visitor looks down upon a pleasant Rose garden; and away at the sides and in the distance are seen handsome trees of various shapes, and representing many tints of the living green shown by robust vegetable life. The extremity of one view shows a rustic bridge crossing a small piece of ornamental water, at another point is seen an arbour; anon a group of statuary, but nothing obtrusive. Every detail appears to be united in a general expression of harmonious fitness; and the admirable manner in which the grounds are kept lends value to their exquisite beauty.

Away to the right, but in the rear, is a small and well-planned fruit garden; the soil a rich dark loam, in which pyramid Apple, Pear, and Plum trees make clean growth, and produce good crops. Against the walls are Peach and Nectarine trees, and excellent crops of vegetables are produced. The glass structures are limited in number, owing to the restrictions of space; vineries, a Peach-house, plant-houses, and capital frames are seen, all in the best order. Of his Peach-house, Mr. Newell is honestly proud. In it is seen a fine tree of Dr. Hogg Peach, the annual crop from which during the past twelve years has averaged something like 200 finely-developed fruits.

In the plant-houses are collections of useful decorative subjects, including some good specimens which find a place at the Wimbledon flower shows. Tuberous-rooted Begonias are admirably grown by Mr. Newell, and he is a formidable competitor with them. Towards the end of the summer he has a collection of fruited Capsicums, which are most valuable for decorative purposes in the autumn season of the year.

The liberality with which Sir Edwin Saunders maintains his garden, and encourages his gardener, is extended to horticultural institutions. As President of the National Chrysanthemum Society, he has proved a most generous supporter of it; an influential Fellow of the Royal Botanic Society; he is also in close touch with other bodies of a kindred character, and has recently been elected a Vice-President of the Gardeners' Orphan Fund.

PUBLIC PARK, RAMSGATE.

It having been decided by the urban authorities that the town stood in need of a public park, landscape gardeners were invited to furnish plans for the same, and that devised by Messrs. J. Cheal & Sons, Crawley, was the one accepted.

We take the following from the explanatory note which accompanied the plan kindly sent to us by Messrs. Cheal.

The ground being already of a picturesque and ornamental nature, the plan generally embraces the adapting of the park to the public requirements.

In the first place, it is considered a necessity to provide a carriage drive through the park for the use of invalids, elderly people, and others; and the course for this drive, as shown, would enable a visitor to enjoy most of the beauties of the place without alighting. The course is commenced at the main entrance in the High Street, and follows easy curves to the central avenue in front of the terrace, with the fountain on the other side, and then it turns past the tennis-lawns towards the higher ground on the opposite side, ascends a shady valley, and follows the line of the old Elm trees on the high ground, from which and especially when emerging from among the Elm trees to the north, good views are obtained over the entire park. The exit is made by way of Ellington Road, another main thoroughfare of the town.

The next important point to consider is some central position for a promenade or assembly ground. The space selected for the terrace appeared to us to afford everything required to make it perfect in that respect, it being backed up by high trees and shrubs to the north, with a few large shady trees in the front, and the ground when raised to a higher level, with its wall and balustrade in front, would afford an elevated platform, from which views of the whole of the park could be obtained, a point of no mean value. In the laying-out of the ground, it has been a point well studied to spread as many objects of interest as possible in the view from this central point, and openings are arranged so that views can be obtained in places of the full extent of the park, at the same time concealing as much as possible the actual boundary. Flights of steps lead from this position to the central avenue and fountain, and also from the ends of the terrace to the various walks and drives in the other parts of the ground. Walks lead from one entrance through the park in fairly direct lines to others, for the convenience of those who may have to cross the grounds.

The tennis-lawns are placed where the ground is level and sufficiently low, so as to be easily flooded in the winter as a skating area.

As no landscape is complete without water, a lake has been introduced, and though small, it will doubtless, have a pretty effect with the background of trees, and the ornamental bridge spanning it in the foreground.

A few flower-beds only have been designed, just sufficient to give a little bright colour to the central avenue and the more dressed portion of the ground. The natural beauties are principally relied upon to give effect and variety to the scene. The fine trees already upon the ground will afford grateful shade, and the introduction of the fresh varieties of trees and shrubs will give additional colour and variety of foliage and flower. There will also be great natural beauty in the slopes and undulations, which will be improved at various points, as for instance by the taking up of the present tennis-lawn in the valley and restoring the ground to its natural dip instead of leaving it at its present artificial level and straight lines.

Fig. 40.—Plan for laying-out public park, Ramsgate. (see p. 268.)

Obituary.

The Late Mr. G. W. Phippen.—A notice of the death of this promising young horticulturist appeared in the *Gardeners' Chronicle* of last week. Born at what was then known as the Oxford Road Nurseries, Reading, in 1864, he succeeded, at the age of twenty-one, on the death of his father, to the nursery and seed business established some years previously. Possessing much energy and business qualifications, he rapidly extended its operations, and on the site of the new Victoria Nursery Grounds had erected a number of glasshouses, cultivating a variety of plants, and carrying on a good seed and decorator's business in Broad Street. Under the Reading Corporation he maintained the public gardens in the Forbury in a high state of perfection; he had at one time the management of the horticultural department in the Reading Cemetery; he acted as Superintendent of the Exhibitions of the Reading Horticultural Society, and he also laid out the new public park at Reading, the gift of the late Mr. W. J. Palmer. For two or three years past he had held at the Town Hall an exhibition of spring-flowering plants. As a floral decorator he showed much originality, and gained a wide reputation. He was a Fellow of the Royal Horticultural Society, and also a member of the Floral Committee, a member of the National Chrysanthemum Society, and during 1892 was one of the foremost exhibitors at the Earl's Court exhibitions. He took an active part in a good deal of religious and philanthropic work at Reading, and his funeral on the 27th ult. was of the character of a public demonstration. Mr. Phippen was twenty-nine years of age, and the cause of his death was blood-poisoning. He leaves a widow and three children to mourn his loss.

M. Antoine Chantin.—We greatly regret to hear of the death of one of the patriarchs of French horticulture, who died in his seventy-eighth year, at his residence, Avenue de Chatillon, Paris, on the 26th ult. M. Chantin will be much missed at exhibitions, where his venerable appearance caused him to be called, playfully, Pilocereus senilis. M. Chantin was deservedly much esteemed by his colleagues.

GARDENERS AND THE RAILWAY RATES.

Deputation to the Board of Trade.

High Rates—Inconsistent Charges—Preference to the Foreigner—Want of Security.

Speeches of Messrs Berry, Poupart, Monro, Coleman, and Others.

Satisfactory Reply of Mr. Mundella.

A deputation from the London Fruit, Flower, and Vegetable Buyers' Protection Association and kindred bodies, waited upon Mr. Mundella, M.P., Pre-

sident of the Board of Trade, on Wednesday, March 1, for the purpose of complaining of the high railway rates charged under the revised scale. The Hon. Wm. F. D. Smith, M.P., introduced the deputation, which included Mr. J. Webber (salesman), Mr. W. W. Berry (representing the Kent fruit trade and the Canterbury Farmers' Club), Mr. Geo. Monro (salesman), Mr. C. Liddiard (commission buyer), Mr. W. Poupart (president of the Market Gardeners' Association), Mr. Geo. Coleman (vegetable salesman), Mr. G. C. Bond (secretary of the London Fruit, Flower and Vegetable Buyers' Protection Association), &c. Mr. Mundella was accompanied by Mr. T. Burt, M.P. (Parliamentary Secretary of the Board of Trade), Sir Courtnay Boyle (Railway Department, Board of Trade), and other officials.

Mr. Smith, M.P., in introducing the deputation, said it represented the London Fruit, Flower and Vegetable Buyers' Protection Association, and the market gardeners, nurserymen, and fruit growers from the whole of the country, but particularly the home counties. It comprised representatives of distributors, buyers and producers. It might be imagined from the title of the Association that its work was confined to London alone, but that was not so. Covent Garden Market was the Clearing House for an enormous amount of produce which came to this country from all parts of Europe, and the great increase that had taken place in the railway rates charged by the various railway companies most prejudicially affected the interests of those concerned in the trade. The home producer already suffered sufficiently from our climate, and his position had been aggravated by the new rates. He did not wish to take up more time than was necessary, as there were others present more competent to speak on the matter under consideration, but he would like to mention one case. That was that the rate for Cucumbers from Broxbourne to Manchester which was originally 21*s.* 8*d.* per ton. The rate was now 56*s.* per ton.

Mr. Mundella: On what line would that be?

A Member of the Deputation: The Great Eastern, the Great Northern, and the M. S. & L.

Mr. Smith went on to say that from Malvern Wells to Manchester, the rates for hot-house fruit had increased from 2*s.* 6*d.* to 4*s.* 2*d.* per cwt. The hothouse industry was a very important one, because he found that where a few years ago only 10 lb. of that class of produce was sent by rail, there was now a ton. Tomatos were also a very important class of produce, and in this case the rate had been increased between London and Dover from 11*s.* 8*d.* to 28*s.* 2*d.* He mentioned these few rates as they had struck him as being particularly curious. As he had said, the home producer had sufficient to contend against, but if to all the natural disadvantages were to be added prohibitive railway rates, he feared that the market gardeners and the farmers of this country would find it impossible to carry on their trade at all.

Mr. W. W. Berry said it was not his intention to go deeply into the question, because he knew full well that the whole matter was thoroughly gone into by Sir Courtnay Boyle and Lord Balfour of Burleigh, and the points were pretty well understood by the Board of Trade. But he was anxious to allude to one or two matters which were of great importance, not only to those represented there that day, but to all connected with the industry throughout the country. With regard to the question of classification, they understood that it was the intention of the Board of Trade that something like a uniform charge should be made for all articles that were put into a certain class. If that were not the case, where was the advantage of having articles classified? The southern lines were charging their full maximum rates. Then they were, as an industry, in a very awkward position. Take class C. as an illustration. This class contained grain and the products of grain, and it also contained Potatos in sacks, but it would be seen that Potatos were only about half the value of grain per ton. Various articles had been reduced, and the companies said they were reducing the charges, but they were only reducing certain items in a class, and leaving the others high and dry, to be charged at the full maximum rates of the company.

Mr. Mundella.—What line are you referring to?

Mr. Berry said he was referring to the Chatham and Dover Line. The companies acting in the way he had mentioned necessarily left a large number of small traders, who occupied a small acreage, out in the cold, because, owing to the fact of their being small traders, they could not take advantage of the more advantageous terms offered for larger quantities.

Mr. Mundella: From what I gather from these tables you have sent me, the company is now charging 17*s.* 11*d.* for what they formerly carried for 9*s.* 7*d.*

Mr. Berry: Yes. The question of classification which was dealt with by the Board of Trade, was one which affected the traders deeply.

Mr. Mundella: Before you allude to the question of classification, am I to understand that you are perfectly satisfied with the action of the Board of Trade so far as the classification and the maxima are concerned?

Mr. Berry: Not as to the maxima; but, as to the classification, yes. They had had a most efficient and careful hearing from the Board of Trade, and they thought the Board had done its best to do what was right. If the class rate had been reasonable he took it that they would not have been there that day. The endeavours of the Board had been frustrated in many instances, by leaving those represented by the deputation high and dry, and reducing other articles in the same class. If they threatened to go before the Board of Trade the railway companies would answer that they were within their maximum powers. If within the next six or nine months the companies came down to the level of the rates which existed before 1888, they contended that they would not then be in the position they ought to be, because many anomalies would still exist, and there would be nothing like like security, unless a tribunal were established with power to carry out its decisions, and to compel the companies to abide by them. The costs of an inquiry before the Railway Commissioners made such a procedure entirely out of the question for the fruit-growers and market-gardeners of the country. It was said in the press that the companies were making reductions right and left, and that they were promising full consideration to all matters placed before them. He feared that the companies were throwing dust in the eyes of those who were endeavouring to do what was right for the trade.

Mr. Poupart said his association numbered rather more than one hundred members. Dealing first with the question of production, he went on to speak of the importance of having reasonable rates for manure.

Manure.

Mr. Mundella asked how many tons of manure were used to the acre?

Mr. Poupart said about 30 tons, more being required the nearer the place was to London. The old rates from Battersea to Wallingford (?) were 1*s.* 10*d.*; they were now 2*s.* 3*d.*, and that on only 20 tons to the acre would be a matter of 8*s.* per acre additional tax.

Mr. Mundella: Are chemical fertilisers charged more?

Mr. Poupart said the rate for these had increased from 5*s.* to 6*s.* They contended that the old rates were too high, seeing that any ordinary strong truck was good enough to carry manure, and bearing in mind the fact that it was never touched by the company, who provided no sheds or any other protection.

Mr. Mundella: Do you cart and load it?

Mr. Poupart: Yes; and unload it. The company never touch it. No cloths are required, and there is not the slightest risk. They contended that the greater the assistance rendered by the companies to the traders in the matter of manure, the more would the companies get back in the way of produce. Then, again, it would be a disadvantage to the public if this manure was not carried away from London, what would be the position of London if the manure were not moved even for one week? It would be within the recollection of many, that before the abolition of turnpikes, manure was allowed to be carried toll free all through the country.

Seeds.

On the question of production he might allude to seeds. The rates for seeds had risen as much as from 5 per cent. to 25 per cent., and in some cases even cent. per cent. Having spoken of the increase of rates between London and three towns in Bedfordshire, viz., Blunham, Sandy, and Potton, he admitted, in reply to Mr. Mundella, that the lower rate charged for the longer distance in one of these instances was due to competition.

Salads.

A gentleman at Isleworth, who cultivated salad, had complained that the old rates to Leeds and Birmingham, which were an average of 1*s.* 2*d.* per case, had now been increased to 2*s.* 2*d.*, a little rebate being allowed for cartage. This meant an additional expenditure on the part of the cultivator of £8 15*s.* per week for 200 cases, a very serious matter.

Green Vegetables.

The old rate for green vegetables was 8*s.* 4*d.*, it was now 17*s.* 2*d.* for one ton, or 14*s.* 2*d.* for more than a ton. The old rate for Turnips from Ramsgate to London was 10*s.* 10*d.*, it was now 24*s.* 2*d.* The effect of all this was extremely disastrous, and the low price of produce would not bear further taxing. It would also in the end prove detrimental to the cheap food supply of the people. They wanted to know why there had been this increase of rates. Trade was not so flourishing. They were a branch of agriculture which was entirely overlooked. The poor farmer did not stand alone in respect to bad times, the market gardeners, nurserymen, and others, feel the pinch quite as badly as the farmer. They wanted to know if the present was the time to add to the burdens of their trade. He had not noticed that the dividends of the railway companies had gone down very much. The railway carriage had increased largely during the last ten or fifteen years.

Mr. Mundella: You mean that there has been a large development of your industry?

Mr. Poupart: Yes.

Mr. Mundella: Has there been an increase of land brought under cultivation?

Mr. Poupart: Undoubtedly, a very large increase.

Mr. Mundella: And it is capable of much further extension?

Mr. Poupart: Certainly. The increase has gone on in Lincolnshire and Essex in my recollection, and it will still increase as London gets bigger. Mr. Poupart, continuing, said, it was true that some of the companies had reduced their rates; but they contended that the old ones were too high, and he would like to ask, how did they know the rates now lowered would not be put back again?

Mr. Mundella: You mean, what security you will have?

Mr. Poupart: Yes. They wanted protection for the future, as any sudden rise would put out all their calculations. So far as he could see they had no guarantee. Up to the present the traders had not had much to complain of, but they would feel the pressure when the Strawberries and other fruits came in.

Fruits under Glass, etc.

Mr. George Monro said: I am here on behalf of the fruit growers, and particularly representing the growers of fruit and flowers under glass, and would like to point out a few of the instances where rates have been increased beyond all reason, which increase if maintained will seriously cripple our trade, and in many cases stop business altogether. The first case I will take is that of a grower near Broxbourne who has gone largely into Cucumber, Tomato, and Grape growing, not only for the London market, but also for Manchester; up to this year he has been paying for Cucumbers packed in hampers, 21*s.* 8*d.* per ton, and for Tomatos, also packed in baskets with lids, 35*s.* per ton; but on enquiring what the charge will be this year, he was told the rate is now 56*s.* for both. But they do not know if they will charge quite so much as that. This is very unsatisfactory, as he does not know whether to plant for Manchester or not, as he will not be able to send any if at 56*s.* This grower is one of forty or fifty in the north of London, all affected in the same way. They have gone largely into glass culture, thinking that if London was over-supplied they were near the rail and could fall back on the northern markets. The next case is that of a grower in Wales, who has established a considerable lot of glass to supply fruit and cut flowers to London, Manchester, and Liverpool. He now writes, saying the rate to Liverpool has risen from 2*s.* 6*d.* per cwt. to 4*s.* 11½*d.* passenger, to Manchester 2*s.* 6*d.* to 4*s.* 2*d.*; London, 3*s.* 6*d.* to 3*s.* 7*d.*; and he says this will compel him to sell his produce in the nearest towns, such as Worcester and Cheltenham, and as these are oversupplied now, he will be a great sufferer. The next case I will mention is that of the orchard fruit growers in Buckinghamshire. In a letter from Lord Rosebery's agent, he gives the rates to Manchester and London—all increased; and says that in a full fruit season, the increase will be a great tax on the growers, and in this neighbourhood are a large number of small thrifty farmers who look to their orchards for a great part of their income. A great many other small growers complain of the ½ cwt.

minimum being replaced by the 1 cwt. minimum, as there are many kinds of produce which must be sent daily as ready. This affects all growers at times, but particularly those commencing business, and small growers generally. We wish you particularly to understand that we plead specially for the small growers, who suffer more than large ones; knowing, as we do, that our trade is composed of a large number of small growers, or of those who have risen from very small beginnings. As to the charges on empties, at one time most lines took returned empties free, and this is not so unreasonable as it appears at first sight; for instance, Grapes, if sent by rail, have to be packed in strong packages to protect them, and 12 to 14 lb. of Grapes are often packed in baskets weighing 8 to 10 lb. each, and carriage is charged on gross weight, so that the railway companies having got carriage on baskets at class 5 rate, should convey them when empty, free. This applies to flowers and all hothouse produce. I will only take up your time with one more case, where the increase comes directly on the grower, and that is from a large grower of plants and cut flowers, and who has orders from all parts: he gives me the following increases, passenger:—London to Liverpool, from 4*s.* 5*d.* to 11*s.* 8*d.* per cwt; London, to Dublin, 7*s.* to 11*s.* 8*d.* per cwt.; London to Manchester, 4*s.* 5*d.* to 9*s.* 4*d.* per cwt.; London to Glasgow, 6*s.* 3*d.* to 11*s.* 8*d.* per cwt.; London to Birmingham, 3*s.* 4*d.* to 7*s.* per cwt.; these are all at company's risk. The same grower uses a large quantity of cocoa-fibre refuse, the carriage of which from Millwall Docks to Broxbourne has risen from 2*s.* 11*d.* to 5*s.* per ton; thus showing that they feel the increase on what they use, as well as on what they grow; and there are many instances of this.

Foreign Fruit, Etc.

Another grievance is that foreign fruit is brought at a much cheaper rate than English, for instance, all goods from Boulogne via Folkestone cost less money than from Folkestone. Apples, Boulogne to London, 15*s.* 8*d.*, Folkestone to London, 24*s.* 1*d.*; New Potatos, Boulogne to London, 22*s.* 8*d.*; Folkestone to London, 24*s.* 1*d.*; Pears, Boulogne to London, 15*s.* 8*d.*; Folkestone to London, 24*s.* 1*d.*; Onions, Boulogne to London, 15*s.*; Folkestone to London, 20*s.* 2*d.* But there is another chance the railways have, and that is, when our goods are sold to go to different towns, which, of course, comes indirectly on the grower, as whatever tax is put on the goods must come off the net price. If we sell Tomatos to go to Dover the carriage is risen from 11*s.* 8*d.* to 28*s.* 2*d.* per ton, goods train; to Brighton, 14*s.* 9*d.* to 27*s.* 1*d.*; to Portsmouth, 21*s.* 8*d.* to 34*s.* 8*d.*, and although the growers can send Grapes from Worthing at company's risk at 53*s.* 4*d.* per ton, if a Brighton customer buys any in London he is told the rate is 1*s.* 6*d.* per box averaging 12*s.*, which comes out at over £13 per ton. This, of course, is evidently done with the intent of killing the trade at one blow, and was put on last year before the general rise. If he sends at his own risk they are liable to be damaged, or he leaves them alone altogether. Worthing growers were reduced as they formed an important body, and laid before the company proof that they could send cheaper by road, but individual growers could not get this. Having given these instances of increase, I would like to say a word or two on company's risk. We were quite satisfied with the ordinary or owner's risk rate before, which enabled us to claim if damaged through carelessness or neglect of their servants, and that is all the risk there is. We do not wish to pay 25 to 50 per cent. more carriage to ensure against collisions or accidents, but only to get careful handling of goods, well and securely packed; and as the railway companies cannot make their servants take ordinary care, we are compelled to pay these excessive charges. It is shameful the way fruit is treated by them, and it seems to me that the increase was only put on with a view of getting the owner's risk note altered, which puts it entirely out of the question, as no grower can sign himself away in that manner. I never knew any damage from other cause than from careless handling. I should now like to draw your attention to the position our trade holds as employment of labour, and do not hesitate to say that there are hundreds of thousands of hands employed; for not only are there large numbers in the market gardens all over the country, but there are thousands employed in the retail shops in distributing the produce, and I maintain that from a very small beginning it has now become a national industry, and will still increase if it only get the consideration it deserves. I need not say that these hands are paid much more than any other branch of agriculture, and I find that from 25 to 50 per cent. of the gross proceeds is spent in labour before the goods leave the growers' hands.

Mr. Mundella: Hundreds of thousands of hands, did you say?

Mr. Monro: Yes.

Mr. Mundella: Would you not rather say tens of thousands?

Mr. Monro: No. I prefer to say hundreds of thousands.

Another member of the deputation said he had paid £3800 in wages a year for the cultivation of 1000 acres of land; another gentleman said he paid £1000 a year for 6 acres of glass (?) another told Mr. Mundella that he paid £4000 a year for 500 acres, while a fourth gentleman said he paid £1000 last year for 90 acres.

Classification.

The last point, continued Mr. Monro, I shall touch on is the classification of hot-house produce. When our trade was in its infancy the railways had a perfect right to charge a fancy carriage on a few consignments of fancy value—as they were, say, twenty years ago—but what has happened since then? Our growers have with great energy and skill worked it up to what would have been thought an impossible extent, with the effect of lowering price and diminishing profits to a very small margin, so that this coming at a time of general depression is doubly hard, and I cannot see why articles of commerce running into hundreds of tons, should be placed in class 5, the highest possible class with such valuable and breakable articles as clocks and barometers. This is most unfair. I have reckoned one instance where a truck of hot-house produce comes to thirty per cent. more than a whole carriage with thirty third-class passengers, and they are all at the company's risk. Instance, Worthing third-class, fare 4*s.* 11½*d.*, carriage two-thirds full, thirty passengers at £7 18*s.* 9*d.* with a risk of say £3000, and they charge £10 10*s.* 4*d.* for a truck of hot-house produce weighing four tons, at 5¾ at a risk of not over £100, and this is not taking into account any luggage which the passengers are allowed to take with them free. I am sorry we have no means of getting at the actual figures to show the increase, but, if you will allow me, I will mention the increase on Channel Island produce last year, which was about 250,000 packages over 1891, or over 25 per cent. increase; and without counting any from the Channel Islands, my own firm sold over 260 tons of Grapes, over 700 tons of Tomatos, and about 250,000 dozen Cucumbers—all grown under glass. It seems utterly ridiculous to class these quantities with a few fancy articles of extreme value, especially when the many other articles used in the trade, such as bones, manure, &c., which traffic is a profit to the railways, are considered. Another instance of the development of trade is the Scilly Isles case, where, at this time of year, the consignments of flowers alone some days exceed 10 tons, and these, although grown out-of-doors, are in the same class (5) as hot-house-grown. In reference to increase in outdoor culture of fruit and vegetables, I am given to understand that in the last ten years the increase in fruit and vegetables amounts to nearly 100,000 acres.

Noticing with much gratification the firm attitude you have taken all through this agitation, we trust you will bear these grievances in mind, touching as they do vitally one of the few flourishing home industries. Referring to the question of classification, we think that all market produce grown under glass should be no higher than class 2.

Green Stuff and Potatos.

Mr. George Coleman said: I represent the interest of growers and salesmen of Potatos, green vegetables, &c., or what may essentially be called the food for the million. Under the new railway rates and classifications, Potatos have not been much affected on the northern lines; on the southern lines the rates have been raised from 1*s.* to 2*s.* 6*d.* per ton within 40 miles from London. But other vegetables have been raised from twenty-five to one hundred per cent. on the old rates, and as the market gardening and vegetable growing industry is being forced from the immediate vicinity of London, and in the future the larger portion of the supply for London must come by rail, the increase of rates, if enforced, must tend to make this branch of agriculture unremunerative, and our business as traders and distributors will suffer. We may also point out that vegetable growing employs more labour than ordinary farming, and the inhabitants of London will not get such an abundant supply of fresh vegetables at moderate prices. Vegetables being an important item of food (from an hygienic point of view), anything tending to increase the cost of production must claim the consideration of the authorities who deal with agricultural questions and the welfare of the people. We also point out that under the new arrangements, small senders are charged such high rates as against senders of one ton or upwards, that it is bound to close markets at a distance to them. We also think the system of charging, which includes collection and delivery, is wrong, as in almost all cases in agricultural districts the cartage is done by the sender, and therefore the company's charge should begin with the work done. We give you a few examples of enhanced rates for greenstuff. On the South-Eastern Railway, from Higham to London it was 8*s.* 4*d.*, now 16*s.* 3*d.*; Cliffe, 8*s.* 4*d.*, now 16*s.* 6*d.*; Sandwich, 15*s.*, now 26*s.* 8*d.* On the London and Chatham line, from Wrotham to London, 8*s.* 4*d.*, now 16*s.* 3*d.* Great Eastern Railway, Norwich to London, 10*s.*, now 16*s.* 8*d.*

Preference to Foreign Growers.

Mr. Monro said a lot of the trade was being driven abroad on account of these rates. A great industry had grown up in Belgium, and Grapes were now sent direct from Antwerp to London for 1*s.* a basket.

Mr. Mundella: What would be the cost in this country—say from Worthing to London?

Mr. Monro said the cost would be more than from Antwerp.

Mr. Mundella: You are aware that in giving preference to foreign over home goods the companies are acting distinctly contrary to the Act of 1888?

Mr. Monro asserted that what he was saying was correct, and added that while the rate for English Apples from Folkestone to London was 24*s.* 1*d.* per ton, French apples were brought from Boulogne to London for 15*s.* 8*d.* per ton.

Country Buyers.

Mr. Liddiard, speaking for the country buyers at Covent Garden, said that of the 63 different rates which had been sent to him by customers, only three had been reduced. The remaining 60 showed an increase of from 2 to 144 per cent. The old rate for Oranges and Lemons from Cornwall to London was 32*s.* 6*d.*, it was now 54*s.* 10*d.* These rates were very detrimental to trade, and produce was taken to Liverpool by boat on account of the lower rates. Many fruit traders in the country were compelled to buy their goods daily. In London the traders had the advantage of buying three times a week, but the country trader could not have 2 or 3 cwt. at a time, and consequently under the new regulations he was crippled by excessive charges. He understood he could not go into the question of classification.

Mr. Mundella: I should be very glad to receive any representations that are carefully put before me on the subject of classification without exaggeration, and that will bear the most rigid investigation. Be very careful what do you put before me, and we will give our attention to the subject.

Mr. Liddiard added that a customer at Halifax returned some Tomatos because he could not sell them, owing to the high rates; and he pointed out that, although some of the rates from Lowestoft seemed to have been lowered, such was not the case, because the reduced charge did not include delivery and collection, as was the case with the old charge. He concluded by expressing the hope that Mr. Mundella would do what he could to assist them.

The Reply of the President of the Board of Trade.

Mr. Mundella in reply said, when Mr. Smith applied to him to receive the deputation, he explained that he wished to discourage any more deputations, but when he came to look into the statements which were sent him, and to consider that the industries that were represented, he felt he was bound to receive them. He was glad to have heard the statements which had been made that day—they were very interesting to him, and they must be to the public. They all knew how important it was that a larger area of land should be brought under this kind of cultivation, from the larger number of workpeople who were employed on this industry, and that no greater benefit could accrue to the country than to encourage to the utmost possible extent the growing of vegetables, flowers, fruits, and other supplies for home consumption from our own land, instead of our being

compelled to import as much as we did from foreign countries. Of course we had certain disadvantages caused by our climate, but he gathered from them that they were endeavouring—he was glad to see successfully—to grapple with those disadvantages. That was shown by the fact that 1 ton of hot-house produce was raised as against 10 lbs. formerly. Surely, if the railway rates paid when only 10 lbs. were conveyed, they ought not now to be higher, but less; and there was no doubt that if the railway companies took an enlightened view, self-interest would prompt them to do all in their power to encourage and develop their industries. He could only say this, that he was quite sure no man who knew anything of the condition of trade in the country generally, and of agriculture—no man, whether in Parliament, or out of it—could fail to sympathise with, and wish success and prosperity to the industry with which they were connected. They had presented their case with great fullness, and, he believed, with great accuracy on the whole. and they had handed in a long list of specified charges and had given a great deal of interesting information. He thought with regard to the discrepancies between foreign and home charges, several statements had been made which were indicative of undue preference and distinctly contrary to the Act of Parliament. In that case there was nothing for it but an appeal to the Railway Commissioners.

A Member of the Deputation: That is too expensive.

Mr. Mundella: It was said that that was too expensive. They must see how that could be managed. Something ought to be done at any rate—he did not at that moment say how it was to be done—but something ought to be done whereby such appeals could be made cheap, prompt, and effective. It was not consistent with the intention of the Legislature or with sound policy that an appeal to the Commissioners should be so costly and that private traders should be prevented from encountering great organisations and great wealth in a court which was intended to protect the public. The Board of Trade had been doing, he was sure they must recognise the fact, since January 2, everything that possibly could be done to bring about a good understanding between the traders and the companies. They had urged upon the railway companies all the arguments which had been laid before them by the traders of the country, and they had stated that it was of the utmost importance that the companies should come to a good understanding with the traders, and that they should give the traders reasonable rates. The Board had not been altogether unsuccessful. A good deal had been done, "and," said Mr. Mundella, "let us make acknowledgments where they are due." He knew that personally he was very much blamed by the railway companies for using what they called strong language, but he was quite prepared to take the respansibility of his language and his acts. He thought the present was a case where his conduct was justified, and he had nothing to recant with respect to anything he had said, or with respect to anything he intended to do. He sincerely hoped that the railway companies would revert to reasonable rates. He knew the companies had been pressed on this matter, and he thought they had some grounds for complaint on that score, but he also thought they might have maintained the old rates pending the period of revision. Some of the companies were acting much more reasonably than others, and he was receiving letters from traders, thanking the Board of Trade for its services. Mr. Mundella then read a letter, dated February 28, from Mr. Sarle, of the London, Brighton, and South Coast Railway Co., which stated that the writer had seen the announcement that that deputation would wait upon the Board, and that he wished to say that the company was doing all it could to meet the requirements of the traders. He also read a letter from the Worthing Association, which was addressed to the Brighton Company, and which thanked that company for what it was doing.

Mr. Monro said the case referred to by Mr. Sarle was that at Worthing, in connection with which the traders pointed out to the company, that they would do their work by cartage.

Mr. Mundella would not say that the competition had nothing to do with the action of the company, but he might point out that the company had declared that they would carry out the reduction throughout their system. He wished there were more indications of that kind, but he did hope after the expression of opinion which the railway companies had had from Parliament, and which they were having every day from the public, and after the conviction that must be forced upon them that the present rates could not be maintained, they would at least revert to the old rates, and that they would with respect to such an important industry as theirs, try to meet them in a reasonable spirit. So far as the Board of Trade was concerned, they would convey to any company or railway association any complaint the traders might have. The documents that had been handed in should be sent to the companies, and he would ask the deputation still to be patient until the companies had had time to revise the rates. They were not to let the companies think that they were dealing with them in a harsh or unreasonable spirit. Sir Henry Oakley had promised that, whatever form the revision would take, the rebate would take effect from January 1, and if the rates were brought down to a reasonable standard, he hoped the Board would have done some service to the traders, and that they should be in a better position when the revision was completed, to see what future lay before them. Something had been said about a guarantee for the future. Well, the railway companies were passing through an experience which could not be agreeable to them, and if a satisfactory arrangement were arrived at they would not be in a hurry to encounter another storm such as that which was now passing over them, and which he trusted sincerely would pass away. He did feel, however, in this matter of revision of rates that it pressed particularly hard upon traders of the class of which the deputation was composed; when they wished to make an appeal to the Railway Commissioners, they could not do so except at great cost. This and other matters would be considered by the Board of Trade when the right time came, and he hoped they should be able to deal with them satisfactorily. A vote of thanks to the President concluded the proceedings.

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees — a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending February 25.	Temperature. Accumulated. Above 42°, for the Week.	Temperature. Accumulated. Below 42°, for the Week.	Temperature. Accumulated. Above 42°, difference from Mean since January 1, 1893.	Temperature. Accumulated. Below 42°, difference from Mean since January 1, 1893.	Rainfall. More (+) or less (—) than Mean for the Week.	Rainfall. No. of Rainy Days since Jan. 1, 1893.	Rainfall. Total Fall since Jan. 1, 1893.	Bright Sun. Percentage of possible Duration for the Week.	Bright Sun. Percentage of possible Duration since Jan. 1, 1893.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	2 —	0	39	— 6	+ 51	8 —	43	9·1	20	17
1	2 —	0	43	— 24	+ 43	1 —	39	4·6	13	19
2	1 —	0	27	— 14	+ 20	3 +	34	3·3	16	18
3	1 —	2	26	— 12	+ 54	7 +	40	4·2	17	19
4	2 —	0	29	— 9	+ 32	5 +	38	4·3	14	19
5	0 aver	7	18	— 11	+ 51	8 +	38	4·9	22	18
6	2 —	2	29	+ 3	+ 12	7 —	40	7·4	12	19
7	2 —	0	27	+ 11	+ 10	1 —	38	4·7	14	15
8	1 —	8	20	— 3	+ 20	8 +	38	7·6	22	23
9	3 —	3	32	+ 2	— 12	3 —	42	6·1	23	19
10	4 —	6	25	— 4	— 10	3 +	40	7·7	20	20
*	0 aver	22	1	+ 17	— 1	7 +	44	6·1	33	23

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; (* Channel Islands.)

Answers to Correspondents

To our Readers.—*The Editor begs leave to solicit from the readers and contributors to the Gardeners' Chronicle:—*

Short Practical Notes on Cultural Matters;

Early Intelligence of Local News likely to be of general interest;

Notes and Memoranda useful to the Trade;

Specimens of New or Interesting Plants, Fruits, &c.;

Drawings or Photographs of Gardens, Trees, Flowers, &c., and which if suitable for reproduction will be utilised so far as possible.

Barometer: *T. Y. D.* If your aneroid has a scale of feet as most of them now have, read your aneroid at sea level, and as soon as possible thereafter at your residence. By subtracting the height in feet at the lower station from that at the upper, you will obtain a product which (allowing for temperature) will give you the height of your residence approximately; or, get a friend to note the height of the barometer and temperature at sea-level at a fixed time, and you make a similar observation at your residence at the same time, you will thus obtain the same result, but in this case you require to compare the working of the two barometers to see that they are uniform in their action, or to make the necessary corrections if they are not so. To be more accurate, you require to know the mean temperature of the two stations at the time of observation. Consult Buchan's Introductory Text Book of Meteorology (Blackwood & Sons), or Tyas Weather Glass (Bemrose & Son). The ordnance map of your district would probably show the height of your locality.

Books Received: *Primer of Horticulture*, by J. Wright. London, Macmillan & Co.

Cineraria: *J. A. A.* A fine bloom with regular markings, but there are many as good, and as large, if that be a desirable feature in Cinerarias.

Correction.—In Gardening Appointments in *Gardeners' Chronicle*, February 25, for Clynnthorpe read Gunthorpe.

French Beans: *A. P.* These vegetables may be grown in spring and early summer, also in September and October, in cold frames. The three-quarter span frame, enclosing as it does more space than an ordinary one, would answer well for Beans. It will be necessary to dig the ground deeply after affording it a dressing of farmyard manure if it be very poor, or leaf-mould, old Mushroom bed material, and superphosphate of lime. Manures that cause much leaf growth are better avoided. Rich soil should not be manured at all for Beans. When the land has settled somewhat, trample it evenly all over, rake off the big stones, and level it. Place the frame upon it, with the slope of the same southwards; and if it be not deep enough when the plants are full grown, raise it at the corners on bricks, and put sods, or pieces of board, tile, &c., to close the space at the bottom. Sow, that is dibble, in the seed 3 inches deep and apart, in lines 1½ foot asunder for dwarf varieties, such as Osborne's Forcing, Sion House, White Flageolet, and Black-seeded Belgian; and 2 feet apart for taller growers. If a bed of warm manure, of, say, 2 feet thick, were put under the earlier sowings, it would be of great advantage in getting the seed to start without loss of time. After the Beans have vegetated, the temperature of the frame should never be allowed to fall below 50°, or the plants will do no good, and remember that they require full sunlight, and plenty of air.

Grafting Golden Yew on the Common Species: *W. M.* The operation may be done in the spring as soon as growth begins, with ripened shoots of the previous year, or in August with shoots of the current year. The method employed may be that known as the veneer or whip, and the stock and scion need not be tongued; indeed, if these are weak it is undesirable to tongue. The leaves may be cut off both stock and scion, where the ligature will be placed; but, on stock and scion these should be retained at the top. Cut the scion, which should be quite fresh (not more than 24 hours cut), with an even sloping surface; measure its width and length, marking these out on the rind of the stock, and shave away the bark, and if necessary the wood, trying the scion on the surface from time to time till the two fit accurately

at the edges. Tie them together with soft thread or bast, and coat the parts with grafting wax to prevent evaporation from the tisaues. When the union is complete, the stock should be cut back with a cut sloping away from, and at a point where the two begin to unite. This method of grafting is suitable for evergreens generally, and is good outside or under hand-lights, bell-glasses, double frames, &c. Under glass, the grafting wax is less needed.

Hyacinth badly developed: *W. F. Gunn & Co.* This may be the result of the bulbs having been kept too long or in an unfit store. Many such cases arise from bulbs having been harvested before fully matured.

Making Mushroom Spawn: *D. F.* It is made of a certain proportion of cow-dung, horse-dung from animals fed on hard food, loam, and enough water to form a thick pasty mass. It is then partly dried, and afterwards clamped or stacked in sufficient bulk to set up a gentle heat, the "spawn" being thus generated within the so-called "bricks." If you want to ascertain the exact methods of setting to work commercially in the manufacture of bricks, an insight into the methods adopted by the best makers should be obtained.

Melon: *A. P.* We much doubt your ability to cultivate Melons of edible quality in a cold frame. In this country it can only be attained by the use of bottom-heat, steady, and lasting for twelve to fifteen weeks at 75° to 80°, with an average top-heat of 10° less. The shape of the frame does not matter greatly, but we should prefer one having a simple slope to the south before a three-quarter span, and it should not be less than 6 feet from back to front.

Muscat Champion Grape: *W.* We have received from "Vagabond" a note explaining the manner in which the mistake of writing Mr. Meredith's name instead of Mr. Melville's occurred, and this appears to us so likely to have been as he says, that we are of the opinion that the matter may now be allowed to drop.

Names of Fruits: *W. Milford.* Pears should have been sent earlier. They are now past identification.

Names of Plants: *H. & S.* Hedera crenata baccifera major.—*Lea Green.* Tradescantia Warscewicziana.—*H. F. M.* 1, Clematis indivisa; 2, Dracæna congesta; 3, D. intermedia; 4, Camellia Sacco-inova; 5, Abutilon insigne; 6, Cratægus Pyracantha.—*J. Machar.* The yellow one is Oncidium Cavendishianum, and the darker one O. luridum. In parts of South America they may be found growing together.—*H. F.* Acacia longifolia.—*W. C. & Sons.* Spiræa sorbifolia.—*J. R.* 1, Pinus Lambertiana (probably); 2, Picea excelsa; 3, Berberis Thunbergii; 4, Mesembryanthemum sp. (send when in flower); 5, Rhododendron Cunningham's White.—*F. A. G.* 1, Fuchsia, next week; 2, Cineraria Petasitis.

The Scotch Pine: *J. B.* In some parts of Scotland this is no doubt truly indigenous. Consult the report of the Scottish Conifers in the Conifer report of the Royal Horticultural Society.

Trees: *T.* It would be endless work to hunt up all the references in the *Gardeners' Chronicle.* Perhaps Mr. Boulger's book on familiar trees would answer your purpose.

Communications Received.—R. F. & Co.—Director, Royal Gardens, Kew.—J. B.—E. T. C.—J. V. & Sons.—J. A.—W. G. S.—E. C.—J. D.—R. M. L.—J. W.—E. T. R., Chicago.—R. B. W., Dedham, Mass.—Simpkin, Marshall, Hamilton, Kent & Co.—A. Henderson.—J. S.—E. T. C.—W. F. & Co.—H. W.—J. D.—W. A. C.—Vagabond.—W. H., Perry Hill.—R. D.—T. W. C.—J. T.—J. S.—S. C.—B. W.—An Anxious One, with scale insect, shortly.—H. R.—G. F. W.—A. H. K.—R. T. C.—D.—G. Dyke.—J. O'B.—C. W. D.—T. H.

Photographs Received.—Dendrobium nobile, W. O.

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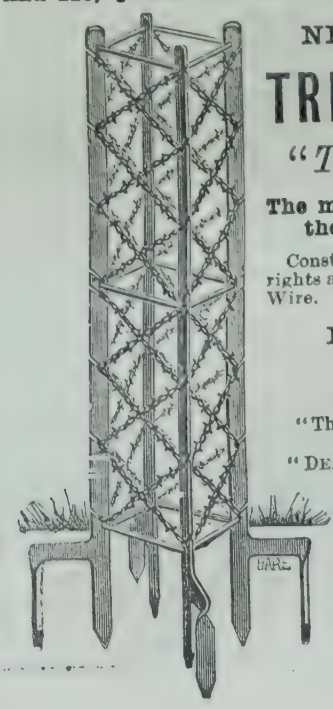

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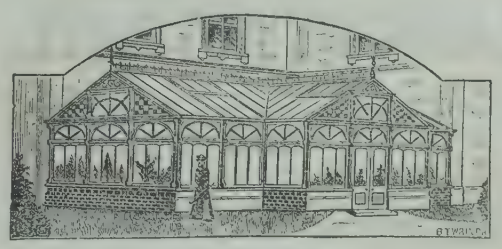

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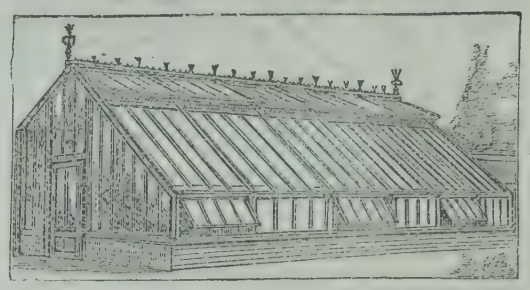

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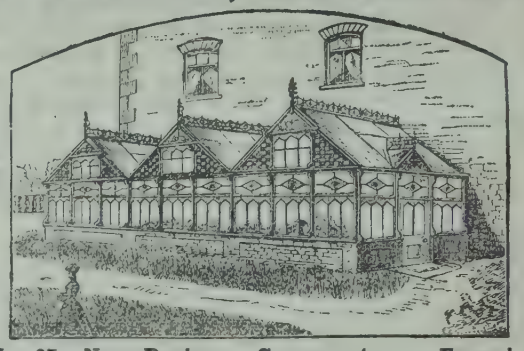

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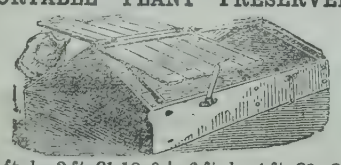

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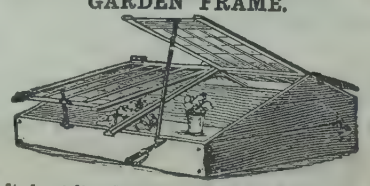

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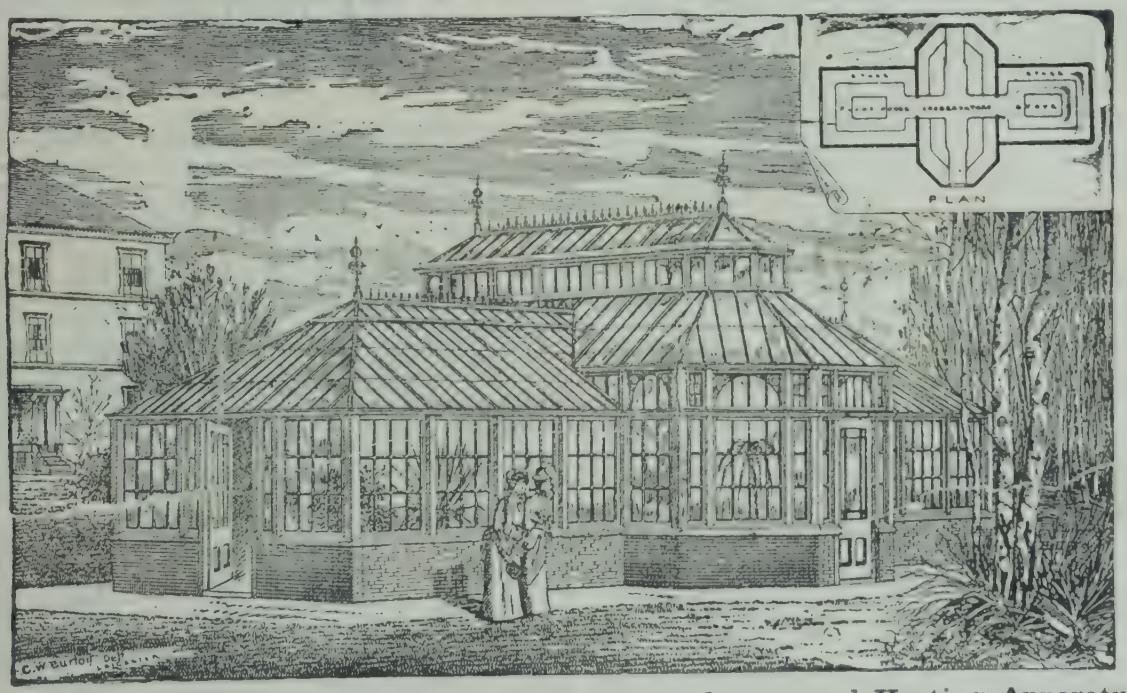

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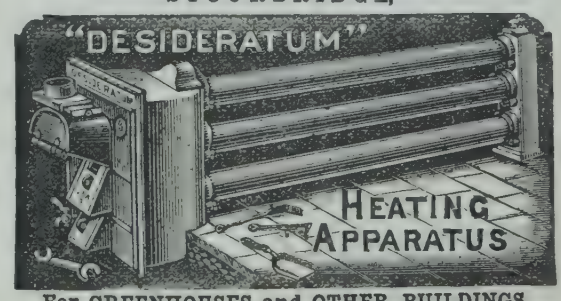

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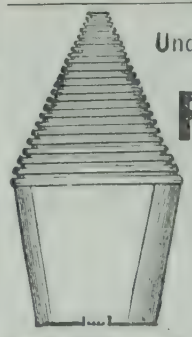

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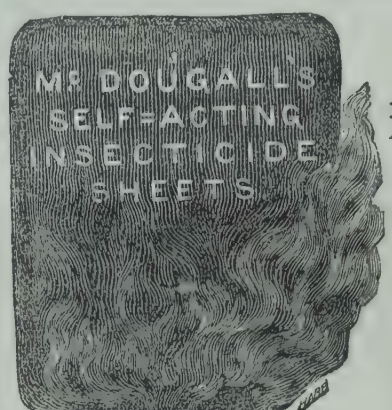

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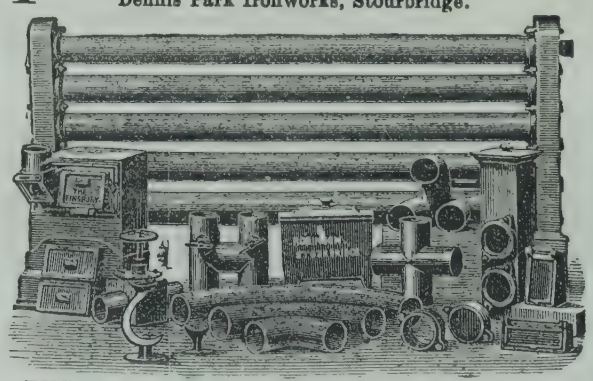

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GARDENER (Head Working).—Age 28, married, no family; sixteen years' practical experience in all branches, Orchids, Table Decorations. Good recommendations.—W. B., 3, Pownall Road, Fulham.

GARDENER (Head Working).—Age 27; thoroughly experienced in all branches. Can be highly recommended by present and previous employer. Clergyman desires to find situation for the above.—Rev. ROBERTS, Blackwater, Hants.

GARDENER (Head Working), or FOREMAN (General); age 28—Mr. Elphinstone, Henley Park, Guildford, wishes to recommend H. Russ as above. Thirteen years' experience.

GARDENER (Head Working).—Middle-aged, married. Thoroughly practical in all branches; three years Head in last situation; life experience. Can be well recommended.—F. W. Wilverley Park, Lyndhurst, Hants.

GARDENER (Head Working), where one or two are kept.—Fourteen years' practical experience in all branches. Good references.—H. VERNON, Holly Cottage, Windlesham, Surrey.

GARDENER (Head Working), where one or two are kept.—Age 31; ten years' experience in large establishments in all branches. Good character and testimonials from present and previous employers.—B. H., 30, Bloomfield Road, Bromley, Kent.

GARDENER (Head Working).—Middle-aged, married, two children, ages 7 and 11; thoroughly understands Vines, Melons, Stove and Greenhouse Plants, and Flower and Kitchen Gardening; eight years' good character, and fourteen previous.—GEO. TURNER, Cranmore Lodge, Elmstead, Chislehurst, Kent.

GARDENER (Head Working).—Age 36, married, one child; twenty years' experience in all branches of Gardening. Four years in present situation. Good reference.—GEO. McLEOD, The Gardens, Observatory House, Honor Oak Park, S.E.

GARDENER (Head Working); age 34.—The Advertiser would be glad to engage with any Lady or Gentleman requiring the services of a thorough good all-round man. Excellent Manager. Life experience. Good character from present and previous employers.—A., 65, South Street, Chichester.

GARDENER (Head Working).—Age 36, married; abstainer. Practical experience in requirements of good establishment, Forcing, Hardy Fruit, &c.—G. CURTIS, 5, North Terrace, Fairlawn Park, Sydenham, S.E.

GARDENER (Head Working); age 32; abstainer.—W. Kelland, late Foreman, Ashton Court, Bristol, seeks situation as above. Highly recommended.—48, Crompton Road, Nechells, Birmingham.

GARDENER (Head Working), where another is kept.—Age 23; eight years' experience both Inside and Out. Good references from previous employers.—ALBERT SNELLING, 26, Stamford Terrace, Stamford Hill, N.

GARDENER (Head Working).—Age 34, widower, one child; thoroughly experienced in Growing Grapes, Peaches, Melons, Cucumbers, Tomatos, Stove and Greenhouse, Orchids, Flower and Kitchen Gardener, &c.—GARDENER, J. Harrison, Builder, Gresham Road, Staines.

GARDENER (Single-handed), or where help is given.—Married when suited. Six years good character.—J. GRIFFITHS, Burcher Court, Titley R.S.O., Herefordshire.

GARDENER (Single-handed, or Second), where more are kept.—Age 24; abstainer. Eight years' experience. Inside and Out. Three and a half years' good character from present situation.—G. H. PATTINSON Pen Moel, Chepstow, Glos.

GARDENER (Single-handed, or Under).—Good experience in Kitchen and Flower Garden. Two years' good reference.—E. HOAD, Mrs. Hoath, High Street, Westerham.

GARDENER (good Single-handed), or where another is kept.—Age 23; eight years' experience, both Inside and Out. Good references from previous employers.—A. SNELLING, 26, Stamford Terrace, Stamford Hill, London, N.

GARDENER (good Single-handed, or with help).—Age 23; abstainer. Seven and a half years' practical experience in all branches. Highly recommended. Understands Cows.—T. Y., Cottage, Gainsborough Road, Leytonstone, E.

GARDENER (good Single-handed, or with help).—Age 28; fourteen years' experience. Good character.—A. HARDT, Rose Cottage, East Barnet.

GARDENER (Single-handed, or where help is given).—Age 27, single; life experience in most branches. Good references.—W. WAKE, Barnham, Bognor, Sussex.

GARDENER (Single-handed, or with help).—Age 25, unmarried; seven years in good Establishments. Last place Second Gardener to Sir Charles Russell.—H. YOUNG, Ridley Road, Winton, Bournemouth.

GARDENER (Single-handed), or where help is given.—Married, one child; over five years in present place. Well recommended by present employer.—W. PAGE, The Danes, Hertford.

GARDENER (Single-handed).—Age 27, married when suited; Stove and Greenhouse Plants, Flower and Kitchen Garden. Good reference. Abstainer.—H. WAYLING, 2, Canterbury Terrace, Maida Vale, W.

GARDENER (good Single-handed or Second).—Age 27, single; experience in all branches; good character.—W. D., 8, West Hill, Wandsworth, S.W.

GARDENER (good Single-handed or Second).—Age 24; good character; all-round hand; abstainer.—STAPLEHURST, Rose Acre, Barnes, S.W.

GARDENER (Single-handed, or otherwise).—Twenty years' experience; eight and a half years' Gardener to the late Professor Westwood, Oxford. Good reference.—J. B., 94, Malpas Road, Brockley, S.E.

GARDENER (Second), where three or four are kept.—Age 28, single; four years in last place. Inside and Out. Good character.—A. CHAPMAN, 3, Lewis Road East, Loughborough Junction, S.E.

GARDENER (Second).—A young Man, age 23, single, has been used to Pleasure Grounds and Kitchen Gardens. Good character from last place.—RALPH, Albion Cottages, West Hill, Epsom.

GARDENER, where help is given.—Age 30. Well up in Private and Nursery Work, or would Work for the Trade or Market Garden with view to Partnership or Investment.—T. JENKINSON, 3. Clewer Terrace, Haven Green, Ealing, W.

GARDENER.—Age 24, single; Certificate Botany; requires situation. Twelve years' experience in the Growing of Fruits, Flowers, and Vegetables. Inside and Out.—W. DEARLING, 5, Plaistow Street, Lingfield, Surrey.

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GARDENER (Under).—Age 22; five years' experience Inside and Out. Good character.—GARDENER, The Vyne, Basingstoke, Hants.

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GARDENER (Under), or otherwise.—Age 22; five years' experience, Inside and Out. Well recommended.—FRANKLIN, Grove Road, Ealing, Middlesex.

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GARDENER (Under).—Age 20. Rev. F. Wilson, Woking School, Surrey, wishes to highly recommend the above. Understands Greenhouse, Cucumbers, and Kitchen and Flower Gardening. Steady and industrious.—L. POPE, Mrs. Harrison, 106, Harbut Road, New Wandsworth, S.W.

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FOREMAN, in good establishment.—Age 26. Well experienced in Plants, Fruit, Melons, and Cucumbers; also Chrysanthemums.—A. H., Waddesdon Gardens, Aylesbury, Bucks.

FOREMAN, in a good establishment.—Age 26; good experience in Orchids, Stove and Greenhouse Plants, Forcing, and Fruit Culture. Four years Foreman in present situation.—J. WHITE, The Gardens, Coleshill House, Highworth.

TO NURSERYMEN.—A young man (age 24) seeks a situation as FOREMAN or leading hand in a Small Nursery, or as Cucumber and Tomato Grower. Single; six years' experience. Good character.—GARDENER, Mr. Foremans, Alexandra Villa, Belle Vue, Worthing.

JOURNEYMAN (First). — H. EDWARDS, Eagle Gardens, Highgate, can with confidence recommend W. Baker (age 24) as above. Nine years' experience.—W. BAKER, 4, Pond Square, Highgate, N.

JOURNEYMAN, in the Houses.—Age 22; seven years' excellent character. I can well recommend a young Man as above.—W. SANGWIN, Head Gardener, Trelissick, Truro, Cornwall.

JOURNEYMAN.—Age 20; five years' experience Inside. Bothy preferred.—HEAD GARDENER, Aubrey House, Camden Hill, Kensington, W.

JOURNEYMAN (First), in good establishment.—Mr. LANFEAR, Oxton Gardens, Kenton, Exeter, can highly recommend F. Westcott as above. Has been with him three and a half years.

JOURNEYMAN (First), Indoor and Out.—Age 23; life experience, with excellent character.—A. ANDREWS, Head Gardener to Hon. W. Lowther, High House, Campsey Ashe, Suffolk, can highly recommend Frank Gibbs as above.

JOURNEYMAN (Inside, or Inside and Out). —Age 21; twelve months' good character. Abstainer.—WILLIAM DOWN, 58, Shirley Park Road, Southampton.

JOURNEYMAN, in the Houses.—Age 19; three years' experience. Good reference from present and previous employers.—W. HORTON, Marian Lodge, Little Gaddesden, Herts.

JOURNEYMAN.—I can with confidence recommend an active young man, age 20, for the Houses. Five years' experience; abstainer.—HEAD GARDENER, The Grange Gardens, Holly Walk, Leamington.

JOURNEYMAN, in a good Establishment.—Age 20; six years' experience in the General Routine of Gardening. Good references from present and previous employers.—W. CHILDS, Ashbridge Gardens, Berkhampsted, Herts.

JOURNEYMAN, in a good establishment; age 23.—T. NUTTING, Gardener to Sir J. B. Maple, will be glad to recommend Thos. Goff as above.—The Gardens, Childwickbury, St. Albans.

JOURNEYMAN, Inside; age 22.—Mr. PETERS, Givon's Grove, Leatherhead, would be pleased to recommend a young Man as above. Four years' recommendation.—R. PATRICK, Givon's Grove, Leatherhead.

JOURNEYMAN, in the Orchid Houses.—Age 22; five years' experience. Good references.—H. WAITE, 65, Waldo Road, College Park, Harrow Road, N.W.

JOURNEYMAN, in the Houses. — Well up in Fruit Growing and the general routine of Gardening. Four years' good character.—A. PERRY, Gardens, Prestwood Hall, Stourbridge, Worcestershire.

JOURNEYMAN, in the Plant-houses, in a good establishment.—Age 21; two years' excellent recommendation from W. H. DIVERS, Ketton Hall Gardens, Stamford.

JOURNEYMAN. — Age 23; has had good experience. Two years in last situation, three years previous. Can be well recommended.—A. WEST, Timberland, Lincoln.

JOURNEYMAN (First), in the Houses, under Foreman.—Age 23; three and a half years in present situation; wants change, bothy.—W. CRAVEN, Little Dalby Hall Gardens, Melton Mowbray.

JOURNEYMAN, Inside or Out; age 20.—I can with confidence recommend a man as above. He has been here five years. Sharp, active, and obliging.—JAMES SMITH, Wotton Gardens, Aylesbury.

JOURNEYMAN, in the Houses, under good Foreman.—Age 20; can be well recommended from present and previous places.—F. BREWER, The Gardens, Hardwick House, Bury St. Edmunds.

JOURNEYMAN (First), Inside; age 24; nine years' experience. two in present.—Mr. CLARKE, Gardener, can with confidence recommend J. Daynes as above. Bothy preferred.—The Gardens, Cannon Hall, Barnsley.

JOURNEYMAN, Inside preferred. — A. J. SANDERS, Gardener to Viscountess Chewton, Bookham Lodge, Cobham, Surrey, can strongly recommend a strong, active youth (age 17) as above. Four years' experience.

JOURNEYMAN, in the Houses, or Inside and Out, in a good establishment; age 22.—Mr. GEO. HUMPHREY, Gardener, Nash Court, Faversham, will be pleased to recommend a young man as above.

JOURNEYMAN (First), in a large Establishment.—Age 22; eight years' experience in general routine. Good references. — H. SUMMERS, Hatch Park Gardens, Taunton.

JOURNEYMAN GARDENER (Inside and Out).—Age 23; four years' experience; good references. —W. D., Mr. Robinson, Newsagent, Bury St. Edmunds.

JOURNEYMAN, in the Houses.—Age 21; five years' experience, three years in last place. Excellent character.—A. T., Mr. Hughes, Marsh Road, Trowbridge, Wilts.

JOURNEYMAN, in the Houses.—Age 19; good character from present and previous employers.—H. LANGDOWN, The Gardens, Landford House, Salisbury.

JOURNEYMAN, in the Houses, in a good Establishment.—Age 19; four years' experience. Good character.—T. W. GRIMES, Culverhay, Wotton-under-Edge, Gloucestershire.

JOURNEYMAN, in the Houses.—Age 23; nine years' experience. Excellent character.—H. JONES, Victor Road Teddington, Middlesex.

JOURNEYMAN, Inside and Out, or otherwise. Age 20; four years' experience. Good character.—J. PIKE, The Lodge, Whitestaunton, Chard.

JOURNEYMAN, Inside.—Age 21; six years' experience; good character.—W. AUCOCK, The Gardens, Taplow House, Maidenhead.

JOURNEYMAN, in the Houses.—Age 20; eight years' experience. Excellent character. — H. WARREN, The Gardens, Tranks Hall, Farningham, Kent.

JOURNEYMAN, Inside, or Inside and Out.—Mr. HISLOP, Head Gardener, Bletchley Park, Bucks, wishes to recommend a young Man (age 20), as above. Abstainer; bothy preferred.

JOURNEYMAN, or IMPROVER, in a Private Establishment, under good Foreman, in Houses, where several are kept.—Age 20; six years' experience in one of the leading Nurseries. Excellent character.—E. R., *Gardeners' Chronicle* Office, 41, Wellington St., Strand, W.C.

IMPROVER. — W. GRIFFITHS, Strensham Court Gardens, Tewkesbury, wishes to recommend John Lewis to anyone requiring a good strong lad (age 17), with two years' experience here.

IMPROVER, in a good Nursery, to learn the trade.—Situation required by a young Man as above; wages small. Kent or Sussex.—N. A., Waverly Lodge, St. Mildred's Road, Ramsgate, Kent.

IMPROVER, in a Private Garden.—G. PILLER, Gardener, Fairy Hill, Swansea, Glamorgan, wishes to recommend a youth (age 19); four years' experience Inside and Out.

IMPROVER.—Situation wanted by a respectable well-educated youth, age 17, who has had two years' experience. Advertiser wishes to correspond with Head Gardener, with a view to above.—GARDENER, Holbrook Rectory, Ipswich, Suffolk.

IMPROVER, in a Garden or Nursery.—Age 19; can be well recommended.—J. B., Lowlands Farm, N. Amersham, Bucks.

IMPROVER.—Advertiser has a young man (age 20), strong and willing, who is anxious to improve under a first-class Gardener. An exchange might be arranged with a suitable man wanting to learn the Indoor Nursery Trade.—JOHN STEVENS, The Nursery, Coventry.

IMPROVER, in the Houses; age 19.—H. AMOS, Pendley Manor, Tring, Herts, would be pleased to recommend W. Batchelor, who has been with him three years, to any gardener requiring a very steady, obliging, and respectable young man.

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TO GARDENERS.—Situation wanted (Inside), by a young man. Age 19; four years' excellent character. Abstainer. Willing and anxious to get on.—S. NOYCE, Ridgeway, Overton, Hants.

TO GARDENERS.—A young Man (foreigner) wishes a situation where he will have a chance to learn something about Grapes. Private preferred.—N., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

TO GARDENERS.—Situation wanted, by a young man (age 22), Inside, or Inside and Out. Good references.—W. CATEN, Hill House Garden, Esher, Surrey.

TO GARDENERS.—A young Man requires a situation in the Garden, or to help in the Houses, under a Foreman.—C. MUNNINGS, Velley, near Corsham, Wilts.

TO GARDENERS.—J. MCDONALD, Gardener to the Earl of Gainsborough, Exton Park Gardens, Oakham, can confidently recommend to any Gardener a strong active youth of 17. Inside and bothy preferred.

TO GARDENERS.—A young Man, age 25, single, wants a situation in a gentleman's family as COWMAN; no objection to assist in garden. 18 months' good character from last place.—GALE, Albion Cottages, West Hill, Epsom.

TO GARDENERS, &c.—Young Man (age 24), requires situation in Tomato or Cucumber-houses. Has had Charge of Tomatos. — A. B., 1A, Friern Park, North Finchley, London, N.

TO GARDENERS.—Advertiser (age 20) seeks a situation in Kitchen Garden.—Good references from last and previous situations.—G. H., the Chestnuts, Weybridge, Surrey.

TO GARDENERS.—H. APPLEBY, Dorking, Surrey, can confidently recommend A. Weller as FOREMAN in a good Establishment; age 26. Seven years' good character.—A. WELLER, jun., Holmwood Park, Dorking, Surrey.

TO MARKET GROWERS.—Situation wanted by one who has been in a Gentleman's garden for three and a half years. Can be well recommended. Age 19. Strong and active.—A. WOOD, 12, New Street, Three Bridges.

TO MARKET GROWERS.—A young Man (age 24) seeks situation with above. Eleven years' experience; good references.—J. T. CREED, 2, Costerton Terrace, North Lane, Teddington.

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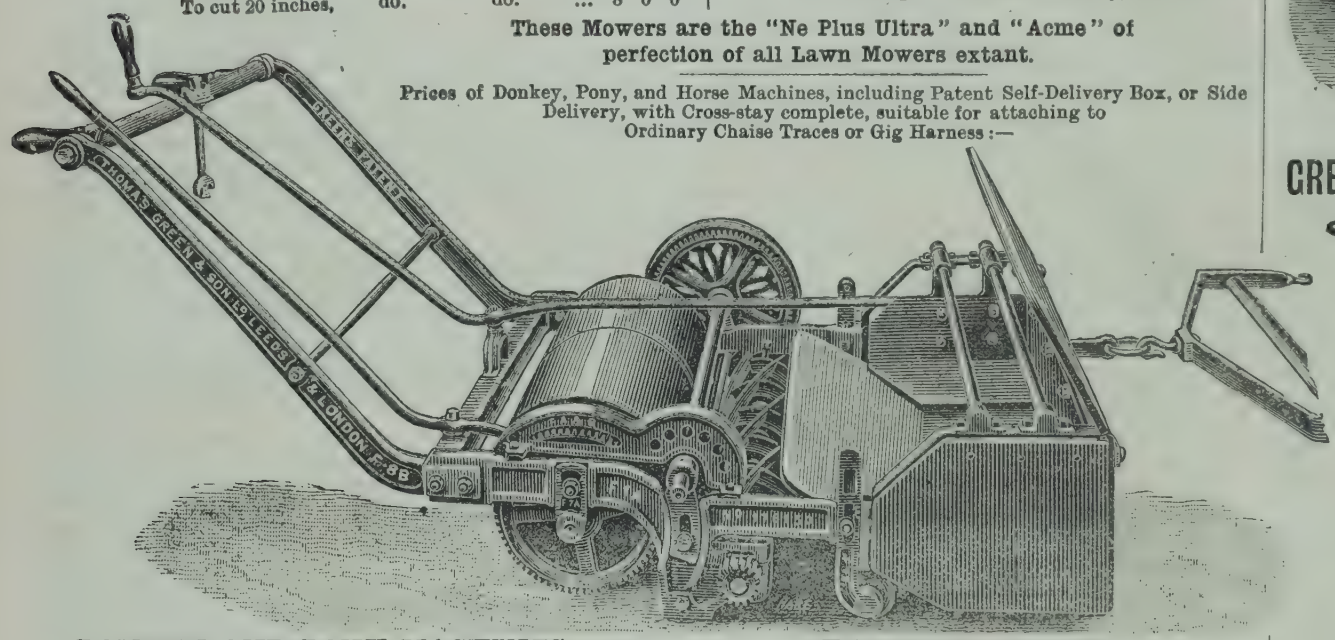

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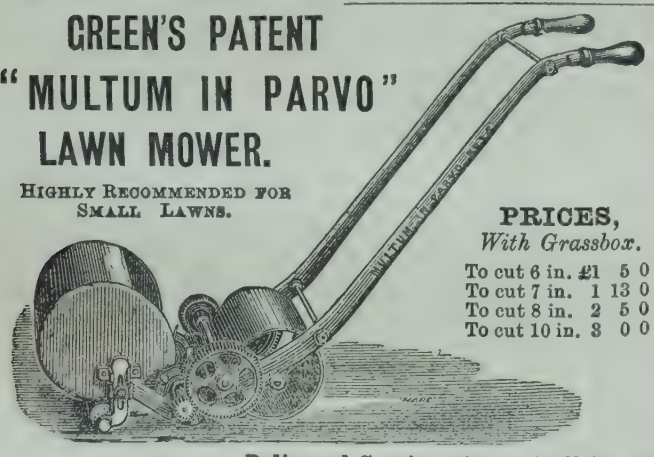

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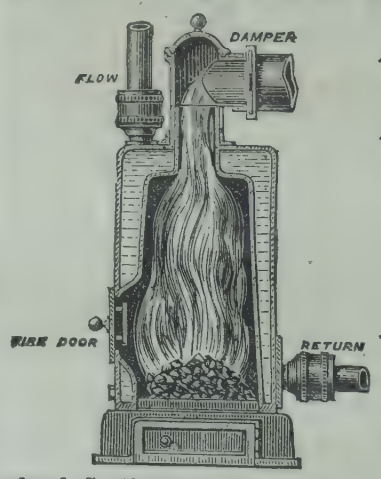

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CONTENTS.

es Mariesi	299	Middleman, the	300
antum cuneatum, for utting	292	Orchid notes and gleanings	292
ple Armorel	301	Parsnip eaten by vole	301
Atalanta	293	Plants new or noteworthy—	
n, the	293	Cattleya Triance ...	290
nboos at Kew... ...	299	Dendrobium (hybridum) Cassiope ...	290
tanical Magazine ...	298	Dendrobium (hybridum) Venus... ...	290
lb garden, the:—		Lachenalia aurea gigantea	290
Crocus Sieberi	293	Orchids, new, described in *Kew Bulletin* ...	290
Narcissus poeticus ornatus for forcing ...	294	Plumbago capensis, bedded out	302
ifornia as a field for gardeners	289	Rose garden	292
icago Exposition ...	293	Rose show fixtures for 1893	299
onal notes	303	Rothamsted Jubilee ...	297
ffodils on turf ...	293	Scotland—	
ndrobiums in season...	300	Vegetables in the North	300
vonshire climate ...	298	Stocktaking: February .	298
yngium campestre ...	301	Trees and shrubs... ...	303
patoriums, Abutilons, &c.	301	Week's work, the—	
owers, early spring	302	Flower garden ...	295
otpaths in pleasure grounds...	301	Fruits under glass ...	294
ster & Pearson's works at B eston	302	Hardy fruit garden ...	295
rden teaching ...	296	Kitchen garden ...	295
adiolus oppositiflorus	291	Orchid-houses, the ...	294
ape, Gros Colmar ...	301		

ILLUSTRATIONS.

"leather bottel"	301
pple Atalanta	293
affodils at Ard Cairn, Cork	297
adiolus oppositiflorus	291

"GARDENERS' CHRONICLE."

ARGELY INCREASED CIRCULATION.

MPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

Increased to the extent of 75 per cent.

dvertisers are reminded that the "Chronicle" circulates among ALL CLASSES OF GARDENERS AND GARDEN-LOVERS *at home and abroad, and is preserved for reference in all the principal Libraries.*

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COUNTY COUNCIL LECTURES.

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A Consignment of LATANIAS, PHŒNIX TENNIS, COCOS, and other PALMS. AZALEA MOLLIS and INDICA, DAPHNE, ASPLENIUMS, ARALIAS, &c., from Ghent. Also a grand collection of many of the choicest PINKS, CARNATIONS, PICOTEES, PHLOX, HOLLYHOCKS, PYRETHRUMS, ASTERS, DAHLIAS, PÆONIES, and other BORDER PLANTS, Pyramid, Dwarf-trained, and Standard FRUIT TREES, 300 Hardy ORNAMENTAL SHRUBS, &c.

MR. J. C. STEVENS will SELL the above by AUCTION at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, March 15, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

Wednesday Next.

AN IMPORTATION OF LILIUMS FROM JAPAN.

5000 LILIUM AURATUM, 500 grand Bulbs of L. KRÆTZERI, L. AURATUM PICTUM, L. SPECIOSUM ALBUM and RUBRUM, L. LEITCHTLINI, &c.; 10,000 fresh Seeds of COCOS WEDDELLIANA, 20,000 FREESIA REFRACTA ALBA, 1000 BEGONIAS, 50,000 Berlin LILY OF THE VALLEY Crowns; LILIUMS, ANEMONES, and GLADIOLI, from Holland, &c.

MR. J. C. STEVENS will include the above in his SALE by AUCTION at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, March 15.

On view morning of Sale, and Catalogues had.

Wednesday Next.

1500 Choice named Standard, Half-Standard, Dwarf, Climbing, and Other ROSES, from one of our most successful English growers and exhibitors, consisting of the leading sorts of Hybrid Perpetuals, Teas, Noisettes, and several of the best new varieties.

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On view morning of Sale, and Catalogues had.

Monday Next.

200 Dwarf ROSES, TIGRIDIAS, choice home-grown LILIES, LILY OF THE VALLEY, BERLIN CROWNS, CALLA NANA COMPACTA, HYPERICUM MOSERIANUM, DELPHINIUMS, double PYRETHRUMS, GLADIOLUS LEMOINEI, hardy CLIMBERS, BEGONIAS, splendid strain; choice hardy PERENNIALS, IRIS KÆMPFERI, HYACINTHUS CANDICANS, JAPANESE LILIES, VALOTTA PURPUREA, &c.

MESSRS. PROTHEROE and MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, March 13, at 12 o'clock.

On view morning of Sale, and Catalogues had.

Tuesday Next.

2000 JAPANESE and other LILIES, including Auratum, rubrum, album, Platyphyllum, virginale, longiflorum, canadense, superbum, and others; BEGONIAS, splendid strain; LILY OF THE VALLEY; GLADIOLI, including Lenwins hybrids, Gandavensis, Brenchleyensis, Colvilli alba and rubra, choice collection of IRIS, new CARNATIONS, collections of Hardy BORDER PLANTS, PINKS, named ANEMONES, CACTUS, and Single DAHLIAS, PICOTEES, TIGRIDAS, VALLOTAS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, March 14, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Tuesday, March 14.

UPPER BURMAH ORCHIDS.

By order of Walter Keusley & Co., 147, Leadenhall Street, London.

A NEW IMPORTATION, just to hand, to be SOLD, ABSOLUTELY WITHOUT RESERVE, in Lots to suit the Trade and Private Buyers.

DENDROBIUM WARDIANUM HETEROCARPUS
" THYRSIFLORUM FALCONERI
" CHRYSOTOXUM BRYMERIANUM
" SUAVISSIMUM
" NOBILE—Collector says he is sure this is nobile nobilius
CŒLOGYNE BARBATA
CYPRIPEDIUM BOXALLI
CYMBIDIUM LOWIANUM, &c.

Also 100 Lots of ODONTOGLOSSUM ALEXANDRÆ, LAELIA PURPURATA, PILUMNA NOBILIS, and ORCHIDS in flower.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, March 14, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Wednesday Next.

5000 JAPANESE LILIES, in grand condition, embracing Auratum longiflorum, rubro virtatum, platyphyllum, album, rubrum, virginale, &c.; 200 LILIUM JAPONICUM COLCHESTERII; 200 Dwarf ROSES, 100 extra choice CANNAS, very fine varieties; BEGONIAS, grand strains, from a well-known Amateur; choice Collections of GLADIOLI, TREE FERNS from New Zealand, for Unreserved Sale; 800 GLOXINIAS, from a well-known Continental strain; 700 PANCRATIUM ZEYLANICUM, Hardy Border BULBS and PLANTS, in great variety; DAHLIAS, White IRIS, HYACINTHUS CANDICANS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, March 15, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

The Celebrated Fernside Collection of Orchids.

SECOND PORTION.

ABSOLUTELY WITHOUT RESERVE.

MESSRS. PROTHEROE AND MORRIS are favoured with Instructions from H. M. Pollett, Esq., to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, March 15, at half-past 12 o'Clock precisely, the SECOND PORTION of this CELEBRATED COLLECTION of ESTABLISHED ORCHIDS. Amongst the many fine things which are to be sold may be mentioned—

Cattleya Warneri, in variety
" Gaskelliana, in variety.
" " alba
" Dowiana aurea
" Bowringiana
" Lawrenceana
" Trianæ, in variety
" " alba
" Schroderæ
" Mendeli, in variety
" " Wallisii
" Rex, supposed to be the finest in the country, F.C.C.
" gigas
" " Sanderiana
" labiata (autumn flowering)
" " Warocqueana
" Percivalliana
" " Fernside variety
" Wagnerii, specimen
" " three smaller plants
Cœlogyne Lowii
" cristata alba, specimen
" " " several smaller plants
Cypripedium Arthurianum
" bellatulum
" cardinale, finest variety
" Crossianum
" Harrisianum
" Leeanum superbum
" leucorrhodum
" marmorophyllum
" Morganiæ
" œnanthum superbum
" orphanum
" roseum
" Schlimii, very fine
" Spicerianum
" Schroderæ
Cypripedium Sedeni candidulum
Dendrobium Schroderæ
" Phalænopsis
Lælia anceps alba
" " Dawsonii, true
" " Williamsii
" " Stella
" " Sanderiana
" " Hillii
" " Percivaliana
" elegans alba
" " Schilleriana
Masdevallia Harryana
" " versicolor
Miltonia vexillaria, in variety
Odontoglossum crispum (Alexandræ)
" " Bickleyense
" crispum aureum
" Edwardii
" Polettianum, F.C.C.
" mulus, Bockett's variety
" elegans, F.C.C.
" Chestertoni, Lee's grand variety
" Ruckerianum insigne
" Wilckeanum
" Andersonianum (fine varieties
" Pescatorei, Tompsoniana, F.C.C.
" blandum
" citrosmum roseum grandiflorum
" polyxanthum
Oncidium macranthum
Trichpilia lepida
" crispa splendens
Vanda cœrulea, specimen, and fine variety
" suavis Veitchii

Catalogues, with thirty-five Coloured Illustrations of some of the principal Odontoglossums, can be had, price 2s. 6d. each, of Messrs. Protheroe & Morris, Horticultural Auctioneesr and Valuers, Central Auction Rooms, 67 and 68, Cheapside, London, E.C.

N.B.—The *Reichenbachia*, complete to date, in three vols., thirty-six parts, in splendid condition.

Thursday Next.

Collection of HOME-GROWN LILIES, including auratum, Brownii, rubro-vittatum, Wittei, platyphyllum, Batemanniæ, Krameri, Hansoni, Hookeri (new, supposed hybrid longiflorum × speciosum); IRIS, HYACINTHUS CANDICANS, 50 lots of choice STOVE and GREENHOUSE PLANTS and FERNS, 200 lots of Hardy BORDER PLANTS, BULBS, &c.; CHINESE SACRED LILIES, LILY OF THE VALLEY Clumps.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, March 16, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next.

8 Cases of ODONTOGLOSSUM CRISPUM, all fine strong plants, no small ones amongst them. Collected by Mr. R. Thomson, formerly Superintendent of the Botanical Department, Jamaica, sent home for Unreserved Sale. Mr. Thomson writes that they are exclusively Pacho plants.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, on FRIDAY NEXT, March 17, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next.

SPECIAL SALE of CARNATIONS, PICOTEES, PHLOX, DELPHINIUMS, PYRETHRUMS, PÆONIES, HOLLYHOCKS, and others; English-grown LILIES, GLADIOLI in variety, NEW CARNATIONS, CALLAS, CANNAS, PINKS, &c.; DAHLIAS, PERENNIALS, GLOXINIAS, Double and Single; BEGONIAS, 200 Dwarf ROSES, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, March 17, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Margate.—By order of Executors.

CLEARANCE SALE of STOVE and GREENHOUSE PLANTS, PITCHER PLANTS, ORCHIDS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, Albert House, Margate, on THURSDAY, March 23, at 1 o'Clock precisely, by order of Executors of the late — Atkinson, Esq., the choice collection of STOVE and GREENHOUSE FERNS, amongst which are two fine Cibotium Scheidei; PALMS in variety, a very fine lot of CROTONS, DRACÆNAS, ALLAMANDAS, STEPHANOTIS, large CAMELLIAS, TEA ROSES, ACHIMENES, GLOXINIAS, CYCLAMEN, PANCRATIUMS, IMANTOPHYLLUM. 100 very fine Seedling AMARYLLIS, a few ORCHIDS, including Cypripediums and Dendrobium, Phalænopsis; a very choice collection of NEPENTHES, including Morganiæ; with 20 PITCHERS, Hookeriana; 15 PITCHERS Ratcliffiana, Wrigleyii, cincta, and others.

May be Viewed two days prior to the Sale. Catalogues had on the Premises, of Messrs. Jackson & Wright, Solicitors, 60, Lincoln's Inn Fields, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Friday Next.

By order of Messrs. Linden, Brussels.

A grand Lot of 150 Established Plants, all unflowered, of

LINDEN'S CATTLEYA REX

will be offered for SALE by PUBLIC AUCTION at MESSRS. PROTHEROE AND MORRIS' Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY NEXT, March 17, at half-past 12 o'Clock.

Since Messrs. Linden have introduced this most brilliant ORCHID, another firm announces periodically that they "will offer Cattleya Rex soon."

In one of the recent issues of the *Gardeners' Chronicle* (February 18, 1893, p. 187), an announcement appeared under this form—that "Cattleya Rex comes from the Kayman River (?) territory, interior of the U. S. Colombia, towards Bolivia."

LINDEN'S CATTLEYA REX is NOT a native of U. S. Colombia. Its native habitat will in due time be revealed by Messrs. Linden.

Also 100 Selected Plants of
ODONTOGLOSSUM (COCHLIODA) NOTZLIANUM.
And 50 well-established Plants of
MESOSPINIDIUM VULCANICUM GRANDIFLORUM.

On view morning of Sale, and Catalogues had.

The Quorn House Collection of Orchids.

LOUGHBOROUGH.

Also the COLLECTION of PITCHER PLANTS, probably the finest in Europe.

Highly important CLEARANCE SALE, by order of W. E. J. B. Farnham, Esq. Without the slightest Reserve.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION, on the Premises, Quorn House, Loughborough, on TUESDAY, April 11, and FOLLOWING DAYS, at 12 o'Clock precisely each day, the whole of this far-famed Collection of ESTABLISHED ORCHIDS, splendidly grown, and containing many rarities. A list of the principal plants appeared in last week's *Gardeners' Chronicle*.

Catalogues are being prepared, and may be had in a few days.

To Nurserymen and Florists.

Jubilee Nursery, Lordship Lane, Wood Green, N.

A 60 feet by 14 feet timber-built GREENHOUSE, with Piping; a 29 feet by 14 feet ditto, with Piping and Staging; a 13 feet by 10 ditto, with Staging; 19 Sheets of GALVANISED IRON; an Iron Water TANK, 5 feet 4 inches by 3 feet by 3 feet; and 14 PIT LIGHTS.

MR. WILLIAM J. PALMER will SELL the above by AUCTION, at the Wood Green Mart, opposite Green Lanes Station, G.E.R. (a Sale on the Premises being prohibited), on THURSDAY, March 16, at 1 o'Clock precisely. May be viewed.

W. J. PALMER, Auctioneer, Wood Green, N.

GREAT SALE OF ORCHIDS,

BY ORDER OF THE LIQUIDATOR.

THE LIVERPOOL HORTICULTURAL COMPANY (JOHN COWAN), Limited, being now in liquidation, are offering their immense stock of ORCHIDS at greatly reduced prices.

Descriptive and Priced CATALOGUES of the Stock are being prepared in sections, and they will be forwarded as completed to all who may furnish their name and address for that purpose. Catalogues of Sections No. 1 and 2 are now ready. Inspection is earnestly invited.

The large stock of STOVE and GREENHOUSE PLANTS, GRAPE VINES, TEA ROSES, FERNS, &c., will also shortly be offered, at a great reduction.

CATALOGUES will also be forwarded, when ready, free, on application to the COMPANY,

The Vineyard and Nurseries,
GARSTON, near LIVERPOOL.

TO LET.—ST. ANDREW'S NURSERY, Deal; Seven Glasshouses, with or without Stock. Apply to M. LANGLEY, High Street, Deal.

IN KENT, 15 miles from London, a small NURSERY TO LET. For particulars, apply to—W. B., "The Orange Tree," Wilmington.

TO LET, Immediately, through ill health, a genuine SEED, PLANT, and FLORISTS' BUSINESS, in growing market town, near London, main thoroughfare. Thorough investigation. Good opportunity for pushing man.—H. A., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

NURSERY for SALE, or to be LET, near Blackheath, S.E., in working order. Land 442 feet by 150 feet (more or less), at low ground rent. Contains seven Glass Houses, about 100 feet to 123 feet long, heated by three Boilers; three Cold Frames, about 100 feet long; Planting Ground, &c Stock at valuations, if desired.—Apply to THOMAS PEACOCK, Warwick Square, London, E.C.

FOR SALE, an old and important BUSINESS in the FRUIT, FLOWER, and VEGETABLE TRADE, in the best position of a leading Seaside Resort on the South Coast, where the returns are £5000 per annum, at exceptionally good profits. — Particulars of NEMO, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FOR SALE, FREEHOLD NURSERY, situated in the West End of one of the most important Seaside Resorts on the South Coast. Well heated with Hot-water. Exceptional opportunity. Freehold, £1000. Stock optional.—N. J., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FLORISTS' and NURSERYMENS' BUSINESSES for DISPOSAL, viz.:—FLORISTS, London, N., £130; West End, £700 and £600 (net profits £400 yearly), S.W. Suburb, £225; Hyde Park, £550; Herts, 210. NURSERIES, Oxfordshire (leading town), £800. Near Bath, £3600 (Freehold, 6 acres). West Suburb, £1750 (Freehold, with House); also others. Personally, if possible.

HILL AND CO., 5, Adelaide Street, Charing Cross, W.C.

FOR ORCHIDS and GARDENERS to Grow Them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

10,000 PTERIS TREMULA, large plants for potting on.
Free on rail, £6 per 1000.
W. E MARSHALL, Shiplogs Nursery, Abbey Wood.

CHOICE GERMAN FLOWER and VEGETABLE SEEDS.
CATALOGUES free on application.
FRED. RŒMER, Seed Grower, Quedlinburg, Germany.

CARNATIONS.—Finest border sorts. Well established Plants at very moderate prices.

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20,000 PTERIS TREMULA, good healthy stuff; 1000, 45s, package free.
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GENISTAS.—A few thousands for Sale, in small 60-pots, at 10s. per 100. Cash with Order. Money-orders payable at Leyton High Street.
T. BALDWIN AND SON, Edith Nurseries, Burchall Road, Leyton.

CARNATIONS.—Mrs. Reynolds Hole, well-rooted layers, 4s. per dozen, 20s. per 100, £9 per 1000; Germania, best yellow, in 60's, 35s. per 100, 6s. per dozen. Cash with order.
CRANE AND CLARKE, Hillside Nursery, March, Cambs.

ROSES, in large pots, for spring bloom. Souv. de S. A. Prince, Princess de Sagan, Perle des Jardins, W. A. Richardson, The Bride, Cath. Mermet, &c.
WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

POTATOS FOR SALE.
Fernham Farm, near Faringdon, Berks.
About 800 sacks (2 cwt. per sack), Magnums, Scotch Bruce, Reading Giants, all of excellent quality. Delivery at the Farm, or at Uffington Railway Station, G.W.R. Price according to quantity taken. Apply to
Mr. EDWIN CARPENTER, Dammas Lane, Swindon, Wilts.

CHRYSANTHEMUMS.— All the new and choice varieties, including strong Plants of Edwin Beckett, 1s. 6d. each, 12s. per dozen; Gloire du Rocher, 4d. each, 3s. per dozen. Full CATALOGUE, free, also list of Hardy Perennials. Special quotations.—R. C. NOTCUTT, F.R.H.S., Broughton Road Nursery, Ipswich.

10,000 extra strong one-year WHINHAM'S INDUSTRY GOOSEBERRY BUSHES.
Cheap to clear. Also two-years. Apply—
W. HUNTER, Tyne Green, Hexham.

FERNS, WATER LILIES, CYPRIPEDIUMS, ASTERS, SOLIDAGOS, VINES, and SHRUBS are comprised in our List of MICHIGAN WILD FLOWERS. Securely packed and shipped. Send for Catalogue.
W. A. BROTHERTON AND CO., Rochester, Mich., U.S.A.

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N.B.—Winner of our own Queen's Cup at the International Exhibition at Hamburg; Gold Medals in Paris, Brussels, Holland, &c., and the leading prizes for Grapes for many years in Great Britain and Ireland.
Author of a work on the Grape Vine.

Established 1810.
"HARTLAND," SEEDSMAN,
Patrick Street, Cork, Ireland.

Write for "YEAR BOOK of RARE SEEDS for 1893."

Tomatos and Daffodils a great feature in this establishment.

10,000 PANCRATIUM ZEYLANICUM GRANDIFLORA.—Just to hand, fine Bulbs, in splendid condition, the great Bouquet Lily, snow-white, sweet-scented, grand for Cutting. 20s. to 25s. per 100; 4s. per dozen. Gloriosa superba, the Flowering Lily, same price. Calla, Little Gem (New), pot now for December flowering, 3s. 6d. per dozen.

CRINUMS, fine large Bulbs, some 6 lb., and 2 feet long; fine Pot Plants; handsome flowers; very sweet-scented. 1s. to 5s. each.
PLEASE NOTE.—Having just imported many New and Rare Bulbs and Seeds, we shall be pleased to submit samples, named and priced, Carriage Paid to responsible persons. All New and Rare Bulbs, Plants, and Seeds, at low rates. Everything for the Garden, in good quality. Trade List free.

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Also new Seeds of Tea, Coffee, Pepper, Nutmeg, Cocoa, and the beautiful Cape Silver Tree, 1s. per packet.
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SCOTCH FIR (True Native), extra fine, well-rooted plants in quantity, 15 to 20, 18 to 24, 24 to 30, and 24 to 36 inches; Native LARCH, 2 to 3, and 3 to 4 feet; strong ASH, OAK, BEECH, SYCAMORE, BIRCH, POPLAR, and Whinham's Industry GOOSEBERRY. See LIST, Free.
THOMAS MATHESON, Nurseries, Morpeth.

FOR SALE, or EXCHANGE for smaller Plants, 1 Seaforthia elegans, 16 feet high, 13 feet through, 9 leaves; 1 Pritchardia robusta, 9 feet high, 9 feet through, 16 leaves; 1 Cibotium princeps, 10 feet high, 14 feet through, 10 old and new Fronds; all in good condition.—G. WILSON, The Gardens, Swanland Manor, Brough, E. Yorks.

CAULIFLOWER PLANTS, 2s. per 100; LOBELIA, Emperor William, 2s. per 100; CALCEOLARIA, Golden Gem, 5s. per 100; HARRISON'S MUSK, 5s. per 100. Terms cash.—I. SOLOMON AND SON, Winchmore Hill, N., and 22, 23, 372, Flower Market, Covent Garden Market, W.C.

LARCH.—10,000, 3 to 4 feet, 30s. per 1000; 10,000, 4 to 5 feet, 40s. per 1000. Twice transplanted, selected strong trees.
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BENNETT BROS. are now prepared to book Orders for the following:—Captain Hayward, H.P., price 7s. 6d. each; Climbing Souvenir de la Malmaison, price 5s. each. Usual discount to the Trade. Strong plants of these will be ready for delivery early in May.
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The Best Present for a Gardener.
VINES AND VINE CULTURE.
The most complete and exhaustive Treatise on Grapes and their Culture ever published.
Third Edition just out.
Price 3s., post free, 5s. 6d.
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FERNS! FERNS!!—Trade.—Greenhouse and Stove, 25 saleable sorts, in 2½-in. pots, 12s. per 100; 10 best market sorts, in 48's, 6s. per doz.; stores, 6s. per 100. Large Adiantum cuneatum, value in fronds, 6s. and 8s. per dozen. Cyperus, Aralias, Solanums, and Grevilleas, in 48's, good value, 6s. per dozen. Palms, Ficus, Erica hyemalis, Cyclamen, and Dracænas, in 48's, 1s. each. P. tremula and A. cuneatum, for making large plants quickly, 16s. and 20s. per 100, well packed, put on rail free for cash with order.—J. SMITH, London Fern Nurseries, Loughboro' Junction, London, S.W.

FOREST TREES, &c.—Ash, common, 1½ to 2 feet, 12s.; 2 to 3 feet, 16s.; 3 to 4 feet, 20s. Beech, 1½ feet, 14s.; 2 feet, 16s.; 2½ to 3 feet, 20s.; 3 to 4 feet, 24s. Chestnut, Horse, 2 to 3 feet, 20s. per 1000. Spanish Chestnuts, 1½ to 2 feet, 16s. Larch, 1½ to 2 feet, 20s.; 2 to 2½ feet, 26s. Hazels, 2 to 3 feet, 20s. Oak, 2 feet, 16s.; 2½ to 3 feet, 20s. P. austriaca, 2-yr. tr., 16s. P. Laricio, 2-yr. tr., 20s. Privets, Oval, 2 to 2½ feet, 26s. Sycamore, 2 feet, 12s.; 2½ feet, 16s.; 4 to 5 feet, 4s. per 100; 6 to 7 feet, 7s. per 100; 12 feet, fine, 24s. per 100. Thorns, 12 to 18 inches, 6s.; 2 feet, 8s.; 3 feet, 12s.; 3½ to 4 feet, 14s.; 4 to 5 feet, 22s.
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The Most productive Gooseberry in Cultivation. Colour, dark dusky red. Strong bushes, 6s. per dozen.
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Common ELDER, 1½ to 2 feet ...	...	30s. per 1000
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Selected Stocks, well grown, fibrous rooted.
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HEXHAM, Northumberland.

EXHIBITIONS.

ROYAL BOTANICAL SOCIETY OF MANCHESTER.
The FIRST SPRING FLOWER SHOW of this Season will be held in the Town Hall, Manchester, on March 14 and 15. For particulars, apply to the undersigned.
Schedules for the Great Orchid Exhibition and Artistic Groups are now ready.
Botanic Gardens, Manchester. BRUCE FINDLAY.

ROYAL BOTANIC SOCIETY
Gardens, Regent's Park, N.W.
The FIRST EXHIBITION of SPRING FLOWERS will take place on WEDNESDAY, March 22. Gates open at 2 o'Clock.
The Band will play from 2.30 to 5.30 P.M. Tickets to be obtained at the Gardens only by Vouchers from Fellows of the Society. Price, 2s. 6d. each.

CRYSTAL PALACE
SPRING EXHIBITION OF PLANTS, FLOWERS, &c. SATURDAY, March 25.
Entries close Saturday, March 18. Schedules and Entry Forms on application to Mr. W. G. HEAD, Superintendent, Gardens Department, Crystal Palace, S.E.

THE KINGSWOOD, ST. GEORGE, and WEST GLOUCESTERSHIRE SHOW will be held on August 16.
Schedules are to be issued shortly.

SHROPSHIRE HORTICULTURAL SOCIETY.
Schedules for the FLORAL FÊTE, SHREWSBURY, August 23 and 24, 1893, are Now Ready.
CASH PRIZES are offered in the Society's Schedule for 1893, amounting to nearly SEVEN HUNDRED and TWENTY POUNDS. Schedules sent post-free on application to—
Messrs. ADNITT AND NAUNTON, Hon. Secs., Shrewsbury.

WEST of ENGLAND CHRYSANTHEMUM SOCIETY.
£150 in PRIZES. £33 for 48 CUT BLOOMS.
The ANNUAL EXHIBITION will be held in the GUILDHALL, PLYMOUTH, on November 14 and 15 next.
For Prize Schedule, now ready, and other particulars, apply to the Hon. Secs.,
CHAS. WILSON } 4, North Hill, Plymouth.
W. DAMERELL }

DOUBLE PINK IVY GERANIUM Madame Crousse, good strong cuttings, 5s. per 100, post-free for cash with order.
W. H. DIVERS, Ketton Hall Gardens, Stamford.

Finnochio.
FINNOCHIO, the bulbous sweet Fennel of the Roman *table d'hôte*, and popular all through southern Italy. Described and Illustrated in the *Gardeners' Chronicle*. Seed of the true variety, imported from Florence per packet, 1s.
ROBERT VEITCH AND SON, Queen's Seedsmen, Exeter.

FOREST TREES for PROFIT.—Ash, Austrian Pine, Beech, Birch, Chestnuts, Elms, Hazel, Larch, Maple, Oak, Poplars, Scotch Fir, Spruce, Thorns or Quick, Willows, &c. Sizes and Prices on application.
RICHARD SMITH AND CO., Nurserymen and Seed Merchants, Worcester.

TOMATOS.—2000 Tomato Plants, well-rooted, in 4-inch pots.—Sutton's Earliest of All, Golden Gem Peach Tomatos, Ham Green Favourite, 2s. per dozen, on rail; less for a quantity.

CHRYSANTHEMUMS, well-rooted, in 4-inch pots.—Fair Maid of Guernsey, Sœur Mélanie, Source d'Or, and Madame Desgrange, at 2s. 6d. per dozen; less for a quantity. J. R. STORR, Skegness.

ASPARAGUS, of fine quality—for Forcing, 5-yr. old, splendid roots, 12s. 6d. per 100, free on rail; 6-yr. old, extra fine, 15s. per 100. Cash with order. My Asparagus always makes top price at Covent Garden.
Read the following unsolicited testimonial:—"Please send me another 200 of 5-yr. old Asparagus Roots. I may say that the last 200 were the best lot of forcing roots I ever bought, and my employer says the quality is excellent.—C. H. PERKINS, The Gardens, Milton Abbey, Blandford."
J. J. CLARK, Market Gardener, Goldstone, Brighton.

FLORISTS' FLOWERS, a Specialty.—My Superb Collections of Antirrhinums, Auriculas, Begonias, Carnations, Dahlias, Delphiniums, Fuchsias, Gaillardias, Pæonies, Pansies, Pelargoniums, Pentstemons, Petunias, Phloxes, Pinks, Potentillas, Pyrethrums, Violas, Hardy Border and Herbaceous Plants, &c., are the grandest ever brought together. They have been awarded numerous Certificates and Gold, Silver, and Bronze Medals, by the leading Horticultural Societies in the kingdom, with emphatic eulogiums by the Press, and my Illustrated Catalogue of them for 1893, 134 pages, which should be carefully perused by all before ordering elsewhere, is the largest, most comprehensive, and most reliable ever issued on Florists' Flowers and Hardy Plants. It has been posted to my Patrons, who will please oblige by informing me if any have miscarried, when I shall be happy to post another copy, free on application.
JOHN FORBES, Hawick, Scotland.

FLOWERS FOR THE HERBACEOUS BORDER.
Hardy—Ornamental—Permanent.
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Seed saved from Prize Plants. Choicest mixed, single or double varieties, 1*s.*, 2*s.* 6*d.*, and 5*s.* per packet. Collections (Seed), single, twelve named varieties, separate, 5*s.* 6*d.*; six ditto, 3*s.* Tubers, named singles, from 18*s.* to 42*s.* per dozen. Choicest Seedlings, 4*s.* to 21*s.* per dozen; bedding, choicest, 4*s.*, 5*s.*, 6*s.*, and 9*s.* per dozen; choicest named doubles, from 24*s.* per dozen; choicest seedlings, 12*s.* to 30*s.* per dozen; choicest mixed, for bedding, 9*s.* and 12*s.* per dozen. Catalogues gratis.
JOHN LAING AND SONS, Begonia Growers, &c., Forest Hill.

LARGE SHRUBS, &c.—Arbor-vitæ, American, 1½ to 2 feet, 12*s.* per 100; do., 3 to 3½ feet, 20*s.* per 100; Aucuba japonica, variegated and green, 1 foot, 25*s.* per 100; Berberis Jamesonii, 2 feet, 20*s.* do.; Box Tree, 1½ to 2 feet, 12*s.* per 100; 2 to 3 feet, 20*s.* do.; B. japonica, 10 inch, 20*s.* do.; Cotoneaster microphylla, 2 feet, 10*s.* per 100; C. Simonsii, 2½ to 3 feet, 10*s.* do.; Escallonia macrantha, 2 feet, 24*s.* per 100; Greslinea littoralis, 10 inch, 30*s.* per 100; Laurel, Colchic, 1½ to 2 feet, 12*s.* per 100; 2 to 2½ feet, 14*s.* do.; 3 to 3½ feet, 20*s.* do.; rotundifolia, 1½ foot, 13*s.* per 100; 2 to 2½ feet, 16*s.* do.; Portugal Laurel, 1½ to 2 feet, 20*s.* per 100; 2 to 2½ feet, 24*s.* do.; Rhododendron ponticum, 1½ foot, 22*s.* per 100; 2 to 2½ feet, 27*s.* do.; 3 feet, 40*s.* do.; 3½ to 4 feet, 80*s.* do.; Veronica Traversii, fine, 1 foot, 20*s.* per 100; Yews, English, 1½ foot, 24*s.* per 100; 2 to 2½ feet, 35*s.* do.; Abies Douglasii, 9 to 12 inches, 10*s.* per 100; 1 to 1½ foot, 16*s.* do.; 1½ to 2 feet, 25*s.* do.; Araucaria imbricata, 2 to 2½ feet, 24*s.* per doz.; 3 to 3½ feet, 36*s.* doz.; 4 to 4½ feet, 48*s.* doz.; Cedrus deodara, 2 feet, 8*s.* doz.; Cupressus macrocarpa, 2 feet, 30*s.* per 100; spring-moved C. Lawsonii, 2 to 2½ feet, 20*s.* do.; 3 to 4 feet, 30*s.* do.; 4 to 5 feet, 40*s.* do.; C. striata, 3 to 3½ feet, 40*s.* do.; Erecta viridis, 2 to 2½ feet, 30*s.* per 100; 3½ to 4 feet, 40*s.* do.; Picea nobilis, 1½ to 2 feet, 6*s.* per doz.; P. Nordmannia, 2½ feet, 18*s.* do.; 3 to 3½ feet, 24*s.* do.; Retinospora plumosa, 2½ feet, 30*s.* per 100; 3 to 4 feet, 50*s.* do.; R. squarrosa, 2½ feet, 30*s.* per 100; 3 to 3½ feet, 60*s.* do.; Thuia, 1½ to 2 feet, 12*s.* per 100; 3 feet, 30*s.* do.; 4 to 5 feet, 50*s.* do.; 6 feet, 80*s.* do. Thuiopsis dolabrata, 2 feet, 30*s.* per 100; 2½ feet to 3 feet, 70*s.* do.; 4 to 4½ feet, 30*s.* per dozen,
The finest Specimens in England.
GARLIES MITCHELL, Nurseryman, Stranraer.

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ESTABLISHED 1810.] [AREA, 150 ACRES.

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WE have now ready for immediate delivery a grand and healthy stock of the above, splendidly furnished, and well set with flowering buds.

In 32's	...	...	...	36*s.* per dozen.
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In 60's	...	...	...	18*s.* per dozen.

Usual discount to the Trade.

W. BALCHIN & SONS, Hassocks Nursery, SUSSEX.

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APPLES, Cox's Orange, and others.
AUCUBA JAPONICA, 1 to 2½ feet.
AZALEA MOLLIS, 1 to 2 feet.
,, GHENT, 1 to 4 feet.
,, MIXED SEEDLINGS, 1 to 3 feet. } Buds.
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ANDROMEDA FLORIBUNDA, 1 to 2 feet.
BERBERIS DARWINII, 1½ to 2½ feet.
CUPRESSUS LAWSONII, 3 to 6 feet.
CURRANTS, BLACK.
DAMSONS (FARLEIGH), Standards.
HARDY HEATHS.
HYDRANGEA PANICULATUM, 1½ to 3 feet.
HYPERICUM CALYCINUM.
IVY, IRISH, 2 to 4 feet.
KALMIA LATIFOLIA, 9 to 12 inches.
LAURUS ROTUNDIFOLIA, 1½ to 2½ feet.
LIME TREES, 5 to 9 feet, fine, straight.
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RHODODENDRONS, fine, named, 1 to 3 feet.
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ROSES, DWARF, popular kinds.
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HARDILY-GROWN
FOREST, FRUIT,
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NURSERIES 400 ACRES:
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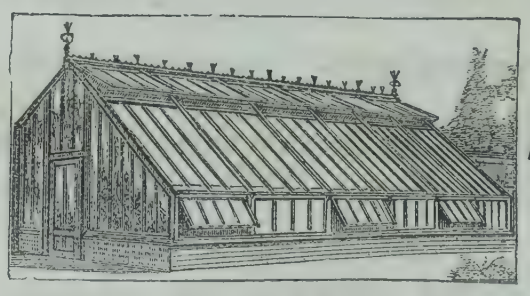

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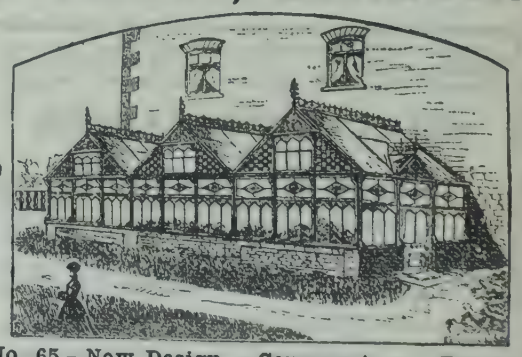

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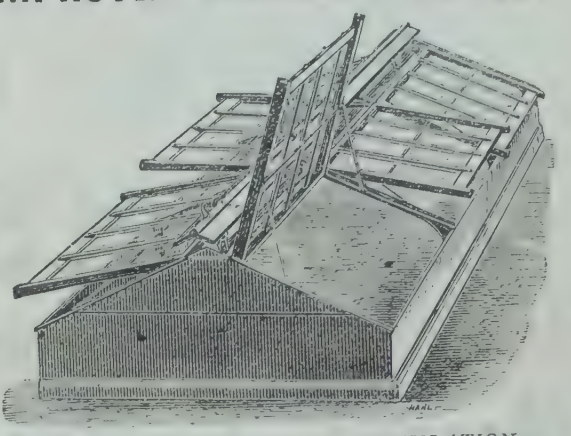

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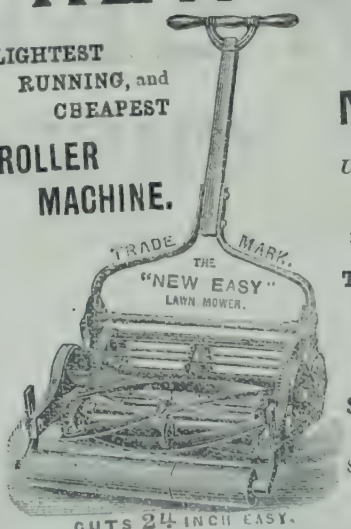

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GLADIOLUS, "SNOW-WHITE."

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Carnation (extra choice)	1 6
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Calceolaria, Williams' Superb ...	1s. 6d. & 2 6
Cineraria, Williams' Superb	1s. 6d. & 2 6
,, alba	2 6
Cyclamen giganteum (mixed)	2 6
Gloxinia, Williams' Superb Erect	2 6
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Petunia, Williams' Superb Striped	1 6
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Pink, Superb (mixed)	1 6
Polyanthus, Gold Laced	1 0
Primula, Williams' Superb...	1s. 6d. & 2 6
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THE

Gardeners' Chronicle.

SATURDAY, MARCH 11, 1893.

CALIFORNIA.

MR. MALCOLMSON, a native of Aberdeen, but settled in California, and now on a visit to his old home, communicates his experiences as follows:—"The great industry of California to-day, and one that in a few years will overshadow all others, is fruit-growing. While fruit has been grown in the States for over a century, having been introduced by the Mission Fathers over a hundred years ago in the southern part of the State, and by the Russian traders early in the present century in the northern portion, it is only during the past twenty years that any rapid progress has been made in this direction. But in that time California has forced her way ahead of all other States in the Union, until she is to-day the garden and orchard of the world. With a continually widening market for our orchard products, with stories of fabulous returns from investments in fruit-farms, it is natural that people of small means, desirous of making a home and an income, should seek for information in regard to it. To this class of my countrymen I have much pleasure in giving the following particulars, and I think the information I give can be relied upon as authentic, I myself being one of the largest Raisin-vine growers in the State, and owning a vineyard of over 160 acres. The intending settler will naturally ask—'What assurance have I that my investment will be permanent as well as profitable? What are the causes that make California superior to other parts of the United States as a fruit producer? Will not other portions of America enter into competition with us, and overstock the market, and thus make our investment unprofitable, and our labour a failure?' These doubts will quickly disappear with a knowledge of the advantages that California enjoys. These are climate, geographical position, and physical peculiarities. While descriptions of California's climate have become a household word, it is, nevertheless, the one great cause of its superiority as a fruit section, and its climate depends upon its geographical position. California's position also gives it the world for a market; and while, with the continually-increasing home market, it is now beginning to ship large quantities of fruit to Australia, China, Japan, and India, and within the last few months shipments of fruit have been made to Great Britain. With, therefore, the United States and the rest of the world for a market, and the constantly-developing taste for Californian luscious fruits, there is no danger of over-production.

"To give some idea of the profits that can be made out of fruit-growing, I shall cite one or two instances which will go to show what one may expect for his labour and capital on only a moderate-sized orchard in California. Major

*

Robert H. Nolton, formerly a railroad employé, nine years ago purchased the Mountain View Orchard, at Vernondale, consisting of 19 acres. It had been planted in fruit six or seven years before. He manages everything with railroad precision and neatness, and the following is his report from December, 1890, to December, 1891. (I give Major Nolton's report as an example of the various kinds of fruits that can be grown on such a small orchard as 19 acres, and the net results will, no doubt, startle many readers):—

Income.	£	s.	d.
2,500 boxes of Oranges	500	0	0
1,500 boxes of Lemons	400	0	0
37,000 lb. of Peaches	148	0	0
2,000 lb. of Pears	8	0	0
3,500 lb. of Apples	24	0	0
1,000 lb. of Walnuts	16	0	0
500 lb. of Crab-apples	2	0	0
400 lb. of Nectarines	2	0	0
	£1100	0	0

Expenses.	£	s.	d.
Two men employed	146	0	0
Hay and grain for three horses	54	0	0
Taxes	24	0	0
Family and domestic expenses	248	0	0
Net income over all expenses	629	0	0
	£1100	0	0

"Major Nolton's family consisted of six. In this report no account is made of eggs, fowls, and two cows, the returns being consumed; but at a glance it will be seen that the handsome return of £629 was netted off such a small orchard as 19 acres.

"As another illustration, I quote the returns of a property near my own—that of the late Mr. F. R. Storie, an Aberdonian:—'My gross receipts from 4 acres of Peaches amounted to £206. Among Pears, I consider the Bartlett (Williams' Bon Chrétien) the best variety. From 1½ acres of young trees I took off £25 worth of fruit. Nectarines are a very good crop, bearing and paying well. I have netted £20 an acre on this fruit. Apricots pay from £25 to £30. French Prunes do very well, and from 4½ acres of this fruit I received £200. With a judicious selection of fruit trees there is much money in fruit.'

"Both of these accounts are very satisfactory, and it must not be forgotten that both Major Nolton's and Mr. Storie's orchards are still young, and that the older trees become, the heavier will be the returns. In giving such instances as these, although these are only two out of thousands, I do not wish readers to think that such results can be attained immediately on a settler's arrival in California, unless he is in a position to purchase outright an improved orchard or vineyard. Long weary months of anxiety and labour are necessary before either a vineyard or an orchard can yield such returns as the two cited. Still, in no part of the world can a man so soon see the result of his labour as in California, and in a very few months from the time of his going on to what may be considered a waste and useless piece of land, it can be transformed into a veritable paradise. As an instance of this, I may, *en passant*, cite my own vineyard, of which I took possession some four years ago in a desert state. Within some sixty days I had the whole 160 acres ploughed over twice, to a depth of 18 inches, and carefully harrowed, the whole planted with some 70,000 Vines, 10 feet by 8 feet apart; some 5 miles of rods and avenues laid out, whilst on the borders of the avenues I planted, alternately, Fig and Olive trees. In that time I also constructed some 7 or 8 miles of irrigating ditches and canals; enclosed the whole property under close wire fence; erected suitable buildings, stables, and coach-house; and planted an orchard consisting of no fewer than twenty-nine different varieties of fruits, and a Vine arbour of some twenty varieties of Grape Vines; whilst, as an adornment to the residence, I laid out a lawn and flower-garden. So that within the short space of three months [Is there not some mistake here? Ed.] I had transformed into one of the most promising vineyards in California a piece of land which only sixty days previous might have been considered a barren piece of waste and useless land. This will give some idea of the forcing nature of the soil, and the magnificence of the climate of California.

"With such results as these, it is only but natural that the intending settler should wish to know what capital is required for the opening up and bringing into successful bearing a vineyard or an orchard. This, of course, is largely determined by the amount of capital he has available for investment; but my advice—with the experience I have had—is that it is better to own a well-kept 20-acre orchard or vineyard, than a 40-acre tract poorly attended to owing to lack of sufficient capital. But assuming the settler to have sufficient capital to open up and properly cultivate a 20-acre orchard or vineyard, until it begins to yield him a return—which cannot be calculated sooner than three or four years—I estimate that he should possess at least £500. With this sum, and provided he is willing to work, he ought, in the course of four or five years, to be in an independent position. With such a sum to commence with, he will be in a position to pay a portion of the price of his land, built himself a modest house, erect a barn, stable, and fowl-house, and purchase all requisites necessary for making himself a comfortable home; and should he be further blessed with a thrifty wife, it will be no time before he is enjoying himself, with her help, under his own Vine and Fig tree. Although I mention this sum as necessary for the intending settler to possess before proceeding to California, I could enumerate hundreds of instances where I have known men landing in California without any other capital than their own labour, and working themselves (with the help of a wife) up to such a position as to be able, through savings and economy, to own an orchard or a vineyard within a few years of their arrival. In no country in the world can a man who is willing and anxious to get on, be so successful as in the golden State of California . . . . . In this account I have given of California and its possibilities as a field for emigration, I refer especially to those who are willing and anxious to work, and who are at the same time not afraid to put their shoulder to the wheel. I do not wish readers to imagine that my description has been overdrawn, or that I have been carried away in my statements, as is generally credited to the ordinary American."

Mr. Malcolmson intends, through the influence of some of the most prominent citizens of Aberdeen, to arrange for the purchase of a most desirable tract of land, of some 16,500 acres, known as the San Fernando Ranche, near the city of Los Angeles, in Southern California, and to colonise the same with a thrifty lot of Scotchmen.

New or Noteworthy Plants.

DENDROBIUM (HYBRIDUM) VENUS.

"This handsome hybrid was raised in the collection of Norman C. Cookson, Esq., of Oakwood, Wylam-on-Tyne, and flowered for the first time in April, 1890. It is not so strong a grower as D. nobile; in fact, it has retained some of the characters of D. Falconeri both in habit and foliage, while in the flower the same influence is also apparent, though the yellow disc of that species is absent, as in D. nobile. The flowers are very large and handsome, and as the plant is a free grower and very floriferous, it is likely to become a favourite garden-plant. It is one of the most promising hybrid Dendrobiums yet raised." *R., in Reichenbachia, t.* 50. It is a hybrid from D. Falconeri by D. nobile, and was described by Mr. Rolfe in our columns, 1890, i., 608.

Dendrobium (hybridum) Cassiope.

A hybrid raised out of Dendrobium japonicum by Dendrobium nobile albiflorum, and intermediate in character. In colour it approaches D. euosmum. From D. endocharis it differs in the larger flowers and the maroon blotch on the lip. D. Cassiope is a free-flowering variety, with pure white flowers, the throat having a deep maroon blotch. It was described by Mr. Rolfe, in *Gardeners' Chronicle*, 1890, ii., 620; *Reichenbachia*, t. 50.

Lachenalia aurea gigantea.

Received as an imported bulb, collected in a new district, this fine Lachenalia has flowered in the gardens of R. A. Todd, Esq., Honeyden, Foots Cray, Kent. The stout flower-spikes are over a foot in height, bearing rich orange-coloured flowers for two-thirds of their length. The whole plant, flowers included, are much larger than those of the variety hitherto in cultivation, and the recurved petals peculiar to the species are larger and more showy. It is a frequent thing to hear L. Nelsoni spoken of as superior to L. aurea, but compared with the large form of it, of which Mr. Todd sends an inflorescence, it is a long way behind.

NEW ORCHIDS.

Cattleya Trianæ Broomeana, *new var.*

Since the great influx of new varieties in the large importations of C. labiata Trianæ some years ago, it having been but little imported lately, it is seldom we see a really distinct form worth recording; but the present one, which was purchased by Joseph Broome, Esq., Sunny Hill, Llandudno, the High Sheriff of Carnarvonshire, as an imported plant at Messrs. Protheroe & Morris' Rooms, is a well-marked and fine form. The flower is fine in shape, and of very thick texture; the sepals, petals, and base of the labellum nearly white when seen at a short distance, but a nearer view discloses a pearly-blush tint over the whole. From the base of the lip springs a divided orange-coloured feather-like tinge, and from the divided middle of it the rich, glowing, light mauve-crimson colouring fills up the whole of the front portion of the lip, which is plain-edged, and without the lighter margin usually seen in the varieties of this plant. Its form is of the best, and the colouring very brilliant, the under-side of the lip being almost as bright as the surface. The sepals are broad and flat, 3½ inches long; the petals 7 inches from tip to tip, each being 2½ inches wide. *James O'Brien.*

We extract the following particulars from the fourth decade of New Orchids described by Mr. Rolfe and published in the January number of the *Kew Bulletin*, which was issued early in February.

Pleurothallis rhombipetala.

This species was introduced from Mount Roraima by Messrs. Charlesworth, Shuttleworth & Co., of Heaton, Bradford, with whom it flowered last December. It bears lax racemes of flowers, the sepals pale green, with dull purple spots on the dorsal one; the petals are dull maroon-purple, and the lip pale green, with a few dark purple spots on the margin. It is allied to the Brazilian P. arcuata Lindl., and is chiefly of botanical interest (p. 4).

Brachionidium Sherringii.

An interesting addition to this singular little genus. It was discovered by R. V. Sherring, Esq., growing on a tree, exposed to sun and wind, at Fedon's Camp, at 2400 feet elevation, in the island of Grenada, West Indies. It is described from dried specimens.

Fig. 41.—GLADIOLUS OPPOSITIFLORUS: FLOWERS WHITE.
(The arrow shows the exact width of the spike.)

A fact worth noting is, that the three previously recorded species are all natives of the Andes. The nearest ally of this genus is Masdevallia (p. 4).

Bulbophyllum Sanderianum.

A species introduced from Pernambuco, Brazil, with Cattleya labiata and other Orchids, by Messrs. F. Sander & Co., of St. Albans, with whom it flowered last July. It bears long racemes of flowers, the sepals pale green, with small brown spots; the petals white, with a purple margin and a few similar spots, the very hairy lip being deep purple-brown (p. 4).

Bulbophyllum vitiense.

Was sent to Kew by Mr. Daniel Yeoward, of the Botanical Station, Fiji. Its flowers are pale yellowish-white, with the upper half of the sepals light pink. It blooms in August. B. rostriceps, Rchb. f., is the only other species known from Fiji (p. 5).

Megaclinium minutum

was sent to Kew by G. F. Scott Elliot, Esq., from Sugarloaf Mountain, Sierra Leone, where it grows at 3000 feet elevation. The curiously flattened rachis is purple-brown, and the flowers dull maroon and greenish-yellow. It is the smallest known species of this genus, being only about 2 inches high (p. 5).

Phaius roseus.

This very distinct and pretty Phaius was collected by the Right Hon. Earl of Scarborough, in whose collection it flowered last December. It is believed to be a native of West Tropical Africa. The flowers are of a delicate shade of rose, the lip marbled with white spots, the disc with a hairy keel, and the spur deep yellow. In fading, the flowers pass to light orange-buff (p. 6).

GLADIOLUS OPPOSITIFLORUS.

The re-introduction of this species of Gladiolus to Kew, where it flowered in the Cape-house last December (see Dec. 17, 1892, p. 729), will enable bulb growers to decide the question of the origin of G. Gandavensis. This fine hybrid is supposed, by some authorities, to be derived from G. oppositiflorus and G. psittacinus (natalensis), and by others from the latter species and G. cardinalis. According to Dean Herbert, G. Gandavensis was raised in 1837, and by crossing it with others such as G. blandus and G. ramosus, the present fine race of garden Gladioli, of which Mr. Kelway is the champion grower, was originated, chiefly in France. G. oppositiflorus owes its name to a fancy peculiarity in the arrangement of the flowers upon the spike, but none of the plants which flowered last year at Kew differed in this respect from the ordinary Gladioli. It might have been appropriately named G. giganteus, or G. elatior, as in stature it is exceptional, the tallest of the Kew plants measuring over 6 feet in height, and they certainly were not drawn. Whether the species is one of the parents of G. Gandavensis or not, there is a close resemblance between the two in general characters, such as corm, form and texture of leaves, thickness of scape, and in the arrangement, form, and size of the flowers. The topmost 2 feet of the spike was clothed with flowers, each of which, when fully opened, was 2½ inches across, the segments wavy and recurved, pure white, with pencillings of bright amethyst-purple. In some of the plants the flowers were wholly tinged with pink, and the pencilling also varied. The flowers were not all open together, but perhaps half-a-dozen on each spike would be perfect, whilst those below were more or less faded, and the upper ones on the point of opening. The corms were received from Professor MacOwan, of Cape Town, in July. They were at once planted in sand, in a warm-house, and as soon as the roots showed, they were planted in rich soil in pots, and placed in a cold greenhouse. This treatment was the means of saving the corms, which, when they arrived, were badly affected with dry rot. A few of the corms have lately been distributed from Kew among cultivators specially interested in Gladioli. Attempts were made at Kew to cross G. oppositiflorus with other kinds, but owing, probably, to fogs and bad weather generally, none of the flowers set. *W. W.*

The Rosery.

AMONG THE ROSES.

From a few days before Christmas until the latter end of January we had very trying weather for Roses. Many of mine that are upon an east wall are looking badly. I do not attribute this to the low readings we had (although they reached 26° of frost, and often fell below 20°) so much as to the manner in which the frozen plants were thawed. The little snow we had, during a state of semi-thaw, slipped to the bottom of the roof, was arrested by the shoot, and formed a mass of ice which, for some days, dripped on to the plants below. With the sun shining upon the plants, and this exceedingly cold water dripping upon them at the same time, I find that my plants in the open ground are less affected by the frost than those upon a wall. The dormant buds that I wrote about some few weeks back, and which were imbedded in ice, came through the ordeal in a surprising manner. Among plants I find the following have suffered most:— Climbing Niphetos, Madame de Watteville, A. K. Williams, Prince Arthur, Souvenir d'Elise Vardon, Victor Verdier (always tender with me), Belle Lyonnaise, Bessie Johnson, La Boule d'Or, Catherine Mermet (The Bride, a sport from this, seems much hardier), Madame C. Wood, François Michelon, Princess of Wales, Lady Mary Fitzwilliam, and its sports, Ethel Brownlow, and Lamarque.

It is scarcely too late to plant Roses, in fact, I much refer doing it during the latter part of February to the months of December and January. Lift the plants carefully, and plant immediately, giving them a little water overhead if drying winds set in during the first month after planting. Look over beds, and replace any defunct plants while there is still time to do so with a fair prospect of success. Cuttings of Roses, and also those of such stocks as Manetti, De la Grifferaie, and Briar, that were made last autumn, had better be looked over at once, and pressed down where raised by frost. After so much wet, it would be better not to attempt treading them up firmly until we have the soil a little dryer. As soon as this occurs, loosen the soil slightly with a Canterbury hoe, drawing it towards the cuttings, and then making it firm around them. I may here remark that similar treatment will be very beneficial to Currant and Gooseberry cuttings, also to any plants propagated in the same manner.

Now, a word about pruning. Do not commence before the end of March, however sheltered your position may be. The end of February is frequently spoken of as a suitable time for pruning the hybrid perpetuals and Bourbons in warm localities, but I am quite certain it would be better to delay the operation for a few weeks, and I will treat upon it fully in due course. *A. P.*

ADIANTUM CUNEATUM FOR CUTTING.

From now onwards for the next three months the supply of this cut Fern is not, on the whole, so good as at other seasons of the year. Last year's growth will, if there had been any great demand for it, be pretty well used up; at any rate, the best of it will by this time have disappeared. There is in the case of most of us a tendency to keep picking the best fronds in an indiscriminate manner for our supplies. I am disposed, however, to think that it would be a better plan to set aside a dozen plants or so at the time, and let these be the stock for present use, rather than pick fronds in a haphazard way. When a batch of plants has in this way been cleared off of all that is serviceable, they should be given a little rest, being kept drier at the root in a cool-house. For instance, if any plants had been treated in this manner in the autumn, they would now make a reliable lot of plants to start into growth in a warm house, where they could be kept near the glass, with all the light possible. This matter of light is an all-important factor, in order to secure as hardy a growth as possible. The warmth of a stove is not quite the thing even at this season; whilst later in the spring and in the summer, it is totally unfit, the humidity being far in excess of what is required, resulting in fronds of large size, with the pinnæ corresponding, it is quite possible, but this is not the kind of growth that can be relied upon to stand well when cut. If now placed in a stove, a shelf is most decidedly the best place, so that the plants get all the light possible, with no risk of moisture in excess, such as would arise from the frequent use of the syringe in the usual course of procedure with stove plants. Another, and a good place for these early plants, would be such a position as one selects for Strawberries when they are swelling-off their fruit; or again, a heated pit upon an ash bottom would suit them well. In any case the plants should not be overcrowded, whilst if they have still some of their old fronds upon them, these may very well be all cut off. If the plants stand in need of a shift, let it be done at once, using sandy loam in preference to peat in every possible case; a large shift is not in any sense desirable, in fact I have often noted that the best results have been with plants quite potbound. The soil should be made firm in the pots, allowing in potting sufficient depth to lightly cover the old crowns. If so be the loam is not quite the thing, being perhaps of inferior quality or too nearly approaching clay, some finely broken up lime-rubble would be a good addition to it. When the old stools have been kept dry for some time, they should be soaked in tepid water before they are repotted; this will save after-watering to a considerable extent which is most desirable until root action is again active. Rather than repot where not absolutely needed, I would prefer to depend upon after-feeding, for which, nothing is better than weak guano-water made from the best "Peruvian." Whilst on the subject of potting, I might add that I am not an advocate for increasing this Maidenhair by division. I know full well that it may thus be successfully propagated, but I consider offsets do not equal seedling plants. These latter are extremely useful in many ways whilst still in quite small pots, making very compact and pretty plants which those that have been broken up do not always do.

Another good plan of growing this Maidenhair is by planting it out. This may be done either upon a flat surface or against a wall. There is many a place that may thus be utilised in a profitable way. I dare say many growers besides myself have noticed how well it will thrive where chance seedlings have come up, and that too, with but little soil wherein to grow. On the flat there are many narrow ledges which might thus be turned to a good account; such positions do not require much preparation. A single row of small plants turned out in good soil early in the spring, would have every chance of making fine stuff by the summer. Great depth of soil is not at all essential, but rather to be avoided. I have no doubt some of our observant cultivators with this hint will be able to turn it to a good account. I have in one place particularly seen A. cuneatum thus grown in an extensive manner. This was at Bodorgan, the plants being full of fronds, which for cutting would be of the utmost service. This plan may be adopted in houses of varying temperatures with every prospect of success, bearing in mind what has previously been said as to light and moisture. Another method, also an excellent one, is that of growing them upon walls. To lay the foundation for this system, a wire trellis fixed at about 3 or 4 inches from the wall is desirable. Behind this the soil, &c., can be built up a piece at the time if necessary. In such a case I would use a little peat with the loam, both being of a fibrous character. With this, if available, some bits of sandstone of divers sizes might be added for the special purpose of conserving moisture, which in itself is all important against a wall. To facilitate watering, a few holes could be left here and there, and where the soil was at any time found to be too dry, some holes could be made in a downward fashion so as to hold the water. At Penrhyn there is a fine example of this mode of covering a wall. In many other places it might be advantageously adopted, more particularly where from one cause or another the wall is an unsightly object. These wall-grown plants will supply fronds of an enduring character for cutting, and no better time than the early spring could be chosen for doing the work. *H.*

Orchid Notes and Gleanings.

SELENIPEDIUM (HYBRIDUM) SEDENI, var. WEIDLICHIANUM.

S. Schlimii and S. longifolium, with its varieties, have given rise to a rather numerous group of hybrids of a very ornamental character. The original form was the well-known S. Sedeni ×, which was obtained by crossing the typical forms of these two species together. The cross was made both ways, and, singularly enough, no difference could be detected in the offspring, whichever species was made the seed-parent. The varieties porphyreum candidulum, and leucorhodum were obtained by utilising other varieties of these species as parents. Thus, porphyreum came from Schlimii and S. longifolium var. Roezlii. The variety Weidlichianum, mentioned in the *Gardeners' Chronicle*, 1890, pt. 2, p. 702, originated from Schlimii and longifolium var. Hartwegi. It was raised in the collection of Norman Cookson, Esq., of Oakwood, Wylam-on-Tyne, and has been acquired by Messrs. F. Sander & Co. (Condensed from *Reichenbachia*, t. 51.)

Dendrobium Wardianum var. gigantea.

A flower of this variety has been submitted to us which measured 4 inches across, though it was less richly coloured than other forms. The plant which was imported by Dr. Gorton had two growths, and an aggregate of fifty-five flowers. It was grown by Mr. Reynolds of Gunnersbury Park Gardens.

Oncidium Jonesianum.

The fine importation of this charming Orchid, offered for Messrs. F. Sander & Co., of St. Albans, by Messrs. Protheroe & Morris, at their Rooms in Cheapside on Friday, February 24, was well received, and the plants are now widely distributed. So many failed to succeed with the cultivation of the plants of the former importation, that it would be well if those who did succeed with it would afford our readers some hints as to its management. So far as we have been able to glean, it will not thrive in a cool-house, but is best suited in a warm one; and, further, that it grows better on rafts or blocks, suspended, with the points of its stout terete leaves hanging downward.

Cattleya Trianæ—"Fairy."

This is a very beautiful variety of the C. T. delicata section, cultivated in the gardens of J. T. Holmes, Esq., Beechen Cliff, Bath. The flowers are white, suffused over their entire surface with pale rose, and exhibiting no other colour than a faint yellow tinge in the throat. Its petals and labellum are beautifully crimped, and altogether it is a flower which the florist will appreciate. *J. O'B.*

Dendrobium Hillii.

I herewith send for your inspection a photograph of this species of Dendrobium, which is now seldom seen in good condition. This plant formed part of the well-grown collection of Orchids belonging to James McKelvie, Esq., Edinburgh, and carried twenty-two racemes of flowers from twelve pseudo-bulbs, the former being from 12 to 16 inches long. It has flowered every second year, and is grown in a temperature of 50° to 60°, and was, as Mr. Findlay, the gardener, informed me, quite a small plant when he received it. *A. O.* [We should have reproduced the illustration had we not previously figured the plant. Ed.]

CHICAGO.

Primulas at the Exhibition.—Work at the Exposition grounds has been retarded by the severe winter, so far as outside matters are concerned; and, although the contents of the horticultural building did not suffer in the slightest degree, a good deal of anxiety was felt during January. The greatest degree of cold registered in Chicago was 22° below zero, while 10° to 18° below was noted on several occasions. Accompanied by penetrating lake-winds, this was a severe test of the heating apparatus in the large building, but a high temperature was maintained throughout, though at first there was some difficulty in distributing the heat properly. In addition to the severe cold we have had a good deal of snow, which, on this low swampy land is likely to retard gardening work in the spring. Successive thaws, followed by hard frost, have given the Exposition grounds a uniform covering of ice, making it both difficult and dangerous to get about, and the same conditions prevail all over the city. All the sewers are frozen, most of the catch-basins being choked with ice, so during our last two day's thaw there was much inconvenience, if not danger, from flooding. However, a cold wave suddenly reached us, changing the streets from Venetian canals to skating-rinks, and to-day (February 16) we are again suffering from severe cold and heavy snow.

The greatest attraction of the winter has been the display of Chinese Primroses; without question the finest display ever seen in America. It was a competitive exhibit, the seed being furnished by leading firms of Europe and America. It was all sown at the same time (April 21), and kept under uniform cultural conditions. Without question, the highest credit belongs to the English firms competing, such as Bull, Cannell, Carter, Kelway, and Laing, all of whom showed excellent strains. Cannell's whites were very fine. Carter was prominent in the blue or lavender forms. Princess Mary and the Queen both attracted great admiration; the last-named sort seems to retain the beauty of its foliage better than any other. Some excellent mauve sorts were noted among the plants exhibited by Vilmorin, Andrieux, & Cie. The German growers, Deppe Bros., Haage & Schmidt, and Ernst Benary, showed strains more remarkable for oddity of form and colour than for actual beauty. A most remarkable display was made by Hillebrand & Bredemeyer, of Pallanza, Italy, whose exhibit showed foliage of unusual beauty. The margins of the leaves were as crisply undulating as in closely-curled Parsley, some a rich bronzy-red, others a tender green. The flowers were not remarkable, but the foliage created a marked impression, being entirely new to us.

These plants were judged in January by Mr. Pfister, gardener at the White House, Washington, D.C. His opinion must be confirmed by a jury, who will not meet until May or June. Of course, the plants will be long past by that time, so the jury must perforce accept the opinion of the single judge. There is little doubt that the system of awards will be unsatisfactory to many.

The next show will be of Cyclamens, which are now coming into bloom. *E. L. T., Chicago, U.S.A.*

APPLE ATALANTA.

The above is the name of a new variety raised by Mr. Ross, gardener at Welford Park, and which obtained a First-class Certificate at the meeting of the Royal Horticultural Society on February 14, this year, when shown by Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, who will distribute the stock of it. The fruit is "small," longer than broad, 2½ inches wide, and 2¼ high, slightly ribbed, globose, conical, base deeply concave, apex truncate-depressed, surrounded by fine obscure slightly unequal lobes, eye closed, calyx-segments bent inwards. The skin is smooth, lemon-yellow, with a few scattered small red streaks and spots on one side. Stalk slender, ½ an inch long. The variety is fit either for culinary or dessert uses, and is in season from November to January.

Fig. 42.—Apple Atalanta.

FORESTRY.

THE ASH.

This genus comprises a great many species and varieties, some of which are first-class timber trees, while others are used principally for ornamental purposes. One of the best species for planting as a standard tree for embellishment is the flowering Ash (Fraxinus Ornus), a native of Italy; and although it has been grown in Great Britain and Ireland for many years, and has proved to be quite hardy, yet it is by no means used by planters to the extent which its merits deserve. Young trees planted on congenial soil and situation often commence to produce flowers by the time they attain the height of some 6 or 8 feet, so that the planter has not long to wait until he begins to see the fruits of his labour crowned with success. When fully established, its contour is that of a round-headed specimen, well furnished with branches and twigs in a regular and uniform manner all round, and densely clothed with foliage, which has a strong resemblance to that of the common Ash (F. excelsior), and when intermixed with its flowers in early summer it is highly attractive and inviting. It thrives best on a deep loamy soil, thoroughly drained, well broken up, and mixed with a small portion of organic matter. Stiff, retentive clay soil is inimical to its best form of development.

F. lentiscifolia is another interesting ornamental species indigenous to Asia Minor, and, although like the former species, it has proved to be quite hardy in this country, yet it seems never to have been planted to any great extent. It is generally propagated here by grafting, using the common Ash for the stock, but as the scion grows quicker, and attains a much larger circumference in a given space of time than the stock where the union takes place, it imparts to the tree rather an odd appearance. The following measurements will illustrate this:—No. 1, circumference of the base of the tree where the union takes place, 3 feet 3 inches; circumference of stock below the graft, 2 feet 3 inches. No. 2, circumference of tree at the base, 2 feet 8 inches; circumference of stock, 1 foot 10 inches; so that the trees actually appear as if placed upon the top of posts or pegs, which, no doubt, is an eyesore. The height of the stock where the union takes place is about 12 inches from the ground, so that it can be seen quite distinctly. Again, the bark on the stock has a smooth, clean surface, while the bark on the stem of the tree exhibits a rough, corky, furrowed appearance, all of which show variety and contrast. Notwithstanding all this, when the tree is fully established, it certainly makes a grand specimen for the park or lawn; the head is generally of a round or globular shape, pliant, and slightly pendent, and as it is well furnished with foliage of a light green colour, it has nothing of a hard or harsh outline in its appearance. It is also well adapted for planting in smoky districts about large towns, where the air is polluted with noxious vapours; and my remarks regarding soil for the former species may likewise be applied here with advantage.

The Monster Ash (F. monstrosa) is a strong, robust-growing tree, whose outline and general appearance is not unlike that of the common species, with this exception, that the terminal points of the branches and twigs are of a flat fascicular shape, like a cock's-comb, which gives the tree a very odd and strange appearance. It is not a very common tree to be met with, yet on account of its peculiar growth it is worthy of a place in the formation of ornamental plantations, to show contrast and variety.

The Parsley-leaved Ash (F. crispa) is a small upright-growing tree, which produces its Parsley-like small leaves in tufts or small bundles at the terminal points of the twigs and branches, and on which account it has rather a bare naked-like appearance. The leaves are of a dark-green colour, smooth and glossy, and turned down at the points, so that the tufts have a rounded compact cushion-like appearance. It has no particular merits as an ornamental tree, further than its peculiar habit of growth and rare appearance. *J. B. Webster.*

THE BULB GARDEN.

CROCUS SIEBERI.

This Crocus seems to be a rather scarce species. It is one of which one seldom hears, yet, in my opinion, there is not another which is equal to it. It has those qualities which, so far as I know of, no other Crocus has all of them. It is perfectly hardy, of easy culture, very early, and very beautiful. It has flowered with me in the open border, and is gone off, while the other Crocci are only just appearing.

During the sunny days we have lately had, a clump of it in the open, was unsurpassable. I can thoroughly recommend it to all lovers of flowers, as one of the best of outdoor winter flowers. It is figured in the *Botanical Magazine*, t. 6036, but the picture does not convey to one its full beauty. Mine were planted 3 or 4 inches deep in ordinary garden soil. *T. E. D., February* 27, 1893.

Forcing Narcissus poeticus ornatus.

The demand for white flowers is great in Birmingham, and notwithstanding the large supplies sent into the market, large quantities are grown in the neighbourhood. It occurred to Mr. John Pope, of the firm of Messrs. Pope & Sons, who has taken up Narcissus rather extensively, and possesses a fine collection, to try how N. ornatus would do with a little heat, and with this intent he lifted a few thousands of bulbs when dormant in August, and placed them closely together in boxes of garden mould, covering them a few inches. These were stacked out-of-doors until November, then removed to a cool house, some of them being put underneath the greenhouse stages, and early in January some were lifted on to the stages in a slightly-warmed house. Early in February he was enabled to cut large quantities of flowers, which fetched excellent prices in the market, and many were used by the firm for wreaths, crosses, &c. The supply is still kept up by putting in boxes in succession; but owing to the quantities of imported bloom, the prices obtainable are not so high. When all the blooms are removed from a box, the bulbs are still kept growing, but it is in a cooler house, and after some degree of hardening off they will be planted out in May, there to remain for a year's rest, when they are again ready for forcing, and will throw up from three to four blooms each, and even very small bulbs will carry blooms. Narcissus poeticus is not so accommodating under the same treatment, and takes longer to recoup its energies after forcing, so that N. p. ornatus is much more useful. *W. D.*

The Week's Work.

FRUITS UNDER GLASS.

By Jas. Whitton, *Gardener, Glamis Castle, Glamis, N.B.*

SUCCESSION-HOUSES will require daily attention by disbudding, pinching, and tying as found necessary. Those started at the beginning of the month of February are bursting their buds fast. Continue to syringe them until the shoots are an inch or two long, when the practice may be gradually discontinued. Increase the temperatures at night by 5°. At this season we frequently have cold keen winds with bright sunshine, and on days when such occur keep the houses somewhat closer and warmer, with a plentiful supply of moisture in the atmosphere, and ventilate them very carefully. Where it is intended to plant young Vines, and the soil is not prepared, see that such is done before the heavy pressure of regular spring work comes on. The borders may be made up just now, although it is not necessary to plant the Vines for some time yet. Much diversity of opinion exists regarding the proper method of making up Vine borders. I prefer the simplest as a saving in time and labour, believing equally satisfactory results are obtained, and that the borders last longer than they do with the elaborate mixing and turning method. Then I have the turf cut and carted to the border, which is made up somewhat in the same way as that usually adopted in stacking turf for potting purposes, putting a thin stratum of mixed charcoal, crushed bones, and lime-rubbish between each layer of turves. With heavy clay soils, add some fresh horse-droppings, more mortar-rubbish, and Thomson's manure. [It is sometimes advocated by good practitioners to make up Vine borders piecemeal, the first portion being made up about 5 feet wide. Ed.] Should a partial renewal of border be desired, and, from many causes, it cannot be done in the autumn, it can be successfully renewed in the spring, when the shoots are from 4 to 6 inches long. In all cases, see that the soil is in good order, particularly not too wet. In fact, use it more on the dry than the wet side.

STRAWBERRIES.—Remove the plants on which the fruits are beginning to colour to a drier and more airy atmosphere, and keep them well exposed to light. At the same time do not allow the atmosphere to get too dry, or the plants to suffer from want of water at the roots, as both conditions are inimical to fine quality. Bring on succession lots, each of which will require due attention to fertilisation of blooms, thinning, &c., as their state demands.

MELONS.—Continue to make succession sowings as may be found necessary. Where regular Melon-houses are at command, fill the beds with the soil, and when it is sufficiently heated, the plants may be set out when ready. Pot on the sowings made early in the month if sufficiently advanced. The earliest lot beginning to swell up their fruits had better be closely examined as to state of moisture at roots. They may, if requiring water, get some weak liquid manure, only stimulants at this season have to be applied with caution. Watch carefully for canker at the collar of the plant, and apply hot lime or powdered charcoal and sulphur to the part as soon as the disease is detected. Maintain a brisk growing temperature, and syringe early in afternoons to keep down red-spider. Those in bloom will require daily attention in fertilisation of female flowers.

CUCUMBERS.—Where the fruits are swelling fast, give supplies of weak liquid manure warmed to temperature of 75°. Cucumbers will stand a little more stimulating at this season than Melons, but care has also to be exercised. If the fruits are cut when ready, they will keep good for some time if placed in a cool room. The early removal of the fruits is beneficial to plants, and they will bear much longer and more satisfactorily when such procedure is regularly carried out. Continue to remove all superfluous fruits and shoots, by going over the plants once or twice a week, pinching and regulating as required. If plants are desired from cuttings—and some growers prefer these—they can now be easily struck where a close frame or large bell-glass is at command. Insert the cuttings singly in small pots, and when rooted, pot and grow on for later supplies. The materials for hotbeds had better be collected and prepared soon, especially if the crop is desired during June and July.

TOMATOS.—The early lot will, if all has gone well, be showing their first flowers. Keep a warm airy atmosphere, and stop syringing the plants, the necessary moisture being supplied by damping the paths, &c. Rub out all side-shoots, and keep the plants to the number of stems desired; we prefer the single stem system. With a buoyant warm atmosphere there is not much difficulty in getting a good set of Tomatos. Prick out seedlings, and pot on succession lots when ready.

FIGS.—Those in the cold-house must be put in order without delay. Do not overcrowd the shoots, and in pruning, only remove worn-out or badly-ripened shoots. Shut up the house according to the time when the crop is desired, allowing fully five months in which to grow and begin to mature the fruits.

PLANTS UNDER GLASS.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

ERICA HYEMALIS AND E. WILMOREANA.—Plants which have finished blooming should be cut well back, and encouraged to make fresh growths, and after a good start is made they should be potted into fibrous peat and silver sand. Specimen Ericas need much attention in the matter of watering, and on no account should they get dry at the roots, or the foliage will fall off. Any small plants requiring repotting should get attention, using the best hardwood peat and clean sharp sand. Afford an abundance of air during mild weather, keeping a sharp outlook for mildew, and if it be seen, dusting the plants with flowers of sulphur at once.

NEW HOLLAND PLANTS, such as Boronias, Chorozemas, Dracophyllum gracilis, Leschenaultias, Pimelias, Aphelexis, &c., must be carefully attended to in the watering and only rain water, if obtainable, or pond water should be used. In training these plants, avoid pushing a great number of sticks down into the mass of roots, which are much injured thereby. All hardwooded plants should be kept as near the glass as possible, and be well ventilated at all suitable times. The present is a good time to pot any of the specimens that require it, and most of the New Holland plants having hardy wood do well in good hard fibrous peat, not finely sifted, but fairly rough; and silver sand. The drainage must be good and the pots clean. Pimelias like a small quantity of light turfy loam mixed with the peat. One of the most useful hardwooded plants for cutting from at any time or for decorative purposes during the spring is Diosma ericoides, with its abundance of small and green grassy-foliage, deliciously scented. It is in some places in great demand as greenery in bouquets, and for mixing with cut flowers. It strikes easily under a bell-glass in a cool-house from cuttings taken from the points of the growing shoots. The proper time for taking cuttings is spring or early summer; it is a useful plant when grown in 6-inch pots for house-work, and also makes a fine specimen when potted on. The plant likes good peat and turfy loam, with plenty of sand.

CHOISYA TERNATA will strike from cuttings at this season under a bell-glass on mild bottom-heat. It has sweet Hawthorn-like flowers, is a favourite plant for the conservatory or forfilling vases, and is an easily grown plant; loam and peat, and a little leaf-mould with plenty of rough sand, suit it.

CHRYSANTHEMUMS.—The early-struck cuttings of these should be potted as soon as they are ready, using 3-inch pots for them, sifted loam, leaf-mould, and sea-sand. They will do very well in cold frames if frost be kept out, or on shelves in the greenhouse, affording shade for a time during bright sunshine. Do not stop the shoots when potting them. Continue to take cuttings of varieties hitherto not obtainable. Afford them plenty of water, not letting the cuttings flag for want of it.

FREESIAS.—Bulbs going out of flower should be placed in a temperature that will not stop growth, and be very gradually ripened off. Seeds of Freesias sown now in gentle heat will bloom next winter if good attention be paid them. Sow the seeds in 3 or 4-inch pots, and re-pot the seedlings till they come into 5 or 6-inch pots.

ROSES.—If greenfly infests these, and it is not convenient to fumigate them, there is nothing better for use than a quassia and soft-soap solution—that is, 4 oz. of quassia-chips, and 4 oz. of soft-soap, to 1 gallon of soft-water, set on the fire cold, and boiled for 10 minutes. After it starts to boil, strain off, and use when cold. It is also excellent for young Peach-shoots, which are often injured by fumigation. A good syringing with clean water the day after will take off the smell of soap-suds, if that is considered to be disagreeable.

THE ORCHID HOUSES.

By W. Holmes, *Gardener, Pickering Lodge, Timperley.*

REMARKS ON CERTAIN SPECIES.— Plants of Calanthes vestita oculata, C. v. luteo-oculata, and C. Veitchii, Thunias Bensoniæ and T. Marshalliana should be put in a warmer place than they at present occupy, the time for potting being at hand; and I like them to be actually starting to grow before they are shaken out of the potting material. The removal of the latter requires care in the doing, and then the plants will take freely to the new materials, which has not time to become sour before the roots penetrate it. The various Orchid-houses should now be gay with plants in flower, such as Cattleya Trianæ, Cœlogyne cristata and its varieties, C. c. alba, C. Lemoniana, Cypripediums in variety, Odontoglossum crispum, O. Pescatorei, Phalænopsis amabilis, and P. Schilleriana. The temperatures which are advisable from the present time onward are, for Dendrobiums, 65° at night, 70° to 75° by day, rising 10° or thereabouts with sunshine; Cattleyas, 60° by night, and 65° by day; the Phalænopsis at 65° to 70° by night, and 75° by day; the house of the Odontoglossum crispum, 50° at night, and 55° by day; and the intermediate-house at 55° by night, and 60° by day. Possessing a collection of Dendrobiums, it is an easy matter to have plants in bloom from New Years' Day till the end of the month of May, if the right kind of treatment is adopted. Dendrobes should be grown as for forcing, like some other species of plants, and by making use of the naturally early flowerers year by year, they can be got to flower more freely than those not accustomed to it, just as in the same way that an Azalea indica forced regularly will flower sooner than another not so treated. And blooming early they also make growth early. I make a point of having D. nobile, D. crassinode, D. Wardianum, and D. heterocarpum in flower early

in the year, but the general stock of our plants is not started until the middle of the month of February, when we close the house for a few weeks before heat is turned into the hot-water pipes, and the warmth of the house after it is started does not fall below 55° at night, this being increased as the days lengthen, but using as little fire-heat as possible; in fact, in sunny weather, it is usual to turn it off in the daytime. By adopting this plan, the flowers and growths are strong at the beginning of the season, and strong new growths seldom look back after starting. After the flowering is over, any plants which may require potting or top-dressing are seen to without delay, and encouraged in every practicable way to make growth quickly. All the species of Dendrobiums are improved by having fresh sweet compost about their roots, which may consist of equal parts of good fibrous peat, with most of the earthy particles shaken out of it, and freshly gathered sphagnum moss, with a large addition of clean crocks and charcoal broken moderately small. It is a good test of the compost being unsoured if the sphagnum moss is growing nicely; dead or dying moss indicates a soured condition. Dendrobes when growing freely take large quantities of water at the roots, and require to be syringed overhead daily. Syringing is a help towards keeping down insect enemies, some of which are very injurious to the tender, young growths. The worst one that has to be contended with is a yellow fly; and sometimes thrips appear; but during the present month we try our utmost to check the increase of the latter, and that which I find to answer better than fumigating with tobacco, &c., is Williams' Thanatophore, which does no harm to the flowers of Orchids. I do not recommend the pruning of Dendrobiums, as they may be well grown without it; but if flowers are required for cutting, it will do the plants no harm to cut off the pseudobulbs with the flowers on them, when the latter will last a long time. Only a few Dendrobes may be cut in this way. I would not prune in this manner a rare garden hybrid possessing, say, only half-a-dozen pseudobulbs, for it might mean the death of the plant.

THE FLOWER GARDEN.

By T. H. Crasp, *Gardener, Canford Manor, Wimborne.*

PENTSTEMONS.—Amongst popular hardy plants few surpass Pentstemons for general usefulness, beauty of bloom, and grace of habit, and they are equally adapted for planting in the mixed border or rock garden, as in beds by themselves. The flowering season begins in June, and continues till after the appearance of frost in the autumn. Pentstemons may be readily propagated from seeds and cuttings; the latter method being that usually adopted for species and named garden varieties; but some species do not produce shoots fit for cuttings very freely, and seeds, if possible, should be saved for increase. Seed may now be sown in gentle heat in pans or shallow boxes of light, friable soil; and when the seedlings are large enough, so that they can be handled conveniently, they should be potted off singly, and kept in a gentle heat till established, then gradually hardened off, and about the end of the month of May planted out-of-doors in prepared soil. With good culture many of these will flower the same year, in the autumn. Plants raised from seeds sown in the open ground in June, potted in August and September, preserving them in a cold frame during the winter, flower early the next year out-of-doors. Cuttings will form roots at almost any time of the year when they are procurable, but the best time is September, when sideshoots can be had in abundance. Where the desire is to procure a large number of cuttings of any particular variety or varieties, these may now be obtained by potting up some of the old plants, and placing them in a gentle heat. Cuttings should be inserted in pots (48's) of light sandy soil, and placed in a slight bottom-heat, and soon as rooted, they should be potted, and kept till the end of May in a frame. Pentstemons are comparatively speaking hardy plants, still they are apt to succumb in our winters; and moisture being probably more injurious to them than frost, it is important that the drainage be good, especially for the choicer species and varieties. [Some species, as P. gentianoides and P. alba, live for many years under a winter covering of Oak or Beech leaves. Ed.]. As a soil, sandy loam, with plenty of decayed manure, suits the plants, and their stations in borders or beds should have these ingredients mixed with the staple. In dry weather, water them copiously. The following are some of the best species for garden decoration:—azureum attenuatum, coccinea, Jaffrayanus, barbatus and its variety, Torreyi; campanulatum, glabrum, Cyananthus, Hartwegii, heterophyllum, Murrayanun, Wrightii, spectabilis. The numerous garden varieties are principally the offspring of P. Hartwegii and P. Cobeæ.

HARDY BEDDING PLANTS. — Where Violas, Stachys lanata, Cerastium tomentosum, Antennaria tomentosa, Sedum acre and its varieties, and many others too numerous to be named here, are used in the summer bedding arrangements, and can be planted in the unoccupied beds, the present is a good time to commence the work; but where the places these plants will occupy in the summer are still filled with the spring-flowering subjects, the clumps may be divided into small pieces, and planted in the reserve, where they will make serviceable plants for the coming summer. Edgings of these plants should on no account remain longer than two years without replanting.

EULALIA JAPONICA AND ITS VAR. ZEBRINA.—This ornamental hardy grass, so useful in subtropical bedding, should now be divided, potted in rich soil, and kept close for a time. It will, served in this manner, make useful subjects by the time they will be required.

CARNATIONS AND PINKS which have been wintered in frames, should now be planted outside if the ground is in good order. Previous to so doing, the lights should be taken off them for a few days and nights, for, however hardy plants may be, if they have been under glass, they should be well inured to the air before being turned outside.

THE KITCHEN GARDEN.

By H. C. Prinsep, *Gardener, Buxted Park, Uckfield.*

ONIONS.—If the ground on which this crop is to be grown has been dug as previously advised, it should now have a dressing of some kind of artificial manure, and when dry enough to tread upon, it should be forked over, taking care to break all lumps so as to render the tilth as fine as possible. For this work it is well to take advantage of fine days, so that after being forked over and it has got sufficiently dry, it may be raked smooth, and the seed sown. Before the soil is raked, it should be well trodden, so as to make the surface firm; as if the soil be loose on the surface, there is always a tendency to form thick-necked bulbs. Drills should be drawn from 1 foot to 1¼ foot apart, according to the size of the variety grown, and the condition of the ground; and these should only be sufficiently deep to allow the seed to be just covered with the soil. If the seed be buried deeply, the base of the bulb has not such a good chance of being above the soil. Firm, medium-sized, well-matured bulbs keep best, so that it should be the cultivator's aim to produce such, unless he intends to exhibit, then extra pains may be needed.

BROAD BEANS.—Another sowing of these should now be made, and the Green Windsor is the most suitable variety to sow at present [but it is not the most prolific. Ed.]. Where the ground is in good heart, plenty of space should be allowed between the rows and the seeds in the same.

CELERY.—The main crop of this may now be sown on a bed of light soil on a slight hotbed, scattering the seed thinly and evenly over the surface, which should be first made level and smooth, a small quantity of fine soil being sifted over it. If the soil be but slightly dry, afford a gentle watering when the sowing is made, but unless this is the case, no water should be afforded till the seed germinates. The frame may be covered for a few days to exclude the light and prevent evaporation, but the covering should be removed before the plants germinate. Celery, earlier sown, if large enough, may be pricked off, not allowing it to receive a check in any way, which often is a cause of bolting.

SEAKALE.—Where sets are not yet planted, no time should be lost in getting them into the soil; for although top-growth will not begin at once, new roots will be forming, and the sets will grow vigorously when warm weather does come. Do not use sets made from plants that have been forced, as these are too much exhausted. Those crowns in the open ground should now be earthed up for late supplies of shoots. It is not advisable to lift any so late in the season as this, the shoots being somewhat stringy from late forced Seakale. If a very late supply is needed, it is a good plan to grow a few rows on the north side of a wall, where naturally growth will be much retarded.

JERUSALEM ARTICHOKES should now be planted The ground best suited to the growth of these is a light sandy one, and they should be planted in rows, 2 feet apart, and 18 inches between the roots. Heavy soil produces much top-growth and small tubers.

SMALL SEEDS.—Make in a dry state of the soil sowings of Radishes, Turnips, Spinach, and Lettuces. If not already done, sow the early forcing or other quick-growing kind of Carrot in the open ground on warm borders. A small sowing of Snow's Winter White and Sutton's Winter Mammoth Broccolis may now be sown in the open, also Veitch's Autumn Giant Cauliflower. Where early Savoys are required, a sowing of the Early Ulm or other early variety may now be made. Protect all such seeds from birds.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maiden Erlegh, Reading.*

DELAYED OPERATIONS.—During February there is in most gardens, weather permitting, more work done in the hardy fruit garden than in any other month in the year. Rain, however, having fallen on twenty days, prevented much of the work being accomplished, the more necessity therefore to push on all matters that are in arrears, especially the pruning and training of Peaches and Nectarine trees, if such there be. Whilst admitting the truth of the dictum that autumn and early winter pruning is the best for Apples, Pears, Plums, &c., yet, where such was not carried out, it may still be performed without injuring the trees. In the case of young and vigorous specimens of Apple and Pear trees, I have obtained fruit from varieties which, by spring pruning, have been induced to bear on the previous season's growth. With the bloom-buds so prominent as at this date, any young shoots thickly set with buds may be left entire, its removal being effected next season. Notes should be made of this peculiarity in Apples, these varieties being very suitable for orchard planting. That coming variety, Bismarck, possesses this peculiarity, as also does Cox's Orange Pippin, and many others.

THE MORELLO CHERRY.—Grown as a rule on north walls, and invariably left till late in the pruning season, these trees should now be pruned, and afterwards trained. It is a common mistake to leave the young shoots much crowded together, thus providing hiding-places for the ruinous black aphis, which usually give the gardener much trouble to dislodge them. In pruning, remove as many of the unfruitful naked branches as may be done conveniently, spreading out the young shoots that are left at the summer pruning somewhat thinly, the aim being to have the trees furnished in every part, but not thickly crowded. The distance apart of these small shoots should average 3 inches. When the pruning is finished, thoroughly wash the trees with soap-suds twice or thrice.

DRESSING TREES SUBJECT TO APHIS.—Assuming that all the Plum and sweet Cherry trees are pruned and tied, they should, now that the buds are on the move, be dressed with soap-suds, to thirty gallons of which half-a-pint of petroleum should be added, and the two well mixed together. With this mixture every part of a tree must be well wetted, taking care to direct it behind the branches as well as in front.

GENERAL HINTS.—Stakes of all kinds, if made at this season whilst green, and stored in the dry, will last at least one season longer than green stakes. Ground intended to be planted with Strawberries early next autumn, if prepared at this season, by trenching and liberally manuring, may be used for any kind of kitchen garden crop, which can be cleared off in time for Strawberry planting in July, or early in August. This is better practice than planting the latter on newly-dug land.

EDITORIAL NOTICES.

LETTERS FOR PUBLICATION.—*All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to return unused communications, or illustrations, unless by special arrangement.*

ILLUSTRATIONS.—*Photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c., are particularly solicited; but, the Editor cannot be responsible for loss or injury.*

NEWSPAPERS.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Advertisements should be sent to the PUBLISHER.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY,	MAR. 14	Royal Horticultural Society's Committees. National Rose Society. Horticultural Club.
THURSDAY	MAR. 16	Linnean Society.

SHOWS.

TUESDAY,	MAR. 14	Royal Horticultural Society, at the Drill Hall, James Street, Westminster. Manchester Royal Botanic Society's first Spring Show.

SALES.

MONDAY,	MAR. 13	Roses, Lilies, Begonias, &c., at Protheroe & Morris' Rooms.
TUESDAY,	MAR. 14	Japanese and other Lilies, Picotees, Iris, Gladioli, &c., at Protheroe & Morris' Rooms. Orchids from Upper Burmah, also Odontoglossum Alexandræ, at Protheroe & Morris' Rooms.
WEDNESDAY,	MAR. 15	5000 Japanese Lilies, Roses, Tree Ferns, Gloxinias, &c., at Protheroe & Morris' Rooms. Sale of the Fernside Collection of Established Orchids, at Protheroe & Morris' Rooms.
THURSDAY,	MAR. 16	Home-grown Lilies, Stove and Greenhouse Plants, Chinese Sacred Lilies, &c., at Protheroe & Morris' Rooms.
FRIDAY,	MAR. 17	Orchids, from Messrs. Linden, Brussels, at Protheroe & Morris' Rooms. Special Sale of Carnations, Picotees, Cannas, Pinks, &c., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—42°.7.

Garden Teaching.

THE appointment, under the auspices of several County Councils, of competent lecturers and demonstrators of practical gardening in various rural districts, is a measure that has always commanded our sympathy and elicited our advocacy. Knowing what has been done in Belgium and other continental countries for years past, we were not without substantial grounds for the course we have taken; and the results that have accrued up to this time in our own country do but confirm us in the belief that this movement is calculated to be of very great service to the inhabitants of rural districts, and to the country at large. Books for the instruction of cottage and allotment gardeners have not been wanting, and they have met with a certain measure of success. Very many thousands of *Paxton's Calendar*, for instance, have been sold, and the annual demand continues to be large. Still, it must not be overlooked that a book does not, and cannot, appeal to the class we are considering as the spoken word does. Many people of the class we are alluding to cannot read a book of any sort with profit to themselves. They are not accustomed to reading, their attention is not secured; they fail to appreciate what is put before them in print. They require, in fact, to be trained to read before they can derive benefit from a book. This is so, to a certain extent, even with the more highly-educated classes. Put a book before them on a subject with which they are not previously familiar, and a special effort of attention is requisite to enable them to read it with any advantage.

Again, amongst the labouring classes, there is very often a prejudice against "book-learning." It is, of course, true that many a man may be an excellent cultivator without ever looking at a book. It is equally true that no amount of book-learning by itself will ever make a good practitioner. It is the appreciation of the value of the information given in books, and its application to practice, which the lecturer can insist on. He can prepare the way for the profitable use of books—he can show how they can be used and why they should be studied—and in that way he can secure to his audience a broader, deeper, more intelligent knowledge of the subject than mere routine practice will ever give them. We have been reminded of this by what we must style a very original book, a copy of which has just reached us. The *Primer of Horticulture** has been written by Mr. JOHN WRIGHT, "horticultural instructor," a gentleman eminently fitted for his task from his long practical experience in the garden and at the editor's desk. The book purports to be the sum and substance of certain lectures "on practical gardening on a sound basis," which were delivered in various parts of Surrey under the auspices of the County Council. That the purely technical teaching should be excellent of its kind, is only what might have been expected from the known attainments of the lecturer. We do not find, we did not expect or desire to find, novelty in the treatment of so well-worn a subject. Where, then, does the "originality" with which we credited the book come in? The reply is, that this quality is very apparent in the questions and answers appended to the summary of each lecture. It should be premised that the substance of the lectures includes the consideration of such subjects as allotment-gardens, high cultivation, the nature and treatment of the soil, the raising of crops, the food of crops, manures, the common pests of the fruit garden and vegetable quarter, the growth of the several descriptions of garden crops, their utilisation and disposal, and similar cognate subjects. These matters are all treated with that clearness and directness that come of long experience, and thus, from that point of view, the book cannot fail to be of very great service.

The purpose of the book is to supply practical instruction, and that is so well carried out, that we shall not complain if we do not find the life-history of plants dealt with in the same manner as they would be in a physiological text-book. Nevertheless, it is as well not to put before the student that which he may find it requisite to unlearn at a future time. For instance, what would an examiner say if he received from a candidate such a statement as this:—"The production of roots from cuttings is formed by the sinking of the sap, this collecting at the base, and forming a lip or cushion known as a callus, from which roots protrude." This is theory indeed, but it is one to which the facts of the case give as little countenance as they do to another statement that "young Crab trees are changed into Apples by budding." It would be better in such a case to stick to facts, and to leave their explanation alone. Whilst, as we have said, the practical directions are excellent illustrations of sound teaching, the questions and answers are very suggestive and very interesting, as showing what was passing in the minds of the auditory; and so we find interpolated between questions relating to manuring and so forth, enquiries and replies which go to the root of the question of land-tenure, the fair proportion of profits that should go to the landlord and to the tenant, and the reciprocal duties of each to the other. These be cardinal points, no doubt, but we do not advise horticultural instructors to discuss questions of political or social economy, however important, on such occasions, being fearful that their influence for good may be neutralised by the introduction of such controversial subjects. Indeed, we are glad to see that the author is alive to this danger, saying, "It is not, however, within my province to answer questions of a controversial nature connected with the acquirement and value of land, and I ask that they be limited to points of cultivation and management," and so for the most part they were. The questions put as to practical matters are remarkable as showing the grip the questioner really had of his subject, and they will be specially valuable as furnishing hints to other lecturers under like circumstances. They show what are the special points upon which the auditory requires information; they show where it is necessary to give clearer or more detailed explanations, and altogether we should say that they were as valuable to the lecturer himself as the answers he gave were to those who framed the questions. We look on the publication of the book as a most hopeful sign of the progress of the scheme, and we believe that its circulation will be adequate to its intrinsic merits.

* MACMILLAN & Co., price 1*s*.

DAFFODILS IN GRASS.—Our illustration (fig. 43) is taken from the grounds of Mr. W. B. HARTLAND, of Ard Cairn, Cork, close to the sea, and shows beds of various Daffodils now in bloom, such as bicolor, Horsfieldi in the foreground, with Countess of Annesley, Empress, Colleen Bawn, Sir Watkin, and others. Whilst Daffodils compete with the Grass, Ivy, and Misleto, rooks avail themselves of the trees, the whole forming a delightful picture. In green-drives by the side of woodland walks in "wild-gardens," nothing can be more charming than to see the Daffodils and other flowers "spearing" at their own sweet will through the grass; but on lawns, in the vicinity of architectural features and in the garden generally, it is best to grow them in beds. Of course, for nursery purposes, this is essential.

LINNEAN SOCIETY.—At the meeting held on Thursday, March 2, Professor STEWART, President, in the chair, Messrs. W. RIDEWOOD, L. OUGH, K. R. KIRTIKUR, and Rev. J. LAMONT, were elected Fellows. Mr. J. M. MACOUN gave an account of the Flora of the Behring's Sea Islands, from personal exploration. On behalf of Mr. H. N. RIDLEY, the Secretary read a paper on the "Flora of the Eastern Coast of the Malay Archipelago." The meeting then adjourned to March 16. On the occasion of the evening meeting, to be held on that date, at 8 P.M., the following papers will be read:—1, "Botanical Results of the Sierra Leone Boundary Commission," by G. F. SCOTT ELLIOT, F.L.P.; 2, "Contributions to the Arthropod Fauna of the West Indies," by R. J. POCOCK.

ROYAL HORTICULTURAL SOCIETY.—The next display of fruits, flowers, and vegetables, in the Drill Hall, James Street, Victoria Street, Westminster, will be held on Tuesday, March 14, at 3 P.M. Professor HENSLOW will lecture on "Some

Effects of Growing Plants under Glass of various Colours;" a subject which ought to be interesting to gardeners. At the Scientific Committee the subject for discussion is Prof. F. W. Oliver's second Report on the effects of urban fog on cultivated plants.

Horticultural Club.—The usual monthly dinner and *conversazione* will take place on Tuesday, March 14, at 6 p.m. The discussion will be on "Imported Fruit as affecting British Fruit-growing," to be opened by Mr. James Webber and Mr. Geo. Monro of Covent Garden. The Committee meets at 5 p.m., for the appointment of Trustee and the balloting for Members.

The Manchester Botanic Gardens.—Writing to the *Manchester Guardian* on February 18, *apropos* of horticultural education at the Botanical Gardens, a correspondent observes: "I was present at the meeting held yesterday, of which a short account appears in your issue of this day. The address of Professor Weiss was most interesting and instructive, and it seems to me that our Botanical Gardens were never put to a better purpose than becoming a centre for diffusing in this way botanical and horticultural instruction. The advantages held out to gardeners are very great indeed, and I would urge upon all who have gardeners to allow them an hour away from their duties in order that they may gain information which can be brought to bear upon their every-day work; besides which, the amateur who has a small patch of garden, and perhaps a greenhouse, will gain information that will be of great service to this class of the community.

The Rothamsted Jubilee.—As we announced in our last issue, the Prince of Wales presided on March 1 over a meeting convened by the Duke of Westminster, for the purpose of considering the best means of commemorating the completion of the first half-century of the agricultural experiments which have been continuously carried on at Rothamsted by Sir John Lawes since the year 1843. "During the whole of this period," said His Royal Highness, "Dr. Gilbert has been associated with Sir John Lawes in the work of experimental research. As you will be aware, the Rothamsted experiments have from the commencement been entirely disconnected with any external organisation, and have been maintained at the sole cost of Sir John Lawes. For the continuance of the investigations after his death, Sir John has recently made the munificent endowment of £100,000, besides the famous laboratory and certain areas of land, and has nominated some of the most distinguished scientists of the day to administer the trust. In view of all these facts, and the great national importance of the Rothamsted experiments, it is only fitting that some public recognition should be made of the invaluable services rendered to agriculture by Sir John Lawes and his distinguished colleague, Dr. Gilbert." The Duke of Westminster proposed the following resolution: — "That, having regard to the great national importance of the series of experiments which have been carried on at Rothamsted during the last fifty years, it is desirable that some public recognition should be made of the invaluable services thus rendered to agriculture by Sir John Lawes, and also by Dr. Gilbert, who has been associated with the experiments during the whole period. That, with this object, subsciptions, to be limited to two guineas, be invited from all interested in agriculture, whether scientific or practical." Mr. W. T. Thiselton Dyer said he seconded the resolution which had been moved by the Duke of Westminster

Fig. 43.—Daffodils on turf at Ard Cairn, Cork. (see p. 296.)

—not as an agriculturist, but as one officially and all his life deeply interested in everything that was concerned with botanical science. The extraordinary merit of the work carried on at Rothamsted lay in the fact that these experiments had been continuously carried on under uniform conditions for so long a period. No other such scientific experiments made continuously were on record. They had shown what would be the ultimate effect of the cultivation of the world's surface without manures, and what would be the mean actual fertility of the land. The economic consequences of such a future when the valuable resources of artificial manures were more or less exhausted, was one of extreme importance. He should like to say something, too, about the magnificent work carried on at Rothamsted with regard to the nutrition of animals. The difficulty, the patience, and the trouble required for a scientific investigation of that kind were incalculable. He ventured to say, as a scientific man, that he knew nothing in the whole records of scientific research more honourable to this country than those experiments which were being carried on at Rothamsted with such self-denying skill. Sir John Evans moved:—"That, in the opinion of this meeting, the testimonial might advantageously take the form of (1) a granite memorial, with a suitable inscription, to be erected at the head of the field where the experiments have taken place; (2) addresses to Sir John Lawes and Dr. Gilbert, accompanied (if funds permit) by a commemorative piece of plate." This was also carried, and it was unanimously resolved that the following should be requested to act as a committee for carrying the resolutions into effect:—The presidents of the Royal, Royal Agricultural, Linnean, and Chemical Societies, the Earl of Clarendon, Viscount Emlyn, Sir John Lubbock, Sir John Evans (Hon. Treasurer), and Mr. Ernest Clarke (Hon. Secretary), with power to add to their number. The Duke of Westminster moved a vote of thanks to the chairman, and the Prince of Wales said, in response, that nothing had given him greater pleasure and satisfaction than to take the chair on that occasion, and to testify, as an agriculturist, his own sense of gratitude for what Sir John Lawes had done for agriculture. Subscriptions to the fund may be sent to any member of the committee, to Sir John Evans, F.R.S., at Nash Mills, Hemel Hempstead, or to Mr. Ernest Clarke, at 12, Hanover Square, W.

The Oxford Botanic Gardens.—The Oxford correspondent of the *Westminster Gazette* writes:—The state of the various buildings in the Botanic Garden is the subject of an elaborate report from the curators, who have called in Sir Joseph Hooker to advise them. Result—a sum of £3500 is required to put things straight, but the expenditure may be spread over several years. The garden is one of the most beautiful spots in Oxford, but, unfortunately, it is not taken very seriously, and the students of botany are few. The university, in the face of falling rents and a possible diminution of internal revenue, will soon have to consider seriously its attitude towards special studies.

Edinburgh Botanic Gardens.—In a class of upwards of 300 students at the Edinburgh University Botanical Examination, held by Professor Balfour, at the Botanic Garden, Mr. James Wm. Watt, eldest son of Mr. James Watt, Carlisle, obtained second honours for herbarium.

Stock-taking: February.—Farmers will always find the Board of Trade monthly returns of interest to them, and little need to await the issuing of the Annual Report with its staggering totals. In our first table, under § II. (A) and (B), will be found plenty of food for ruminating over, and the outcome must always be encouragement for the thorough-going agriculturist—he knows the wants of the people, it is for him to make the first profit—the nearer his condition approaches to that of his foreign or colonial competitor. Here the politician comes in, and we give an extract from the summary of imports into this country during the month of February:—

Imports.	1892.	1893.	Difference.
	£.	£.	£.
Total value for month	£34,877,931	£29,758,748	—5,119,183
§II.—(A.) Articles of food and drink—duty free	11,598,697	9,613,936	—1,984,761
(B.) — do., dutiable	2,092,645	1,810,412	—282,233
§VI.—Raw materials for textile manufactures (including Flax, Hemp, and Jute)...	7,648,183	5,890,404	—1,757,779
§VII.—Raw materials for sundry industries and manufactures (including wood and timber, hewn, sawn, split, dressed; vegetable materials, for paper-making, &c.)	2,488,456	2,099,446	—389,010
§IX. — Miscellaneous articles (including Clover, Grass, Flax, Rape, Linseed) ...	1,322,575	1,098,450	—224,125
(B.)—Parcel Post ...	57,325	43,643	—13,682

Of various products we are importing less than in the same month last year; in most things values are very low. Freights are nearly all in favour of the importer; some of the quotations seem ruinously low, and very like abolishing dividends from steamship companies. We note how the Australian dairy-farmers are looking after our butter-markets. One consignment paid freight amounting to £5600; any junior can work out the number of pounds at 1*d.* per pound freight. We have been told that the Colonial butter is of a very even quality; this cannot be said of that sent to market from many of our own farms. Some interesting figures are to be found in the following extract from the above-noted § II. respecting the imports of fruits and vegetables:—

Imports.	1892.	1893.	Difference.
Fruits, raw:—			
Apples ... ... bush.	345,855	246,728	—99,127
Cherries ... ... ,,	...	...	...
Plums ... ... ,,	...	...	...
Pears ... ... ,,	2,585	1,979	—606
Grapes ... ... ,,	548	430	—118
Unenumerated, ,,	23,022	22,448	—574
Onions ... ... ,,	316,765	329,971	+13,206
Potatos ... ... cwt.	79,847	220,215	+140,398
Vegetables, unenumerated, raw, ... value	£58,609	£59,197	—£588

It may be worth mentioning that we anticipated the agricultural return in the matter of fruit imports by publishing all the "differences"—plus or minus—in the two years' supply in our January stock-taking paragraph; and these figures the Board of Trade did not think it worth while to furnish. In the matter of—

Exports

a decrease of £2,235,444 has to be recorded; some of this decline is due to a falling-off in the export of textile, some to a decline in values. Idle ships do not always signify dearth of export freight; much of the unemployed tonnage in our ports had been employed in the French trade. The reports from that country for some time past show a heavy fall in both import and export business; as a consequence, the British ships employed by French merchants come home to "wait for orders." And here may be noted the pleasing impression made on all commercial men by the inaugural address of President Cleveland. There seems little doubt as to the fate of prohibitive tariffs, and of other blunders; and we are justified in expressing the belief that by-and-by we will be in a better position as regards our export trade to the United States than we have been for years past.

Birmingham and District Amateur Gardeners.—A meeting of the Amateur Gardeners' Association was held on the evening of Wednesday, 1st inst., at the Temperance Institute. There was a very large attendance. A good number of new members were elected, making a total membership of over 100. A paper was read by Mr. George Pressly, on "Seeds: Seasonable Hints."

Frédéric Schlumberger.—We regret to hear of the death, on the 21st ult., in his seventieth year of this gentleman, long known as an enthusiastic horticulturist. His collections of Cacti, Orchids, and other plants at his residence, near Rouen, were well-known to connoisseurs.

Botanical Magazine.—The following plants are figured in the March number:—

Rhaphidophora decursiva, tab. 7282.—"The bole of a great tree in an Indian forest, clothed for many feet upwards in this gigantic climber, is one of the most striking objects that the vegetable kingdom displays. Its great trunk, as thick as the arm, hidden by the leaves, sends out innumerable strong horizontal roots like whip-cords, that adhere closely to the bark and its supports, and the glassy green leaves from their abundance, and pendulous position, often completely hide the latter." It is an Indian Aroïd, with bold pinnately divided foliage, yellow spathes, enclosing a thick cylindrical spadix.—Kew.

Bulbophyllum comosum, tab. 7283.—A species in which the pseudobulbs produce two leaves only, and send up from the base a slender stalk, bearing at the summit a deflexed raceme of small white flowers, the elongated segments of which are thickly beset with fine hairs. It is a native of the Shan Hills, and flowered at Kew.

Arundina bambusiæfolia, tab. 7284.—"The most beautiful terrestrial Orchid of Northern India." The leaves are linear-lanceolate, the flowers in loose racemes. Each flower is about 2½ inches across, with flat ovate-acute rosy lilac segments, and a projecting lip rolled round the column, and terminating in a broad front lobe of a deeper violet. It flowered in the collection of F. Wigan, Esq., of East Sheen.

Antirrhinum glutinosum, tab. 7285.—A Spanish species, of trailing habit, with stalked ovate oblong leaves, covered with glandular hairs, and cream-coloured flowers (Hort., Backhouse).

Bulbophyllum Pechei, tab. 7286.—A Burmese species, with single leaves from each pseudobulb, and racemes of small brownish flowers, produced on the ends of a stalk proceeding from the base of the pseudobulb.

Mr. Benjamin Hurst.—This gentleman, a nurseryman of Burbach Grove, near Hinckley, has been placed upon the Commission of the Peace for the County of Leicester. Mr. Hurst, who has served on the Leicestershire County Council since its establishment in 1888, is the senior partner of the firm of Messrs. B. Hurst & Son, merchant nurserymen, Burbage Nurseries, near Hinckley.

C. P. Johnson.—Charles Pierpoint Johnson, author of *British Wild Flowers*, and *Useful Plants*, and contributor to the *Encyclopædia Britannica*, *&c.*, son of the late Charles Johnson, for many years Professor of Botany at Guy's Hospital, died on Monday last, March 6, at 141, Coldharbour Lane, Camberwell.

Devonshire Flowers.—We received, on March 3, from a correspondent at Hollowmead Lodge, Bishopsteignton, a place some views of which appeared in our issue for December 31, last year, a number of beautiful well-developed hardy flowers. These were, naturally, much in advance of plants of the same kinds growing in the home counties, bespeaking the mild character of the Teignmouth district, or at least the favourableness of the late part of the winter there. The packet contained single Violets, Wallflowers various-coloured, with finely-expanded petals; Primroses in a variety of colours; also the flesh-coloured double Primrose, P. Polyanthus, Aubrietia græca, Arabis albida, Hellebores, in variety; Berberis Darwini, B. (Mahonia) aquifolia, with bloom-buds, showing colour Jargonelle Pear-shoots, with flower-buds

on point of opening; Peach bloom, fully expanded; Viburnum Tinus (Laurustinus), Crocus, in variety; Double Daffodils and yellow Alyssum. In addition, there were sprigs of Spearmint, Parsley, and common Thyme, as fresh-looking as if winter had never been. Mr. Willis, the gardener, tells us, in the accompanying note, that the Gooseberry-bushes were "quite green."

Market Fruit and Potato Salesmen.—The annual dinner of the Fruit and Potato Salesmen and Growers attending Covent Garden, the Borough, Spitalfields, Stratford, Farringdon, King's Cross, and St. Pancras Markets, at the Holborn Restaurant, on March 22, is to be, at the desire of the trade, the inaugural dinner of the London Wholesale Fruit and Potato Trades and Growers' Benevolent Society. The Right Hon. the Lord Mayor has consented to take the chair, at the request of a powerful committee representing all the markets in London, and every branch of the trade.

Devon and Exeter Horticultural Society.—The annual report of this Society, while, perhaps, not the best statement which the executive have presented, is yet most encouraging, and shows that the Society still occupies a good position in public favour. The financial statement shows that, commencing the year with a balance in hand of £40 12*s.* 4*d.*, the result of the two shows left the Society with a slightly increased amount in hand, namely, £42 15*s.* 11*d.*

Leyton and District Horticultural Society.—A well-attended meeting was held on Thursday evening, March 2, at the Star Coffee Tavern, Broadway, Leyton, for the purpose of forming a horticultural society; Mr. Fleming, of Beckford Villa, Capworth Street, Leyton, being in the chair. The proposed rules were submitted to the meeting and agreed to, with slight alteration; and more than thirty persons were enrolled as members. The Society will consist of amateur and professional gardeners, a class being arranged for each at the flower show, which it is intended to hold in the summer. Mr. Miles, of Hazlewood, Lea Bridge Road, is the treasurer; Mr. Barnes, 1, Hope Villas, Capworth Street, Leyton, the Secretary. The next meeting will take place on Thursday evening, April 13.

Lincoln Chrysanthemum Society.—The annual general meeting of the subscribers to the Lincoln Chrysanthemum Society was held at the Coffee Palace, High Bridge, on Wednesday night, February 22, Mr. F. Coulling presiding. Mr. Wipf submitted the statement of accounts, which showed that the total receipts for the year were £147 3*s.* 5*d.*

Totterdown and Knowle Flower Show Society.—The annual meeting of the Totterdown and Knowle Flower Show Society was held on Tuesday, February 21, at the Parochial Hall, under the presidency of Mr. E. J. Thatcher. The secretary (Mr. C. Enwright) read the annual report, and the chairman alluded to the increase in the entries from 300 in their first year to 995 last year, when they gave over £69 in prizes. The generally accepted opinion was that last year's show was a most successful one, and the exhibition had now become looked upon as a two-day one.

Bamboos at Kew.—An interesting feature in the Royal Gardens is a plantation of Bamboos in the lower part of the grounds near the Rhododendron walk, and a few types have stood the recent severe weather. The well-known Bambusa Metake is full of health and vigour, and represented by several fine masses. B. Simoni is also uninjured, the large examples of this graceful Bamboo having been little touched by winter frosts. The heavy masses of rich green growth are remarkably effective, and in the variety striata we get a distinct variegation. This is a fine hardy Bamboo, and the same may be said of B. viridis glaucescens. A large group of this is delightful in the garden, and hardy. It is one of the most elegant and pleasing of Bamboos. B. nigra is very dense in growth, and seems little touched by the weather. Although less elegant than such a form as B. viridis glaucescens, it is a handsome kind, the leaves of a full green colour. One labelled Phyllostachys bambusoides has made splendid growth, the leafage pale green, spreading, and very handsome. It is apparently very hardy. A graceful Bamboo is B. Quilioi, compact, and forming a fine mass. Two of the most interesting kinds are B. tessellata (synonymous with B. Ragamowski) and B. Veitchii. Both are dwarf in growth, spreading out in a dense mass. The former has superb leaves, fully 4 inches broad, and 14 inches in length, the colour full rich green. At Kew the plants form a bold group, and have a telling appearance. Those who wish for a good dwarf Bamboo should make a careful note of this kind. B. Veitchi is of similar habit, and a charming species. The leaves are broad, not so long as in B. tessellata, rich green, with deep creamy-white margin—a distinct and bold contrast. Its variegation is not weak, as we get a rich contrast—deep green against creamy-white. *Garden.*

County Council Lectures.—Mr. D. T. Fish is lecturing on Fruit Culture, under the auspices of the Cambridgeshire County Council. The lectures are delivered at Horningsea, Fen Ditton, Quy, Bottisham Lode, Swaffham Bulbeck, Little Wilbraham, and Burwell.

A Windfall for a Gardeners' Association.—A legacy of £300 has just been left to the Birmingham Gardeners' Association, by a person who was anxious to promote its good work, and in recognition of a subscription raised amongst its members to aid the widow and children of a deceased member. The association possesses a valuable library, and there is a large accession of members this winter.

Rose Show Fixtures in 1893.—The following is a list of Rose exhibitions intended to be held during the present year, kindly furnished by Mr. Edward Mawley:—

June 20 (Tuesday).—Westminster (N.R.S.).
„ 28 (Wednesday).—Clifton (two days); Richmond (Surrey), and Windsor.
„ 29 (Thursday).—Eltham.
July 1 (Saturday).—Crystal Palace (N.R.S.).
„ 4 (Tuesday).—Canterbury and Gloucester.
„ 5 (Wednesday).—Croydon, Ealing, and Lee (two days).
„ 6 (Thursday).—Bath, Norwich, and Sutton.
„ 11 (Tuesday).—Wolverhampton (three days).
„ 13 (Thursday).—Worksop (N.R.S.), Harleston, and Woodbridge.
„ 14 (Friday).—Helensburgh.
„ 15 (Saturday).—New Brighton.
„ 27 (Thursday).—Southwell.

Mr. E. Mawley, Rosebank, Berkhamsted, Herts, states that he will be glad to receive the dates of any Rose shows not mentioned above, for publication in his next list of fixtures, which will be issued early in April.

Ealing Horticultural Society.—The report presented at the annual meeting of the above Society showed an income from all sources amounting to £398 12*s.* 7*d.*, and a total expenditure of £397 4*s.* 9*d.*, leaving a balance in hand of £1 7*s.* 10*d.* The Hon. Secretary and Treasurer were re-elected, and it was resolved that the annual summer show this year be held on Wednesday, July 5.

United Horticultural Benefit and Provident Society.—The annual meeting of this Society will take place on Monday evening, March 13, at the Caledonian Hotel. The chair will be taken at 8 o'clock, by George Ingram, Esq.

Royal Horticultural Society of Aberdeen.—The prize schedule for 1893 has now been issued. There are 239 classes, in which 721 prizes are offered. The classes are open to professional gardeners, nurserymen, florists, amateurs, and working classes, and embrace pot plants, cut flowers fruit, and vegetables, including several special classes for Potatos. The fête is to be held on August 17, 18, and 19, in the Central Park, Kittybrewster, Aberdeen, the place where it was held last year.

The Royal Western Horticultural Society held its second annual meeting last week at the Plymouth Guildhall, under the presidency of the Mayor, Mr. W. Law. The annual report stated that the subscribers were to be congratulated on the good work that had been done, and the hopeful future that lay before the Society. The whole of the proceedings in connection with the last show gave general satisfaction. There was expended in prizes £118 18*s.*, and there remained a balance to the credit of the Society of £128 9*s.* 9*d.* Considering they began the first year with a gift of £100 from the Royal Agricultural Society, it was satisfactory to observe that the third year began with a still larger sum in hand. The committee, however, felt that it was very desirable to obtain new subscribers, as the expenses would necessarily increase if the reputation of the Society was to be worthy of the importance of the district which it represented. That would be seen from the following figures:—The subscriptions and money taken at the doors on the occasion of the show in 1892 amounted to £200 8*s.* 6*d.*, and the total expenses for the year amounted to £257 17*s.* 6*d.* The committee thanked the subscribers for the cordial co-operation which they had always received at their hands, and whilst regretting the resignation of Mr. E. J. Winter Wood as Hon. Secretary, they were glad to report that a deputation had been fortunate enough to obtain Mr. John Walling's acceptance of the office. Mr. Paige submitted the balance-sheet for the past year. The receipt side showed:—Credit balance at the commencement of the year, £180 19*s.* 7*d.*; subscriptions and money prizes, £135 5*s.*; cash taken at the show, £65 5*s.* 6*d.*; making a total, with smaller items, of £386 7*s.* 3*d.* The expenditure, including £118 18*s.* given in prizes, amounted to £257 17*s.* 6*d.*, leaving a favourable balance of £128 9*s.* 9*d.*

The Birmingham Gardeners' Association.—At the last meeting of the above, Mr. G. A. Bishop, gardener to S. T. Mander, Esq., Wolverhampton, read an excellent paper on "Chemistry as applied to Gardening," and gave good account of the chemical properties of the soil and composition of plants, and with the aid of experiments, much valuable advice was afforded. A large number of members attended, and many questions were asked, all of which were dealt with in a masterly manner.

The Buchan (Aberdeenshire) Field Club.—Dr. Sinclair, H.M. Convict Prison, Peterhead, recently read a paper on the "Algæ of the Buchan Coast" at a meeting of the Peterhead section of the Buchan Field Club. Dr. Sinclair dealt first with the distribution of Algæ, and then took up the matter of their classification. Referring to the manufacture of kelp, he said in 1818 the price per ton was £20, and the total exports amounted to £120,000, but the price fell to £3 a ton, and rendered the industry unremunerative. He then dwelt on the structure and characteristics of the various plants. In the course of his description of numerous specimens, he had collected, he mentioned at least two which he had been assured on the highest authority were new plants, not found in existing lists. Dr. Sinclair stated his intention to continue his lectures on the subject of Algæ.

Abies Mariesi.—"I spent October 2 and 3 in company with Mr. James Herbert Veitch and Mr. Tokubuchi, an accomplished Japanese botanist, on Mount Hakkoda, an extinct volcano, 6000 feet high, which rises south-east, and a few miles distant from Asmori, the most northern city of the main island of Japan. Botanically, this was one of the most interesting excursions I made in Japan, and we were able to gather the seeds of a number of plants that we did not meet with elsewhere. On this mountain, in the very spot, perhaps, where Maries discovered this fine tree, we found Abies

Mariesii covered with its large purple cones; and on the upper slopes saw the Pinus pumila, forming almost impenetrable thickets, 5 or 6 feet high, and many acres in area, and numerous alpine shrubs like Andromeda nana, Gaultheria pyroloides, Epigæa asiatica, Phyllodoce taxifolia and Geum dryadoides. On this mountain, too, we established the most northern recorded station in Asia of the Hemlock (Tsuga diversifolia); and near the base, Ilex crenata, Ilex Sugeroki, a handsome evergreen species with bright red fruit; the dwarf Ilex integra var. leucoclada, and Daphniphyllum humile were very common; and here we were fortunate in finding good fruit and ripe seeds of Magnolia salicifolia. *C. S. S., in Garden and Forest, February* 8, 1893.

Prize for Botany in Aberdeen University.—Among the matters discussed at a recent meeting of the Aberdeen University Court—the Marquis of Huntly, Lord Rector, presiding—was a letter from Mr. Hector Allan, Sydney, N.S.W., stating that a sum of £75 had been given by the late Rev. Robert Collie, Presbyterian minister, New Town, near Sydney, for a botany prize in the University. The Court unanimously agreed to accept the money, and a remit was made to the Senatus to draw up the conditions of the prize. It was explained that this was the first endowment for botany, and the hope was expressed that it might be added to.

Town Planting in the North.—The Freeman's Committee and Corporation of the City of Newcastle, have decided to plant over 21 acres of ornamental trees, in beltings, on the Town Moor, and the contract for the initial planting of 2 acres of this area was let in autumn last; of the remaining 19 acres, Messrs. Fell & Co., nurserymen, of Hexham, have been entrusted with about 13 acres of this planting. Trees of various kinds suitable for the district are to be planted in specimens, such as Sycamores, Elms, Limes, half-specimens of Mountain Ash, Poplar of sorts, &c., arranged for effect all along the beltings, and which will undoubtedly provide the much-needed shelter, as well as being of ornament.

Dendrobiums in Season.—Various correspondents kindly send flowers of these charming Orchids for our opinion. First, from Charles Winn, Esq., The Uplands, Selly Hill, Birmingham, come his highly-coloured form of Dendrobium × Aspasia (aureum × Wardianum), a fine hybrid (aureum × nobile albiflora), with much clearer and lighter-coloured flowers than other forms of D. Ainsworthii, a curious seedling, very like a highly-coloured D. nobile, of which the parentage (if crossed) is not recorded: and some charming flowers of the natural hybrid, D. crassinodi-Wardianum. From General Emeric S. Berkeley, Spetchley, Bitterne Park, Southampton, come four of the best forms of D. nobile we have seen this year. The one is a nearly white flower, near to D. n. pulcherrimum and D. n. Schroderianum; the next, D. n. purpureum, is, if anything, darker than D. n. nobilius, though scarcely so large. Quite three-fourths of the flower, both back and front, is of a rich dark purplish-crimson. These two forms were imported direct from Western China. The other two are massive flowers, well-formed, and beautifully coloured. They are of the D. n. giganteum importation of Messrs. F. Sander & Co. The petals are $1\frac{1}{4}$ inch broad. From M. Linden, l'Horticulture Internationale, Parc Leopold, Brussels, curiously enough, comes on the same day, a pair of flowers which match in every particular with the richly-coloured D. n. purpureum of General Berkeley; and, lastly, from Mr. A. Empson, The Quinta Gardens, Brobury, Hereford, we receive a set of various varieties of Dendrobium Wardianum of the first order of merit, and exhibiting well the effects of good culture.

Tender Ivies.—The Ivy is usually regarded as a perfectly hardy plant, but several varieties get much injured by a severe winter. An interesting example of this may be seen in the Royal Horticultural Society's Gardens at Chiswick, where there is a large collection of the best kinds. Hedera Helix himalaica is evidently very tender, as every leaf is brown, and the beauty of the plants spoilt. It is important to know this, as it is in the winter that one wishes the Ivy to appear in its brightest dress. If they were very young, the case would be different, but the Chiswick specimens are thoroughly well established, extending over much area. In sheltered and more exposed positions, the effect of frost is the same; and about as much injured is H. H. algeriensis variegata and H. H. maderiensis variegata. The variegated kinds are naturally more tender than the green-leaved, but none of the many varieties are more injured than himalaica.

Can Plants Digest Fatty Oils?—This curious question has recently been answered in the affirmative by Herr R. H. Schmidt, in *Biedermann's Centralblatt*, 1892, pp. 113—115. Experiments with certain moulds growing in a solution containing Grape-sugar, Almond-oil, pure Olive-acid, and glycerine, showed that such a solution could support mould-growth. Fungi were found to flourish in glycerine and fatty acids. Mosses will absorb oil and Olive-acid, whilst many germinating plants, like Peas, will readily absorb and digest fatty oils.

Pamphlet on the Potato.—Mr. James Dobbie, the founder of the firm of Dobbie & Co., florists and seedsmen, has published a pamphlet on the propagation and culture of the Potato, with directions how to avert disease. Mr. Dobbie's reputation entitles his opinions on this question to much consideration.

Publications Received.—*Index Seminum in hortis Musæi Parisiensis collectorum anno* 1892. *An Account of British Flies*, by F. V. Theobald. Vol. I. (Elliot Stock).

THE MIDDLEMAN.

[Empties not Returned!]

During the agitation for the emancipation of the slaves, a favourite cry of the Abolitionists was, "Is not the black man a man and a brother?" Now, in our case our colour may be as dark as it is represented, but I am certain of one thing, that outsiders in general will not admit our claim to be treated as business men and brothers. The one topic with which a writer or speaker may be certain to gain favour of an agricultural or horticultural audience is an attack on the "middleman"—by middleman meaning the salesman. There is reason for this: the gentlemen referred to are all as ignorant of their subject as the audience they address, therefore use the arguments the latter have in their minds. It is not popular to defend the middleman, and papers must cater to the taste of their customers. It is not that nothing can be said for the middleman; his very existence as such is a proof of his utility. If the grower wears out the middleman's empties without his earning anything on them while they are being worn out, can it be wondered that some middlemen, brought up in the school where it is firmly believed two wrongs make a right, do not return to a fraction all the goods consigned to them make. The empties must be paid for in some way, for the commission is gauged to barely pay for the empty while it is being used for the purpose for which the charge is made. How many who complain of want of honesty on the part of the middleman can hold up their hand and thank goodness they are not as other men—that they have never grown Cucumbers in Cucumber-trays, or seeds in boxes with the lids off, or dried bulbs in the latter, and used handle baskets for every purpose short of carrying water! Are the tales of rows of cottages in the Southampton district nearly built of Strawberry boxes devoid of a substratum of truth? Have not hen-coops, dog-kennels, and fowl-houses been seen with the words Borough or Covent Garden stencilled on them over a hundred miles from either locality? Is it to show contempt for the middleman that his sacks are used as door-mats? Let the grumbler reflect how useful he finds that middleman and his empties, and straightway compose an ode in his praise—he is a good citizen, a useful man. Who finds the baked Chestnut-vendor with the two-bushel baskets upon which is placed the portable furnace? he does. Whose baskets form the stall of every old Apple woman in London? his do. Where would the greengrocer be without the middleman's pecks, halves, and bushels to make up the shop front? (I counted seventy in a shop-front near Islington Cattle Show.) Whose barrels are used for corn-bins, coal-boxes, and dust-bins? whose sacks keep the rain off seven-eighths of the carters of the kingdom? What more useful to make up the seat of the driver of a growler than two or three sacks folded? what makes a better apron, with some sieve-cord for strings? nothing is better to dry fish upon in fried fish shops than the lids of hampers and flats; bottled beer packs as well in the latter as anything; and nothing is more useful for pic-nics. In the holiday season there is not a middle-class family who visit the seaside who do not show their appreciation of the middleman by using some of his empties for one purpose or other. I never go anywhere without seeing evidence of the use of the middleman; all use him, from parsons to shoe-blacks. If I have trespassed upon your space my excuse is, that this letter will be about the only one on this topic, if those who reply are those, and those only who have never used a salesman's empties for any other purpose than that for which they were sent, or who have winked at their being so used—sending presents packed in them to friends or using them just to to send a few things to the local shops and customers to count as disqualifying. In the remarks about prices it is apparently forgotten the middleman has often the grower competing with him; so far as rough vegetables and fruit are concerned, this is always the case in Covent Garden, the Borough, and several other markets, and competition is so keen that no rings are in existence, even if it were possible to form them. The mere fact of two salesmen returning the same price is no evidence of collusion. At Sandown, in the ring, you do not find much variety in the price offered for one horse, and it has to be borne in mind that prices in any market are in reality settled by the buyers—not the salesmen. There are black sheep in most flocks but as honourable men are to be found in the markets as in any trade or profession in the country, considering few ever retire from business. A walk round the seven fruit and vegetable markets of London will show that as a body, neither masters nor men are old; and taking into consideration the comfortless life all of them lead, they deserve better treatment at the hands of the public.

If a middleman may suggest anything, it is that all growers should insist that they be charged with the cost of the empties sent them, also for their use if not filled and returned in a reasonable period. If that were done by all, and the buyers charged full prices for all empties sent out, the trade would be on the road to being conducted in a more strictly business manner. But as long as the present loose system prevails, there will always be some middlemen who will think they have a moral right to get back their losses somehow or other, and some growers think they are only acting justly while wearing out that middleman's empties without the owner benefiting. *W. Whitehead Cousins.*

VEGETABLES.

VEGETABLES IN SCOTLAND.

Though the past season, cold and sunless as it was caused loss in most of the tender classes of vegetables in northern parts, it is satisfactory to know that many of the well-known hardy species grown by cottager and landowner alike throughout Scotland, were above the average in quality. There is no doubt that much of their success is due to the system of trenching the land so generally practised in northern gardens, as it is well known that deep

tillage makes it to a great extent proof against the evils of excessive cold rains as well as severe drought; and as some of the finest late Peaches and Grapes ever seen in Scotland, were grown in 1892, with roots in outside borders, indicate that the advantages of thorough drainage are fully appreciated; and though the season was one of the coldest and most sunless, difficulties arising therefrom were met and combated successfully. We have had verbal, as well as written, reports from some of the champion competitors as to the varieties which have helped them so ably to carry off their prizes, and who certainly know well what were tabled at Edinburgh, Glasgow, and Stirling, in such fine form, and so justly admired. I have before me a letter from one of the most successful competitors of late years, an enthusiastic gardener who, when competing against the fine productions of older hands than himself, and who have been for a much longer time exhibitors—I refer to Mr. Fender, gardener, Cultoquhey, near Crieff. While referring to some vegetables which he had shown, he gave a statement with regard to those kinds which were so very satisfactory in all respects in the gardens at Cultoquhey. Cauliflowers, which have been as fine as could be desired, consisted of a selection of Dwarf Erfurt, Veitch's Autumn Giant, and Drummond's Late Frankfort, which gave good supplies up to January. Carrots, and some rare model roots were exhibited by him, were represented by Veitch's Matchless and Scarlet Model. Beetroot, so handsome and dark, were Dobbie's Red. Celery, Standard Bearer and Dobbie's Red and White, of both of which he speaks of highly. The varieties of Leeks were the Lyons and Dobbie's Champion—the two best. Musselburgh, when true, seems still in great favour, it being generally useful and hardy. Beans, broad, Bunyard's Exhibition and Green Windsor were the finest, and in the collection of vegetables were of first-rate quality. Kidney Beans of many varieties were last summer almost worthless in northern gardens, and required glass protection. Tomatos were very fine; Ham Green Favourite and Perfection were the finest in Mr. Fender's list. Cucumbers Lockie's Perfection and Rollinson's Telegraph stood highest, both for free bearing and fine quality. Craig's Favourite was regarded as being the best among Brussels Sprouts. Broccoli for evenness and hardy constitution are represented by Gordon's Wilcove and Cattell's Eclipse, but, no doubt, like other Broccolis, they have been well tested since Mr. Fender wrote his notes. Peas are very fine, though unusually late in turning in for use; Veitch's Perfection, Duke of Albany, and Ne Plus Ultra gave greatest satisfaction. Onions, which are always strong in Scottish collections of vegetables, are not named in the list before me, but I had most of the varieties named at the exhibitions already referred to, and few equalled, while none surpassed, Veitch's Main Crop. These are in fine condition, and are keeping well with me. Potatos are passed over, as they are seldom good in quality at Cultoquhey. There is a nonsensical system of forming two distinct exhibits at northern shows with Onions, viz., spring sown and autumn ditto. We know well that what are often termed spring sown are already on the way; in fact, at the turn of the year, we learn from some of our exhibiting friends, that the competition Onions are sown and worked at with greater zeal and care than exotics. By the foregoing, we have simply noted some of the cream of common vegetables which have been in every way satisfactory during the past season, and from a district in Perthshire not of the mildest or most favoured, we are sure that they may be grown well elsewhere. *M. Temple, Stirlingshire.*

PARSNIP EATEN BY VOLE.

For the specimen whence fig. 44 was taken, we are indebted to Mr. Noble. If the word leather be confined to the tanned hide of an animal, then the legend to the cut is not correct, as the object represented is the rind of a Parsnip; but it was of leathery consistence, and by turning it upside down, the resemblance to a goblet or bottle was obvious. Further, the bottle was an empty one. The hungry edge of appetite on the part of the short-tailed vole had sufficed to clear away the substance of the root as perfectly as it could have been done by any knife. It was suggested that the animal had thoughts of further utilising the root as a home for voles.

HOME CORRESPONDENCE.

ERYNGIUM CAMPESTRE.—Is it certain that Eryngium campestre grows on the seashore? This plant, with Sambucus ebulus and Urtica romana, are found rarely along the course of the Watling Street Road, where I have collected the two first. *R. T. C.*

QUOTATION RESPECTING SAGE.—The line your correspondent quotes is a translation of the old monkish double rhyme—

Cur moritur homo cui salvia crescit in horto?

Here is another:

Caseus est nequam, quia dig rit omnia se quam.

R. T. Clarke.

APPLE ARMOREL.—I draw attention to the Apple figured by you last week for two reasons—first, as to the correct name, although it is not in the plight of the threatened Bezonian. Whilst Mr.

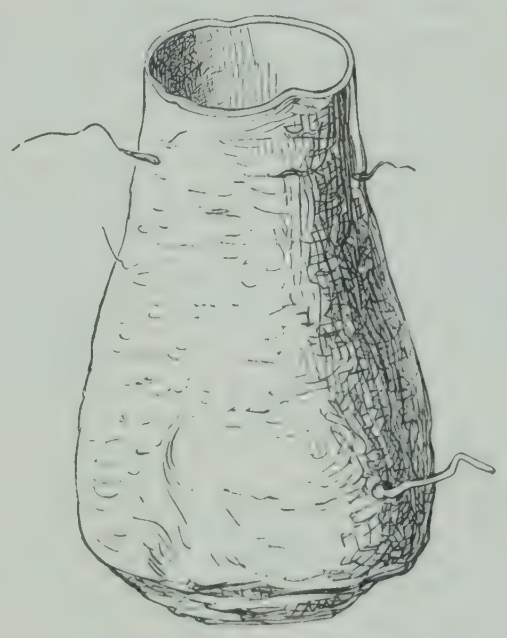

Fig. 44.—A "leather bottel."
(Reduced one-half.)

Cheal terms it Armorel—and you adopt that spelling—when certificated it was named Amorel, or with only one "r." Perhaps Mr. Ross will be the referee in this matter. Then, whilst the variety was certificated last year, it is not well remembered that this Award was unanimously made at the Temple Show last May, the 25th, thus showing it to be one of the very best late or long-keeping of dessert varieties. Although strictly a Russet, yet it has a golden tint, and is of its section distinctly handsome. *A. D.*

POISONING BY HELLEBORUS FŒTIDUS.—A friend of mine lately lost two valuable cows by poisoning. It appears he had plants of Helleborus fœtidus growing in the shrubbery, and the trimmings from them with other garden refuse were placed where the cows run, with fatal effect. As it may not be generally known how very deadly this stinking Hellebore is, I send this note. *George Bunyard, Maidstone.*

EUPATORIUMS, ABUTILONS, ETC.—Among the most useful winter and spring-flowering plants for an ordinary greenhouse we must certainly include two or three varieties of Eupatoriums. The genus contains over 400 species, but very few of them are worth cultivation. The four which I have found really worth growing are E. ianthinum, E. atrorubens, E. Weinmannianum, and E. riparium. The first of these has purple flower heads, while those of the second are reddish-purple and lilac, whilst the last two are white, and the whole of them flower naturally in the order named. I know of no plants more easy to grow than these Eupatoriums, or which are more easily propagated in the spring if young shoots are made into cuttings, and placed in gentle bottom-heat and kept close. A generous treatment of the plants after they come out of the propagating bed will secure good specimens full of flowers. I afford the same sort of treatment to Eupatoriums, Abutilons, and Sparmannia africana, of which I will afford a brief outline. All of these greenhouse shrubs flower freely during the winter, when flowers are naturally doubly valuable. In the spring, when the bulk of their bloom is passed, I cut them hard back, knock them out of their pots, remove much of the soil, and repot in a rich compost of a somewhat open nature, and in well but not excessively drained pots. The plants make many roots, and the soil very soon loses its moisture if too many crocks be used in the drainage. Dried cow-dung is an excellent manure to add to the compost, at the rate of one-fourth of the bulk. After repotting, afford them but little water for a few days, and keep them well syringed overhead. When growth has fairly commenced, abundance of water will be required if the potting has not been overdone; and as the pots fill with roots, liquid manure abundantly should be applied. Towards the end of June, or early in July, according to the season, I place them in the open air, where they remain till the middle of the month of September, when they are housed again, and afforded ordinary greenhouse treatment; still supplying them with liquid-manure, and plenty of water at the roots. I do not head-back Eupatoriums, but Abutilons and Sparmannias are headed-back once after their growths have reached about 9 inches in length. Standards may be obtained of these two last by raising a single stem up to the required height, then stopping it and keeping the side-shoots rubbed off for a time. There is much variety of colour in the flowers of Abutilons. All of these plants under notice will remain in flower for a long time, and their time of flowering may be retarded or accellerated with ease by regulating the temperature of the house in which they are being grown. They are well adapted for conservatory decoration, and are far more free from insect pests than the majority of plants. *A. P.*

FOOTPATHS IN PLEASURE GROUNDS.—I should like to have the opinion of landscape gardeners as to the importance or otherwise of the canon in garden paths held most tenaciously by Mr. W. B. Page, who was forty years ago one of our most distinguished of landscape gardeners, as to whether paths should break out from others or from carriage roads obliquely or at right angles. Mr. Page would never pass a path that did not accord to the latter practice. I make this observation because I note those on the plan of the Ramsgate Public Park you figure at p. 269, nearly every path joins others at acute angles. No doubt the arrangement looks pretty, but, with all due deference to modern plan-drawers, I often think that paths are too plentiful in public gardens—too often lead nowhere, and look prettier on paper than they are found useful or desirable in reality. *A. D.*

GROS COLMAR GRAPE.—There has been a good deal of writing lately as to the best methods of growing the Grape Gros Colmar. I have never noticed any suggestions made as to the pruning of this variety. I have grown it for some years, and I find that the long-rod system is far superior to the spur system, both as regards the colour and size of the berries, which would be attributed to the great amount of root-action in Vines having long rods as fruit-carriers. *J. S.*

—— In answer to your able correspondent, W. Simpson, it would be of interest to me, and doubtless to others, to know what is his definition of flavour. I speak of high flavour in Gros Colmar when I can eat and enjoy the fruit, and it would be worth something to know who could prefer the taste of a black Gros Colmar. I do not care to how late a season this Grape is kept, the earthy flavour is always there, and it is even lacking in sweetness. But palates differ, and were it only on the score of sweetness, the paler and beautiful coloured well-grown and sound Grapes are certainly to be preferred to the sloe-black. Strictly-speaking, there is scarcely any flavour in Gros Colmar when grown on its own roots, yet there is no Grape which can equal it for market purposes. I certainly consider it prudent if the gardener errs on the side of light cropping, and that for many reasons, some of which are doubtless known to W. S. Admitting that the higher-coloured Grapes do command a higher price in the market, would it surprise

W. S. to know that, even with this higher figure, it has always paid me the best to grow a heavier crop, that may be wanting in finish, but of still sound Grapes, of good keeping quality. Early in the present year I was asked to supply a sample bunch for an artist of repute, and although I had bunches that were furnished with much darker berries, I selected one of a violet shade, to the satisfaction of the person named. Without dealing with the last paragraph of his cutting article, I beg to inform him that I have carefully measured the length of rod of one of the heaviest-cropped Gros Colmar (I had one heavier of Black Alicante). Weight in each case can be certified by one of the proprietors here, as also the dates when cut, and to whom the Grapes were sent, and it is exactly 12 feet, with fourteen spurs on each side. Every spur carried one bunch of Grapes—twenty-eight in all—the whole turning the scale at 56 lb.; and, so far as I am able to judge by the strength of the laterals, it is quite equal to carrying the same weight of fruit this season. The first lateral, or spur, is 6 inches from the ground-level. This Vine was planted in 1889—a fruiting-cane from a No. 8 pot—and it carried two bunches the same season, and four or five in 1890, and twelve in 1891. Every Vine in the vinery in which is this rod stands at 3 feet asunder, that is, single rods. As a market-grower—or, rather, a shop-provider—I know that it would be folly to suppose that customers could be retained year by year, and dozens of them, unless I gave them the quality of Grape that they liked. At the same time, I market a quantity; and when I say we send bi-weekly a journey of 500 miles, it will be understood that the carrying quality of the Grape must be good. I suppose I have cut over 2 tons of Gros Colmar since September, so that I think I am entitled to say, without presumption, that I know a little about flavour and of colour. I had nothing to gain in penning the line in which the pointed remarks of "Vagabond" were referred to, and trust this will fully satisfy W. S. In conclusion, although I have never said that I had many Vines which bore the extreme weight quoted, there are several that have carried from 30 lb., 40 lb., and 42 lb. These were planted by my predecessor, yet they are good and strong, and with suitable stimulus and good culture will last some years. What I know surprises my fellow-craftsmen when looking round the place is, first, the crop, and then the foliage and wood; depend upon it, if the last two are right, the crop will be a good one. *Stephen Castle, Fordingbridge.*

PLUMBAGO CAPENSIS BEDDED OUT.—Allow me to give "W. D." my experience of Plumbago capensis when bedded out. I have made use of the plant for ten years, mixed with Abutilons in one bed, and in another containing white-flowered sub-tropical plants, and mixed with Abutilon, Cannas, Castor-oils, and African Marigold. I plant out both old and spring-struck plants, those raised from cuttings, propagated now, making nice plants by June. The plants flower very freely through August and September. *H. Reed, Downside Gardens, Woking.*

—— The above is spoken of in *The Royal Parks and Gardens of London*, by N. Cole, as a sub-tropical bedding plant. My experience of it as such is, that only well-established plants should be used. Cuttings struck the previous season, and grown on till they come into 48's, are good for the purpose, if they are well hardened off previous to being planted out. Like the old Begonia Weltoniensis, it requires a warm and sheltered position, as it will not thrive if planted in a cold or exposed place in the garden. Some years ago it was used in the grounds at Hamble Cliff, near Southampton, and I see from the notes I then made of it, that, as such, it was a marked success. If used as an ordinary bedding plant, it is better to carpet the bed with Alternanthera magnifica, Coleus Verschaffeltii, or something similar, as it is then more effective. I would add, however, that the soil in which it is planted should not be made too rich, otherwise, it is conducive to too strong a growth. Such is my experience of it. [It makes pretty pyramids, which can be employed alone or as dot plants in beds of other plants. Ed.] *Hedley Warren, Bournemouth.*

"ROYAL" HORTICULTURAL SOCIETIES.—I presume it is open to the committee of any horticultural society to give their particular body a "Royal" prefix if they can obtain proper sanction. More is the pity that such sanction should thus be so freely given, because, after all, we have but one real Royal Horticultural Society, that which has its headquarters in London and Chiswick, is established by Royal Charter, and is even more than national in its operations. I am induced to say so much, because, on looking over a provincial paper, I came across a paragraph referring to the "Royal Horticultural Society" that somewhat staggered me, until reading further I found it referred to some local society that sported this high-sounding appellation, and showed in its report for the year that its finances were in a beggarly condition, having a deficiency of over £70. I can but regard the desire of a mere local body to have their society dubbed "Royal" as simply excessive snobbishness. After an exhibition of this kind one could almost wish that, to prevent possible associations with these puffed-up small bodies, the real Royal Horticultural Society should change its appellation to "National." It would be interesting to learn how many of these little societies there are which assume the grandiloquent appellation of "Royal," and how many of them like the one named are in debt? *D.*

EARLY SPRING FLOWERS.—Perhaps some of my old gardening friends may say what is there to tell about early spring flowers. Why I write is this, knowing many gardens and owners of gardens, I am often surprised to find how few species and varieties of early blooming flowers are grown, and how often it is the old story, Snowdrops, Crocuses, Winter Aconites, a few Scillas, Colchicums, and Primroses. I am frequently asked by friends, amateurs, what is the best time to visit Oakwood garden? the answer usually is that it depends upon taste; individually, I prefer the earliest spring flower season, about the middle of February. There is an especial charm about the first flowers coming after the long wintry weather, sometimes in it, with their bright colours. How beautiful is a large bank of Hepaticas with all the shades of colour! H. angulosa blooming first, then the double pink and blue, and all the different tints of single white kinds, blue and purple. I was told by my friend, Mr. Frank Miles, of a Dutch grower who had raised Hepaticas of very many colours, and was not disappointed with the collection; moss grew up among the plants, and added to the beauty of the bank. Miss North was so taken with the effect, that she transplanted moss to obtain it, but alas! as the moss grew stronger it became injurious to the plants, and we had to grub it up. In old gardens are found big plants of Hepatica, but I do not think that they are now planted nearly enough. Leucojum vernum is becoming more common, but it is not in general use; it makes a good companion to Snowdrops. An effective mode of growing this is in a bed of Sedum pulchellum, where it sows itself and spreads. Leucojum vernum carpaticum, with its stronger growth and two flowers to the stem, is a great improvement on the type. The newer varieties of Snowdrops are getting more into cultivation. Galanthus Elwesii, with its globular form, has very many admirers. Others prefer the long-petalled graceful variety, G. Imperati. One of the finest forms in bloom at Oakwood is G. Melvillei, which I owe to the kindness of the raiser. Good clumps of the different varieties of Saxifraga Burseriana on a bank bloom, I think, better than when grown under glass; but when out, they deserve a bell-glass to preserve the blossoms in rough weather. In warm sheltered corners the many species of winter and early spring-flowering Crocuses hold their flowers well. Anemone blanda, given me by Mr. Ingram, is a gem, and the so-called white form, which with us usually comes a pale blue, is very pretty. Daphne Blagayana resists frost well, and is as sweet as the greenhouse D. indica. Many of the Lent Hellebores, which follow on after Helleborus italicus and H. rexus, are now very beautiful, and fine varieties of them may be raised from seed. Petasites albus, where there is room for it, is not to be despised. All the Scillas and Muscaris are good, but one of the finest earliest flowering of these last came from Mr. Van Tubergen, jun., under the name of Hyacinthus azureus; it is a lovely soft pale blue. There are now a great number of early-flowering common Primroses, with beautiful shades of colour, enough to make a spring nosegay by themselves. Early-flowering shrubs, such as Chimonanthus fragrans and Lonicera fragrantissima, are pretty generally known. I could go on with other flowers, but the space forbids. I think that the early spring flowers of the future will undoubtedly be found among the Irises. I. histrio, now in bloom at Oakwood, has richness of colour which few Orchids can surpass. I. Bakeriana, I. Danfordiæ, and I. histrioides are all most beautiful early flowers, when they become as common and inexpensive as I. reticulata. A large spring bed of Irises will be gorgeous. It is to be hoped that nurserymen will turn their attention to importing or growing the rarer Irises from seed on a very large scale, so that they may be generally grown. *George F. Wilson.*

MESSRS. FOSTER AND PEARSON.

As a firm carrying on an extensive nursery trade, Messrs. J. and R. Pearson & Sons, of Chilwell, lately received notice in our columns. We now give our readers some account of the horticultural building concern of the firm of Messrs. Foster & Pearson, established at Beeston, near the town of Nottingham, as at present existing. The knowledge of plants and their requirements, and especially of the different kinds of horticultural buildings requisite for all kinds of plants and fruits, which must have been acquired by Mr. Henry J. Pearson, of the above firm, during his childhood and youth spent in a successful plant nursery, afford the firm of Foster & Pearson exceptional advantages in devising horticultural structures, a fact that is shown by the reputation their work has for efficiency and durability. Calling at the works, Mr. Pearson kindly undertook to show us round, beginning at the timber-yard and sheds, for it is here, says Mr. Pearson, that the building of good glasshouses really begins. Well seasoned sound timber is the secret of the durability of plant-houses, and all the timber at Beeston is personally selected and stored for three or four years before it is worked up, care being taken that every balk used is of the best quality, for as our guide remarked, if some is good and some bad the house becomes dilapidated almost as quickly as if all is of bad quality. Passing a powerful steam-engine, we enter the workshops, where the workers are busy as bees amidst the clatter of circular saws, planing-machines, machines for morticing and cutting angles or grooves, specially constructed machinery being employed for every kind of work up to the final fitting together. In one place we came to a machine for getting a rough but true face on the larger stuff to be used; then in another the saws which cut it into the required strips, then planes in active work, and so on, to the machine which finishes the bars and rafters off "as true as a hair" in sets. We then went to the paint shops, where Mr. Pearson shows us what he considers another absolute necessity in the making of a good horticultural building, viz., the finished work having a coat of red lead. For this we received many technical reasons, but the fact that common sense supported the argument was not the least weighty with us. When this priming of red lead is dry, the various pieces are passed on to the painters, and are in this dry shop finished all but the final coat, which is far better than having to do the work in the open air.

The carpenters' shops were entered, where the fitting together of the lighter work is carried on, and a quantity of sash bars, materials for forming staging, and other kinds of material are stored, so that it might get well seasoned before they are required for building.

The blacksmiths' shops showed much of that light kind of iron-work which gives strength to glasshouses, and which, in this case, is ornamental as well as useful. We witnessed the selection of some very large iron-work of an ornamental kind, intended for a conservatory in the course of erection for a customer. This was all laid flat on the floor, a number of workmen being engaged in filing the joints to the greatest nicety, fitting them with nuts, screws, &c., and in fact placing the whole in the exact position it would occupy. There are special features in the works worth seeing, the first being their vineries and fruit houses built on iron standards instead of ordinary brick walls, and which possesses the undeniable advantage of giving the roots of Vines, Peaches, &c., planted inside, but which it is intended should run outside, an uninterrupted course for so doing, whereas the ordinary arched

brick wall is, to some extent, an obstruction. Another advantage of a house standing on these iron standards is, that it can be built so as to be a tenant's fixture removable at will.

The system of using iron standards also is extended to the better class of frames, and several forms of frames with doors, for fixing on brick walls or over a sunken pathway, are admirable things for the amateur in a small way; being indeed to all intents and purposes small neat houses, economically fitted at little more cost than the ordinary span garden frame. Another kind of frame which would be of great advantage if fitted against a hothouse wall where it could obtain some slight warmth from the house, is the lean-to frame with flanges to the iron bars at the back for fixing it to an existing wall.

About the whole of the work at this establishment the most casual observer cannot fail to remark on several very fine points, and notably the excellence of the system of tie-rods, light purlines, uprights, and angle-irons which are arranged on true principles of thrust and pull, as to render it next to impossible for any part of the structure to shift its position, or for sagging of any part to take place. Moreover, this kind of iron is ornamental in design. The methods of ventilation adopted are excellent, the iron traps being provided which have perforated zinc sheeting on the inner side, and which are suspended on a balancing pivot, and the end-to-end lantern ventilation at the highest point of the ridge is apparently perfect. Returning to the draughtsman's room and offices to inspect the plans of some of the large works carried out in various parts of the country by the firm, we stepped aside to see the working of the patent valves and joints used here in the laying down of the hot-water piping, the planning of which has been a special study, which seems to have arrived at something very near perfection.

COLONIAL NOTES.

COFFEE DISEASE IN JAMAICA.

The Ceylon Coffee disease caused by Hemileia has happily not been met with in Jamaica, though other less serious fungus pests have been discovered by J. D. A. Cockerell. These are the black rot, Pellicularia keleroga, which affects the leaves somewhat in the same way as the Potato fungus (Phytophthora) and the iron-stain "mancha de ferro," of Venezuela, which is attributed to Stilbum flavidum, and which forms small pale brown spots on the leaves, which speedily fall off. Neither of these has any close relation to the Hemileia, and their effects are much less serious.

Bulletin of the Botanical Department of Jamaica.

The last number contains the Report of the Director of Public Gardens, for the year ending March, 1892. It contains an interesting account of the functions performed by colonial gardens, and a slight sketch of the history of each of the establishments in the island. "The value of the gardens existing in Jamaica, Trinidad, and Demerara, is so evident that lately Botanic Gardens have been started in Antigua, Dominica, Montserrat, St. Kitts, and Nevis, amongst the Leeward Islands, under the direction of Mr. C. A. Barber, a Cambridge botanist; in Grenada, St. Lucia, and St. Vincent amongst the Windward Islands; and still more recently in British Honduras.

"The same movement is also going on in other parts of the world; for instance, botanic gardens have lately been established in Lagos, and the Gold Coast on the west coast of Africa.

"Botanic gardens in the Tropics do the work on the plant side, of agricultural departments in temperate climates. They are in themselves experimental stations; and are much more efficient in introducing new cultural products, and in distributing plants and imparting useful information than most agricultural departments.

"The whole of the botanic gardens in the British Empire are more or less in communication with one another, exchanging seeds, publications, &c., and all look up to the Royal Gardens at Kew as to their head for advice and assistance. Imperial federation is already in existence as regards the botanic gardens and their work. If any special variety of a plant, or any new culture comes into notice, information and plants are sought sometimes directly from the local gardens, sometimes through Kew as the botanic gardens' 'Clearing House.' The Director of Kew Gardens has at his disposal the services of experts in every branch of botanical inquiry, and is always most willing to aid colonial gardens in every way. Any intricate question that arises in chemistry, in diseases of plants, in insect pests, in the value of products, &c., can be determined by reference to Kew. Colonial gardens are therefore not isolated, but are branches of an agricultural department as wide as the British Empire itself." We are pleased to see that the resources of the Royal Horticultural Society have also been utilised. A closer interrelation between the Society and the colonial and foreign botanic gardens is greatly to be desired.

TREES AND SHRUBS.

HAMAMELIS.

The genus Hamamelis, or Witch Hazel, consists of a few—half-a-dozen—species of deciduous shrubs and half trees, whose flowers appear in the winter and early spring. They are natives of North America and Japan. Although flowering with freedom at a season when out-of-door flowers are scarce in this country, they are to be found in but few gardens—at least, the Japanese representatives of the genus, notwithstanding the fact that they require very simple methods of culture, and are not fastidious as to soil, flowering freely in damp and in dry soils if the position be a sunny one. Their hardiness in this country is established, plants having stood out unprotected at Kew during recent winters. The undermentioned species are worthy the notice of gardeners.

H. virginica was introduced from the Eastern United States to this country in 1736, and therefore it is the best known species, and though its flowers do not possess the brilliancy of colour characteristic of H. arborea, it is certainly a delightful shrub. Its numerous bright yellow star-shaped flowers appear in clusters soon after the leaves have fallen. After the petals have fallen, the greenish-coloured calyces remain on the plants until growth recommences in spring. It is a plant admirably suited for the margin of water-courses and lakes, as it loves a cool and moist soil. In this country it takes the form of a dense bush of 6 to 8 feet in height, but in its native country it attains to a height of 18 feet.

H. arborea is unquestionably the brightest and freest early spring-flowering small tree that we possess, and beyond doubt the most beautiful of the genus. It was received from Japan thirty years ago, but it is only within the last few years that it has received anything like the attention it deserves. So freely are its clusters of blossoms produced, that every branch and twig is wreathed with them. The twisted petals are of a rich golden-yellow, and about half-an-inch long; the calyx is claret-coloured. The plant differs from the other species by reason of its tree-like habit of growth, which in Japan is about 20 feet, but in England it rarely reaches 10 feet; the Japanese species flowers whilst still very young. The beauty of the blossoms are much enhanced if the shrub has evergreen shrubs at the back of it. The Kew plant is growing in almost pure sand, but every year it is laden with bloom. It is a sun-loving shrub or small tree, and should always be planted where its wood may get thoroughly matured.

H. japonica is very different from H. arborea, a species for which it is sometimes taken. It is of dwarfer and more bushy habit, with flowers of a soft sulphur-yellow colour, rather sparsely produced, and appearing a fortnight later than those of H. arborea. It likewise flourishes in a sunny aspect.

The propagation of these shrubs, which does not seem to be generally understood, is carried out in the following manner. The raising of the American species is generally by means of seed freely produced in this country, which should be sown in porous soil in well-drained pans or boxes, placed in a temperature of 55°. When the young plants are large enough to be handled, they should be pricked off into beds or pots, to be afterwards potted off into 60's; these may be grown on either to form bushes, or as stocks on which to graft the more choice kinds. Grafting is best performed in the month of March, and side-grafting is the better method to adopt. The scions should be of well-ripened wood and a trifle smaller in diameter than the stock; ordinary bast forms a good material for securing them. It is hardly necessary to say that the knife used should be very sharp. When the graft and stock are properly bound together they should be placed in a close propagating case for a few weeks until a union is effected, afterwards placing them in a frame, the amount of ventilation of which should be small at first and be gradually increased. *T. H.*

ENQUIRIES.

Canning Fruits.—Is there any book on this subject readily available? *J. B. W.* [We do not know of any on this side of the Atlantic. Perhaps some of our American correspondents would kindly indicate the name, cost, and place of publication of such a book. Ed.]

Lantern Slides.—Where can I procure lantern-slides illustrative of good fruits and vegetables? I require them to exemplify lectures on gardening. *M. A.*

Mandragora Trees.—What can the author of *Morocco as it is* mean when he says, p. 45, that the Sultan "wanders beneath the Mandragora trees of his magnificent garden in Fez?" *X.*

THE WEATHER.

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees — a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature.		Accumulated.				Rainfall.			Bright Sun.	
	Above (+) or below (—) the Mean for the week ending March 4.		Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1893.	Below 42°, difference from Mean since January 1, 1893.	More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1893.	Total Fall since Jan. 1, 1893	Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1893.
			Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	3	—	0	44	— 12	+ 57	3	—	49	9·8	14	16
1	4	—	0	53	— 35	+ 54	3	+	44	5·5	20	19
2	1	—	8	32	— 14	+ 12	8	+	39	4·5	25	19
3	3	+	28	18	+ 7	+ 28	5	+	46	5·0	25	20
4	2	+	28	18	+ 7	+ 9	1	+	43	4·8	30	20
5	3	+	27	9	+ 3	+ 24	5	+	44	5·9	18	18
6	2	—	5	33	aver 0	+ 11	5	+	46	8·8	28	20
7	0	aver	11	25	+ 13	+ 1	7	+	43	6·0	25	16
8	2	+	28	9	+ 10	+ 3	1	+	43	8·4	31	24
9	0	aver	14	24	+ 2	— 14	4	+	47	7·1	26	20
10	1	—	27	15	+ 4	— 11	1	—	44	8·4	26	21
*	3	+	38	0	+ 38	— 12	4	+	50	7·1	24	23

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E; 4, Midland Counties; 5, England, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; (* Channel Islands.)

THE PAST WEEK.

The following summary record of the weather for the week ending March 4, is furnished from the Meteorological Office :—

"The *weather* continued in an unsettled condition in all parts of the kingdom, with a good deal of rain in all the more southern districts, and heavy snow, sleet, and rain in the north.

"The *temperature* was rather below the mean in 'Scotland,' as well as in 'England, N.E. and Ireland, S.,' and just equal to it in 'England, N.W. and Ireland, N.;' in the other districts there was an excess of 2° or 3°. The highest of the maxima were recorded, as a rule, either on March 2 or 4, when they ranged from 60° in 'England, S.,' and 59° in 'England, E. and S W.,' to 52° in 'Scotland, E.,' and 51° in 'Scotland, N.' The lowest of the minima were registered on February 26 or 27, when the thermometer fell to 11° in 'Scotland, E.' (at Nairn), to 16° in 'Scotland, N. and England, N.W.,' and to 17° in 'Scotland, W.;' elsewhere the minima ranged from 21° in 'Ireland, S.,' and 22° in 'Ireland, N.,' to 31° in 'England, S.,' and to 38° in the 'Channel Islands.'

"The *rainfall* was rather less than the mean in 'Scotland, N. and Ireland, S.,' but more in all other districts. Over the northern parts of England and the east of Scotland, the excess which was large, was chiefly due to a heavy fall of snow and sleet occurring at the opening of the period—1·3 inches being measured at Alnwick Castle on the 26th, 1·0 inch at Shields, and 0·9 inch at Aberdeen.

"The *bright sunshine* slightly exceeded the mean in some of the western districts, and in central England, but showed a deficit elsewhere. The percentage of the possible duration ranged from 31 in 'England, S.W.,' and 30 in the 'Midland Counties,' to 18 in 'England, S.,' and 14 in 'Scotland, N.'"

MARKETS.

COVENT GARDEN, March 9.

Supplies quite equal to the demand. Trade quieter. *James Webber, Wholesale Apple Market.*

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Arum, per doz. bl.	1 0	3 0	Narcissus, various,		
Azalea, dozen sprays	0 6	0 9	French, doz. bun.	2 0	6 0
Bouvardias, per bun.	0 6	1 0	Orchids:—		
Carnations, 12 blms.	2 0	4 0	Cattleya, 12 blms.	6 0	12 0
Chrysanthemums, p. doz. bunches	4 0	9 0	Odontoglossum crispum, 12 blms.	2 0	6 0
Cyclamen, doz. blms.	0 6	0 9	Pelargoniums, scarlet, p. 12 bun.	6 0	9 0
Daffodils, dble., doz. bunches	1 6	3 0	12 sprays	0 9	1 6
— single do.	2 0	9 0	Primroses, doz. bun.	1 0	2 0
Eucharis, per dozen	2 6	4 0	Primulas, double	0 6	1 0
Gardenias, per dozen	6 0	12 0	Roses, Tea, per dozen	2 0	4 0
Heliotropes, per doz. sprays	0 6	0 9	— coloured, dozen	3 0	6 0
Hyacinths, Roman, doz. sprays	0 6	1 0	— yellow (Maréchals), per doz.	4 0	9 0
— dozen spikes	3 0	6 0	— red, per dozen	3 0	6 0
— French, 12 bun.	0 6	1 0	— (French) p. doz.	1 6	4 0
Lilac, French, per bunch	3 0	5 0	Snowdrops, doz. bun.	0 9	1 6
Lilium Harrisii, doz.	6 0	9 0	Tuberoses, 12 blms.	1 0	1 6
Lily of the Valley, doz. sprays	0 6	1 0	Tulips, red, doz. bm.	0 6	0 9
Maiden Hair Fern, 12 bunches	6 0	9 0	— white, doz. blm.	1 6	2 0
Marguerites, p. doz. bunches	2 0	4 0	— yellow, doz. blm.	1 0	1 6
Mignonette, 12 bun.	3 0	6 0	Violets, Parme French per bunch	2 6	3 6
Mimosa, French, bun.	1 0	1 6	— Czar, French, per bunch	1 6	2 0
			— small French, p. doz. bunches	1 0	1 6

Orchid-bloom in variety not in quantity.

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Arums, dozen pots	12 0	18 0	Ficus elastica, each	1 6	7 6
Azalea, per doz.	24 0	42 0	Genista, per doz.	9 0	15 0
Adiantum, per doz.	6 0	12 0	Hyacinth, doz. pots	8 0	12 0
Aspidistra, per doz.	15 0	30 0	Lilium Harrisii	24 0	36 0
— specimen, each	7 6	21 0	Lily of the Valley, 12 pots	12	18 0
Cineraria, per doz.	8 0	12 0	Marguerite, per doz.	6 0	12 0
Cyclamen, doz.	9 0	18 0	Mignonette, doz. pots	6 0	12 0
Cyperus, per dozen	4 0	10 0	Palms, various, each	2 0	10 0
Dracæna, each	1 0	5 0	— specimens, each	10 6	84 0
Erica, various, doz.	9 0	18 0	Solanum, per doz.	9 0	12 0
Ferns, various, doz.	4 0	9 0	Tulip, per doz. pots	6 0	9 0
Ferns, small, per 100	5 0	8 0			

Vegetables. — Average Retail Prices.

	s. d.	s. d.		s. d.	s. d.
Beans, French, lb.	1 6	2 0	Mushrooms, punnet	2 0	—
Beet, red, per dozen	2 0	3 0	Mustard and Cress, punnet	0 4	...
Carrots, per bunch	0 4	0 6	Parsley per bunch	0 3	0 6
Cauliflowers, each	0 3	0 6	Seakale, per basket	2 6	...
Cucumbers, each	0 9	1 3	Shallots, per lb.	0 6	...
Endive, per dozen	2 0	3 0	Tomatos, per lb.	1 0	1 6
Herbs, per bunch	0 9	1 0	Turnips, per bunch	0 4	0 6
Lettuces, per doz.	1 6	2 0			

Potatos.

Trade still very slow, and prices low. Stock not quite so heavy.

New Potatos.—A few arriving. Prices from 14*s.* to 24*s.* per cwt. *J. B. Thomas.*

Fruit.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Apples, p. half-sievel	0	3 6	Pine-apples, St. Michael	4 0	6 0
— Nova Scotia, per barrel	10 0	17 6	Oranges, Florida, per case	10 0	16 0
Cobs, per 100 lb.			Strawberries, per lb.	6 0	12 0
Grapes, per lb.	1 0	3 6			
Lemons, per case	12 0	20 0			

SEEDS.

London: *March* 8.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that a fair sowing demand now prevails for field seeds. The sodden state of the land somewhat delays country buying. Clover seeds all round exhibit this week no quotable change. Italian and perennial Rye-grasses keep strong. Spring Tares are scarce, and realise full prices. For bird seeds the trade is slow. Peas and Haricots are neglected. Rape seed is firmer, Mustard keeps strong. For White and Scarlet Runner Beans there is an improved inquiry.

FRUITS AND VEGETABLES.

Spitalfields: *March* 7.—Quotations:—Brussels Sprouts, 1*s.* 3*d.* to 1*s.* 6*d.* per half-sieve; Turnip tops, 2*s.* to 2*s.* 6*d.* per sack; Sprouting Broccoli, 2*s.* to 2*s.* 6*d.* do.; Curly Kale, 1*s.* 3*d.* per bushel; Seakale, 1*s.* to 1*s.* 3*d.* per punnet; Savoys, 2*s* to 3*s.* 6*d.* per dozen; Cauliflowers, 3*s.* to 6*s.* 6*d.* per tally; Greens, 1*s.* to 1*s.* 6*d.*; Turnips, 2*s.* to 3*s.*; Carrots, 2*s.* to 3*s.* per dozen bunches; forced Rhubarb, 1*s.* to 1*s.* 6*d.* per dozen bundles; Horseradish, 2*s.* to 2*s.* 6*d.*; Celery, 1*s.* 3*d.* to 1*s.* 8*d.* per bundle; Parsnips, 40*s.* to 50*s.*; Carrots, 50*s.* to 60*s.* per ton; English Onions, 10*s.* to 10*s.* 6*d.* per cwt.; Spanish do., 9*s.* to 10*s.* per case; Belgian do., 7*s.* to 7*s.* 6*d.* per bag of 110 lb.; English Apples, 3*s.* 6*d.* to 7*s.* per bushel; American do., 15*s.* to 22*s.* per barrel.

Borough: *March* 7.— Quotations:—Savoys, 3*s.* to 6*s.* per tally; Brussels Sprouts, 1*s.* 3*d.* to 1*s.* 6*d.* per half-sieve; Turnip-tops, 1*s.* 6*d.* to 3*s.*; Broccoli, 1*s.* 9*d.* to 2*s.* 6*d.* per bag; Greens, 1*s.* 6*d.*; Parsley, 3*s.*; Carrots, 2*s.* 6*d.* to 3*s.* 6*d.*; Turnips, 1*s.* 6*d.* per dozen bunches; English Onions, 10*s.* to 12*s.* per cwt.; Dutch do., 10*s.* per bag; Horseradish, 2*s.* 3*d.* to 2*s.* 6*d.* per bundle; Apples, 4*s.* 6*d.* to 6*s.* per bushel.

Farringdon: *March* 9.—Quotations:—English Onions, 10*s.* to 11*s.* per cwt.; Carrots, 50*s.* to 60*s.* per ton; Turnips, 45*s.* to 55*s.* do.; Parsnips, 50*s.* to 60*s.* do.; Apples, American, Golden Russets, 21*s.* per barrel; do., Baldwins, 15*s.* to 18*s.* do.; Pine-apples, 1*s.* 6*d.* to 2*s.* 6*d.* each; Grapes, Cape, 7*s.* per box; Tomatos, 2*s.* 6*d.* do.

Stratford: *March* 8.—There has been an excellent supply of all kinds of produce at this market during the past week, and a brisk trade was done at the undermentioned prices:—Savoys, 1*s.* 6*d.* to 4*s.* 6*d.* per tally; Greens, 1*s.* 6*d.* to 2*s.* per bag; do., 1*s.* 6*d.* to 2*s.* 6*d.* per dozen bunches; Cauliflowers, 1*s.* to 1*s.* 6*d.* per dozen; do., 5*s.* to 7*s.* per tally; Turnips, 40*s.* to 63*s.* per ton; Carrots, household, 40*s.* to 50*s.* do.; do., cattle, 24*s.* to 36*s.* do.; Parsnips, 6*d.* to 9*d.* per score; Mangels, 16*s.* to 20*s.* per ton; Swedes, 12*s.* to 20*s.* do.; Onions, English, 200*s.* to 210*s.* do.; do., Dutch, 7*s.* to 8*s.* per bag; do., Bordeaux, 5*s.* to 7*s.* 6*d.* per case; Apples, English, 2*s.* to 6*s.* per bushel; do., American, 12*s.* to 20*s.* per barrel; Brussels Sprouts, 1*s.* to 1*s.* 3*d.* per half-sieve; do., 1*s.* to 2*s.* per flat; Sprouting Broccoli, 2*s.* to 3*s.* per bag; Turnip Tops, 2*s.* to 3*s.* per bag.

POTATOS.

Spitalfields: *March* 7.—There is no alteration to report in prices.

Borough: *March* 7.—Quotations:—English Magnums, 45*s.* to 60*s.* per ton. Others unaltered.

Farringdon: *March* 9.—Quotations:—Main Crop, 80*s.* to 90*s.*; Sutton's Abundance, 75*s.* to 85*s.*; Magnums, 55*s.* to 65*s.*; Bruce's, 60*s.* to 70*s.*; Imperators, 60*s.* to 65*s.* per ton.

Stratford: *March* 8.—Quotations:—Magnums, 45*s.* to 80*s.*; Bruces, 50*s.* to 65*s.*; Imperators, 45*s.* to 60*s.* per ton.

London Averages: *March* 8.—Magnums, 45*s.* to 60*s.*; Hebrons, 65*s.* to 80*s.*; Imperators, 55*s.* to 70*s.*; Regents, 70*s.* to 85*s.*; Belgians, 50*s.* to 60*s.* per ton. New:—Jerseys, 6*d.* to 10*d.* per pound.

CORN.

Averages.—Official statement of the average prices of British corn, imperial measure (quarter) for the week ending March 4, and for the corresponding period last year:—1893: Wheat, 25*s.* 1*d.*; Barley, 25*s.* 2*d.*; Oats, 17*s.* 11*d.* 1892: Wheat, 33*s.* 3*d.*; Barley, 27*s.* 9*d.*; Oats, 20*s.* 6*d.*

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 80*s.* to 112*s.*; do., inferior, 70*s.* to 75*s.*; hay, best, 75*s.* to 112*s.*; do., inferior, 65*s.* to 75*s.*; and straw, 28*s.* to 44*s.* per load.

TRADE NOTICE.

Messrs. Koster & Co., of Hollandia Nurseries, Boskoop, Holland, desire to announce that they have given to their nurseries the name of "Hollandia Nurseries," so that their clients may not be mistaken in addressing letters to their firm.

Answers to Correspondents

Draining Field full of Marestail (Equisetum): *G. A. P.* The roots of the plant having closed the drain-pipes, it would be best to lay-in rubble drains at a depth of between 3 and 4 feet, and 25 feet apart. The roots of the plant are not likely to fill up the interstices in the rubble, but care should be taken to put fine gravel or sods, grassy-side downwards, over it.

Early Volumes of the Transactions of the Horticultural Society of London: *T. O.* They are not of much money value unless you have a complete set. You might advertise them.

Fungus on Timber: *T. B., Nottingham.* A form of dry rot. Take out and destroy by fire all the affected wood-work. See *Gardeners' Chronicle*, November 13, 1886, p. 626.

Insect on Peach: *Anxious One.* A species probably of Lecanium, scale; fuller answer shortly. For its destruction, washing with petroleum emulsion, white-washing, brushing off the insects from the branches.

Lælia crispa: *J. Krupp.* See "Names of Plants" in our issue of February 25.

Names of Plants: *Cornwall.* Rubus spectabilis.—*J. R.* Lopezia racemosa.—*W. Z.* Yes; the specimens arrived in good condition, which is of rare occurrence, we are sorry to say. 1, Lomaria gibba; 2, Pteris cretica albo-lineata; 3, Pilea muscosa (Artillery Plant); 4. Spathiphyllum Patini; 5, Cyperus alternifolius; 6, Pteris serrulata.—*F. A. G.* Fuchsia bacillaris.—*R. C. Townsend.* Next week.

Rhododendron: *G. D.* It looks like a variety of R. argenteum. Can you send us a leaf?

Scale on Bast Ties: *W. C.* Shows how necessary it is to renew old ties on trees affected with scale when dressing them in the winter. You might try a weak mixture of petroleum and soapy water, one wineglass of the former to one gallon of the latter. In winter, a smothering dressing of clay, soot, soft-soap, lime, and sulphur, does much good.

Seeds of Odontoglossum triumphans: *S. E. B.* It is of great rarity for perfect seeds of any species of Odontoglossum to be obtained on home-grown plants. The germinating qualities of the seeds would be difficult of determination without actually sowing them. If good, plants should appear in six months under favourable conditions. The critical time with Orchid seedlings is in what may be called the thallous period, that is, between germination and the formation of roots. The temperature to employ at this season should range from 55° to 65°.

Snails: *Correspondent.* The shell is Vitrea alliaria, of Miller, and the only means for dealing with them is to catch them at night with the aid of a lantern. *W. C.*

Communications Received.—G. F. W.—J. H.—J. W.—J. A. R.—J. B. T.—B. W.—A. J.—R. W. A., Johannisburg. J. D.—A. D.—Visitor.—E. M.—S.—R. and M. Grey.—Orange.—Pomum—G. P.—J. T.—A. L.—C. C. Hurst.—J. S.—W. A.—E. C.—Rayner & Co.—J. Z.—W. E. B., Trinidad.—Seeger & Tropp (many thanks).—R. W.—J. B. F.—A. S.—W. R.—J. W.—R. Y.—C. C.—W. J. M.—M. T.—J. O'B.—G. H.—J. A., Leipsig.—R. D.—E. B., Erfurt.—A. L.—J. W. K. (next week, probably).—B. Hartland.—An Englishman.—F. M.—W. B. H.—R. F. & Co.

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(Signed) G. PARBERY.

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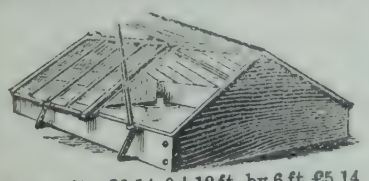

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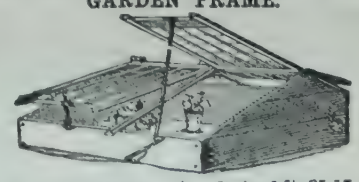

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9	,,	..	0	5	6	20	,,	..	0	11	0
10	,,	..	0	6	0	21	,,	..	0	11	6
11	,,	..	0	6	6	22	,,	..	0	12	0
12	,,	..	0	7	0	23	,,	..	0	12	6
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NOTICE TO ADVERTISERS.—*In many instances Remittances in Payment of Repeat Advertisements are received without name, address, or anything beyond the postmark on envelope by which to identify the sender; this in all cases causes a very great deal of trouble, and frequently the sender cannot be identified at all.*

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POSITION.—*Advertisers are specially requested to note, that under no circumstances whatever can any particular position be guaranteed for advertisements occupying less space than an entire column.*

POSTAL ORDERS.—*To Advertisers, Subscribers, and Others.—It is very important in remitting by Postal Order that it should be filled in payable at No.* 42, *DRURY LANE, to* A. G. MARTIN, *as, unless the number of a Postal Order is known, and it has been made payable at a particular office, and to a particular person, it is impossible to prevent any person into whose hands it may fall from negotiating it.*

N.B.—The best and safest means of Remitting is by POST-OFFICE MONEY ORDER.

Advertisements for the current week MUST *reach the Office not later than Thursday noon.*

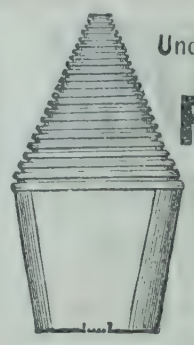
All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements,
41, WELLINGTON STREET, STRAND, W.C.

SUBSCRIPTIONS.

All Subscriptions payable in advance. The United Kingdom, 12 *months,* 15*s.*; 6 *months,* 7*s.* 6*d.*; 3 *months,* 3*s.* 9*d. All Foreign Subscriptions, including Postage,* 17*s.* 6*d. for* 12 *months. Post-office Orders to be made payable at the Post-office,* 42, *Drury Lane, W.C., to* A. G. MARTIN.

Subscribers who experience any difficulty in obtaining their copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint).



Under Royal Patronage.

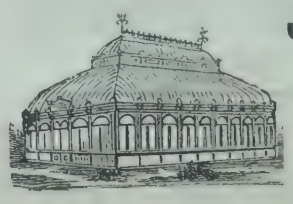
FLOWER POTS

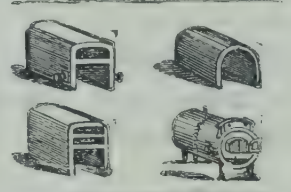
AND THE FINEST SELECTION OF

HORTICULTURAL POTTERY

CONWAY G. WARNE, Ltd.,

ROYAL POTTERIES, WESTON-SUPER-MARE. PRICE LIST FREE.





JAS. BOYD & SONS,

HORTICULTURAL BUILDERS and HEATING ENGINEERS,

PAISLEY.

HORTICULTURAL STRUCTURES

of every description, in either Wood or Iron, or both combined.

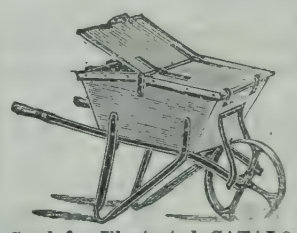
Wooden Chapels, Shooting Lodges, Tennis Courts, Cottages, &c.

Hot-water Apparatus for warming Buildings of every description.

Illustrated Circulars Post-free.

Complete Catalogue, 3s.

BOULTON & PAUL, Manufacturers, **NORWICH.**



WROUGHT-IRON ASHES or OFFAL BARROW, Garden Barrow & Cinder Sifter combined.

CASH PRICE.

Painted 30/-
Body galvanised ... extra 7/6
If fitted with registered Cinder Sifter 5/-

Portable Sanitary Dust-Bins and Swing Barrows.

Send for Illustrated CATALOGUE, post-free on application.

HELLIWELL'S

PATENT IMPERISHABLE

GLAZING WITHOUT PUTTY,

FOR GREENHOUSES, and all kinds of HORTICULTURAL BUILDINGS, YARDS, RAILWAY STATIONS, and every description of ROOF COVERING. Saves all Painting and Puttying, and Breakage, and is absolutely Watertight, and free from Drip.

No more expensive at first cost.

All houses can be taken to pieces and re-erected.

References given to works in all parts of the country of many years' standing.

Designs and Estimates Free, and Measurements taken Free of Cost.

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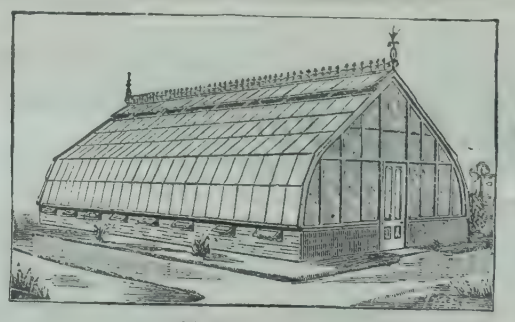


ALL KINDS.

Testimonials.

"Shirburn Castle, January 5, 1890.

"SIR,—As you requested my opinion of the houses which you erected for me some 4 years ago, I beg to inform you that I consider them a perfect success, and I have recommended them to many of my neighbours.—Yours truly (signed) MACCLESFIELD."

"Hornby Castle, Lancaster, February, 1890.

"Major FOSTER has much pleasure in stating that the vineries and forcing-houses which were erected by Mr. Helliwell in 1884, continue to give perfect satisfaction, both to himself and his gardener."

"Estate Office, Ripley, Yorkshire, January 23, 1890.

"Sir HENRY INGILBY has much pleasure in stating that the glazing work executed by you, under your patented system, at the Ripley Castle Gardens, has been in every respect entirely satisfactory. The work has stood its 8 years' wear and tear extremely well, and has hitherto cost nothing to keep it in repair."

HELLIWELL & CO., 9, Victoria St., Westminster, S.W.

HORTICULTURAL GLASS SHEET

STOCK SIZES			
14×12	16×12	18×12	20×12
16×14	18×14	20×14	
20×15	20×16	22×16	24×16
20×18	22×18	24×18	

21oz. and 15oz FOREIGN, of above sizes, in boxes of 100 feet & 200 feet super. ENGLISH Glass, cut to buyers' sizes, at lowest prices *delivered free & sound* in the country, in quantity.

LEADED LIGHTS for CONSERVATORIES & PRIVATE HOUSES

GEORGE FARMILOE & SONS

LEAD, GLASS, OIL, and COLOUR MERCHANTS.

34 St JOHN Street WEST SMITHFIELD LONDON EC.

Stock Lists and prices on application. Please quote *Chronicle.*

"FRIGI DOMO" CANVAS.

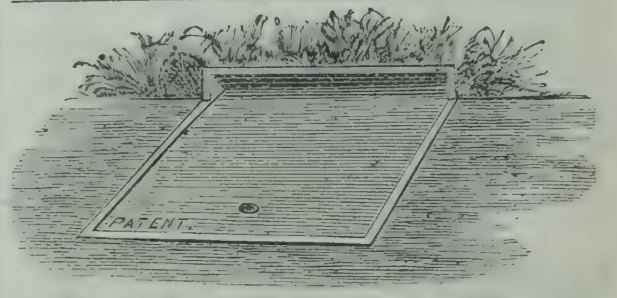
Made of prepared Hair and Wool, a perfect protection to all Plants and Blooms. Cheaper than any kind of mat, and will last for years.

To be had from all Nurserymen and Seedsmen.

FOR PRICE LIST & PARTICULARS ADDRESS

BENJAMIN EDGINGTON

2 DUKE ST LONDON BRIDGE.



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THE IMPROVED GARDEN CULLY

(VINCE'S PATENT).

This useful invention is a great improvement on the ordinary Garden Grating, and is especially suitable for hilly walks and drives. As they never get stopped by rubbish or sand they effectually prevent the washing away of the gravel in heavy storms, and they save half the labour in cleaning out the cesspools. The prices are:—

6-in., 1*s.* 6*d.*; 8-in., 2*s.*; 10-in., 3*s.*; 12-in., 6*s.* 6*d.* 15-in., 8*s.*

(*The larger sizes are very strong for carriage drives.*)

Full Particulars and Testimonials on application.

VINCE & VINE,

58, Chester Road, Upper Holloway, London, N.

HEATING APPARATUS

BUY DIRECT FROM

THOS W. ROBINSON, STOURBRIDGE,

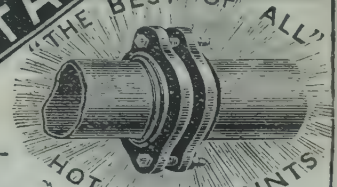
DENNIS PARKIRON WORKS.

PRICE LISTS FREE

"THE MANUFACTURER"

THE IMPROVED EXPANSION JOINT HOT WATER PIPES

"THE BEST OF ALL"

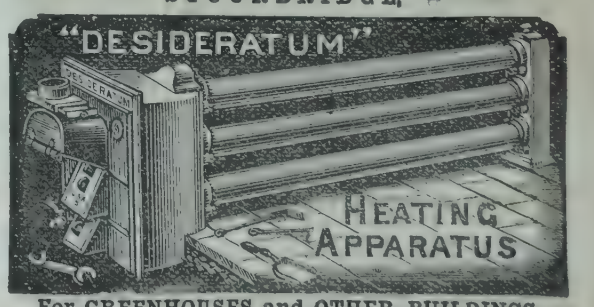


HOT WATER JOINTS

TELEGRAMS:— "ALPHA" BRETTELL-LANE

JONES & ATTWOOD,

STOURBRIDGE,



For GREENHOUSES and OTHER BUILDINGS.

CATALOGUE AND ESTIMATES FREE.

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BRIERLEY HILL,
STAFFORDSHIRE,
And 118, QUEEN VICTORIA STREET, LONDON, E.C.

NEW PATTERN

TREE GUARD,

"The Porcupine."

The maximum of utility and the minimum of cost.

Constructed of strong Iron Uprights and Galvanised Barbed Steel Wire.

Price 10s. 6d.

TESTIMONIAL.

"The Whittern, Herefordshire
" Dec. 28, 1887.

"Dear Sirs,—I have now had an opportunity of trying your Porcupine Tree Guards, and they seem quite to answer my purpose, so you may send me 50 more, as before. I enclose cheque for your account.

Yours truly,
RICHD. GREEN.
Messrs. Hill & Smith.

GLASS! CHEAP GLASS!

In Stock Sizes.

15-oz., per 100 ft., 8s. 6d. { 12×10, 18×12, 18×14, 24×14
21-oz., ,, 11s. 9d. { 14×12, 20×12, 18×16, 24×16
16×12, 16×14, 20×16, 24×18, &c.

Paints and Varnishes at Low Prices. Flooring, 5s. per square; Matching, 4s.; 2×4, at ½d. per foot run; 2×7 at 1d.
Horticultural Work of all descriptions, Ironmongery, &c.
CATALOGUES Free.

THE CHEAP WOOD COMPANY,
72, Bishopsgate Street Within, London, E.C.

FAWKES' SLOW-COMBUSTION

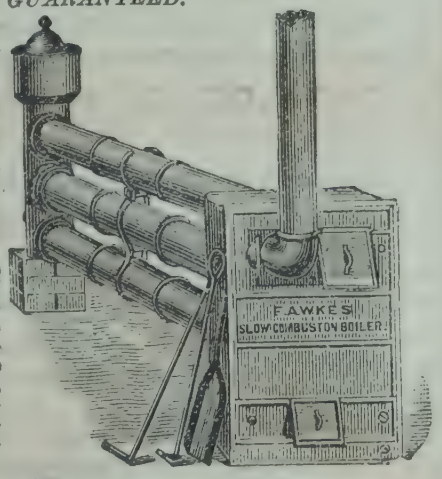
HEATING APPARATUS.

Most Efficient and Cheapest in Existence.

Requires no sunk stokehole and no brick setting. Will last all night without attention. Will burn house cinders, therefore costs next to nothing for fuel. Any one can fix it. A domestic servant can stoke it.

Complete Apparatus from £4 12s.

SUCCESS GUARANTEED.



Enormous numbers in use all over the country.

Only Slow Combustion Apparatus of the kind.

CAUTION.

Beware of inefficient incomplete Apparatus, which will not last all night.

Full particulars and Prices of every sized Apparatus, and see numerous Testimonials for the last 8 seasons, showing enormous success, post-free on application.

BEST CONSTRUCTED and CHEAPEST
Greenhouses, Forcing-houses, Pits, Frames, Plant Protectors, Potting Sheds, Tool-houses, &c.

Illustrated Priced Catalogue post-free from

CROMPTON & FAWKES,
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C. BEESON'S MANURE.—The best Fertiliser for all purposes. Demand increasing weekly. One trial will prove its value. Pure Bones any size, raw or dissolved, 8s. per cwt. Write for particulars.
C. BEESON, The Bone Mills, St. Neot's, Hunts.

BONES! BONES!! BONES!!! Any size from dust to 1 inch. Dissolved Bone Compound, for Top-dressing. All at 10s. per cwt.; less quantity, 1½d. per lb. Carriage paid on 1 cwt. Terms, Cash with Order. Special quotations for large Buyers.
E. S. WILES and CO., Bone Crushers, St. Albans.

ECONOMICAL—SAFE—LASTING
USE
CLAY'S MANURES

CLAY'S LONDON FERTILIZER
TRADE MARK.

Having the respective Trade Mark printed on each packet and bag, and impressed on the lead seal attached to the mouth of each bag, which is

S.C. CLAY'S INVIGORATOR
TRADE MARK.

THE ONLY GUARANTEE OF GENUINENESS.

These well-known Manures are used by the Leading Growers, Royal Botanic Society, Royal Horticultural Society, Royal Parks, London County Council, throughout the United Kingdom, and in every quarter of the Globe.

Sold by Seedsmen, Florists, and Nurserymen, in **6d.** and **1s.** Packets, and SEALED BAGS.

7 lb.	14 lb.	28 lb.	56 lb.	112 lb.
2s. 6d.	**4s. 6d.**	**7s. 6d.**	**12s. 6d.**	**20s.**

Or direct from the Works, in **1s. PACKETS**, Post-free, or Bags of either size, Carriage Paid (as sample), in the United Kingdom for Cash with order as above.

Prices and Samples of CRUSHED BONES in Various Sizes on Application.

CLAY & SON,
Manure Manufacturers, Bone Crushers, &c.,
TEMPLE MILL LANE, STRATFORD, LONDON, E.

PATENT SILICATE MANURE.

Dress Your Early Vines with it now.

"Maidstone, *August* 13, 1892.

"We used it on our Vines, and, although we had prepared them with other stimulants last season, we attribute the best crop we have ever had to the use of your Manure—the berries are grand.

"(Signed) GEO. BUNYARD & CO."

PRICES IN SACKS, AT WORKS—
10s. per Cwt.; £2 per ¼-Ton; £3 15s. per ½-Ton; £7 per Ton.

Address—THE CHEMICAL WORKS,
HEMEL HEMPSTEAD, HERTS.

BEESON'S MANURE.

Has now been universally used in all the principal gardens for over twenty years, and has proved the Best and Cheape t Fertiliser for Vines, Plants, Vegetables, and all purposes. With the aid of entirely new machinery, it is now being sent out in splendid condition. Write for Circular containing the leading gardeners and market growers reports. Sold in tins at 1s., 2s. 6d., and 5s. 6d. and 10s. 6d. each; also in 1 cwt. bags, sealed, 13s. each, by all Seedsmen; or apply direct. 1 cwt. and above is sent carriage-paid for cash with order, and special terms for large quantities. Directions for use are placed in each bag, and printed on tins.

W. H. BEESON,
CARBROOK BONE MILLS, SHEFFIELD.

To Nurserymen and Seedsmen.

WANTED, the above to TRY SPENCER'S NEW FISH GUANO. Can be used dry or dissolved in water, a special advantage. Analysis, 8 to 12 per cent. ammonia. Address, I. SPENCER, Fish Guano Manufacturer, Spring Street, Hull, Yorks. A genuine article, no mixture.

NATIVE GUANO.—Best and Cheapest Manure for Garden Use. Price £3 10s. per ton, in bags. Lots under 10 cwt., 4s. per cwt.; 1 cwt., Sample Bag, sent Carriage Paid to any Station in England, on receipt of P. O. for 5s.
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H. Brinkworth, Potato Grower, Reading, used for Potatos, Onions, and Carrots, results:—"Very good; never had better crops."—J. Butler, Sittingbourne:—"Used for Potato, Celery, and other Market Garden Crops, with very good results; Potatos large, clean, and free from disease. Best and Cheapest Manure in the Market."
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J. Peed & Sons, Streatham, used for Fruit Trees and Roses, results:—"Very satisfactory; we use no other Guano now; consider yours preferable to Peruvian."—J. Finch, Orrell Gardens:—"Used for Vegetables, Tomatos, Grapes, Cucumbers, and Flowers, with satisfactory results. Most excellent for Potatos, and many other things. The Cheapest Manure in the Market."
Orders to the **Native Guano Co., Ltd.**, 29, New Bridge Street, Blackfriars, London, where Pamphlet of Testimonials, &c., may be obtained. AGENTS WANTED.

"KILLMRIGHT,"
For Destruction of all Insect Pests and Mildew.
THE STOTT DISTRIBUTOR CO. (Lmtd.),
Barton House, Manchester.

"SLUGICIDE," Registered.—Certain death to Slugs, fertiliser to soil, perfectly harmless to plants and domestic animals. The greatest boon to Gardeners yet invented. 1s. 6d. per box, of Seedsmen, or post paid of
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GISHURST COMPOUND, used since 1859 for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water, 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in lather from cake, for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6d. and 1s. from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

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SOLUBLE INSECTICIDE.

The most pleasant and reliable of all insecticides for destroying insects on plants, animals, and birds. Thousands of testimonials received from all parts of the world. Bottles, 1s. 6d., 2s. 6d., 4s. 6d., 7s. 6d., and 12s. 6d.; in bulk, 11s. per gallon, with full directions for use.

Wholesale from all Horticultural Dealers.

E. GRIFFITHS HUGHES, Victoria St., MANCHESTER.
NEW YORK—ROLKER and SONS.

SAVE HALF THE COST.

GARSIDE'S SILVER SAND

BEDFORDSHIRE COARSE AND FINE

Is admitted by the leading Nurserymen to be **the Best Quality** obtainable in the Trade.

Consumers should **Buy Direct** from the Owner of these Celebrated and Extensive Pits, which contain a practically inexhaustible supply of Splendid Sand, and thus *save half the ordinary cost.* NO TRAVELLERS OR AGENTS.

Apply direct to the Proprietor for Samples and Price free on Rail or Canal. *All Orders executed with the utmost promptness and under personal supervision.* Special Railway Rates in force to all parts. All kinds of **PEAT** supplied at lowest possible prices. Sample Bag sent on application to

GEO. GARSIDE, Jun., F.R.H.S., Leighton Buzzard, Beds.

GARDEN HOSE. 1893.
1893. GARDEN HOSE.

THE SPHINCTER HOSE and ENGINEERING CO.
LIMITED,
9, MOORFIELDS, LONDON, E.C.

New PRICE LIST for this Year's GARDEN HOSE SEASON, Now Ready,
POST-FREE ON APPLICATION.

To all who will anticipate their requirements, and *Order at Once*, a large reduction from List Prices is offered. This advantage will have to be withdrawn when the Season opens in April.

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PEAT, for forming Rhododendron, Bog, and American Plant Beds, 21s. per Ton, or £4 4s. per Truck of 4 Tons; Bags, 5s. each; 10 Bags, 45s.
THOMAS WALKER, Tekels Park, Camberley, Surrey.

ORCHID PEAT; Best Quality; BROWN FIBROUS PEAT for Stove and Greenhouse use. RHODODENDRON and AZALEA PEAT. Samples and Prices of WALKER AND CO., Farnborough, Hants.

RICHARDS' NOTED PEAT.
Specially selected and prepared for ORCHIDS, and all other plants. ARTIFICIAL MANURES, and GARDEN SUNDRIES of every description. Please write for a free PRICE LIST. Special quotations given for any goods, carriage paid, in large or small quantities.
G. H. RICHARDS, Old Shot Tower Wharf, Lambeth, London, S.E. Chief Peat Grounds and Depôt, RINGWOOD, HANTS. (Address all letters to London Wharf.)

ORCHID PEAT.
PREPARED, ready for use, all fibre, 10s. per sack; 5 for 47s. 6d.
SELECTED, in blocks, very fibrous, 8s. per sack; 5 for 37s. 6d. SECOND QUALITY, 5s. per sack; 5 for 22s. 6d.
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PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM, each 2s. 6d. per sack; 5 for 10s. PREPARED POTTING COMPOST, 4s. per sack; 5 for 18s. All sacks included.
Send Postal Order for Sample Sack.
Special terms to the Trade. For Price List apply to THE FORESTER, Joyden Wood, near Bexley, Kent.

EPPS'S Selected PEAT,
For ORCHIDS, STOVE PLANTS,
Hardwood do., Ferns, and Rhododendrons, by sack, yard, ton, or truckload. SPECIAL ORCHID PEAT, in sack only. Rich fibrous LOAM, superior LEAF-MOULD, Coarse, Crystal, and Fine SILVER SAND, CHARCOAL, C. N. FIBRE REFUSE, fresh SPHAGNUM, Patent MANURES, FERTILISERS, INSECTICIDES, and all other Garden Requisites. Peat Moss Litter.
The Original Peat Depot, RINGWOOD, HANTS.

BARB WIRE.
CATALOGUES FREE
ON APPLICATION TO
THE LONGFORD WIRE CO.
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AUTOMATIC DAMPER
FOR GREENHOUSES.
Dr. GEORGE WALKER, Inventor of Chrysanthemum Cup Tubes, Wimbledon, says:—"I have used your Automatic Damper for some weeks, and am perfectly satisfied with it. A most ingenious and useful invention."
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PATENT AUTOMATIC DAMPER CO.,
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ESTABLISHED 1851.
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SOUTHAMPTON BUILDINGS, CHANCERY LANE, W.C.
THREE per CENT. INTEREST allowed on DEPOSITS, repayable on demand.
TWO per Cent. on CURRENT ACCOUNTS, on the minimum monthly balances, when not drawn below £100.
STOCKS and SHARES purchased and sold.
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For the encouragement of Thrift the Bank receives small sums on deposit, and allows interest, at the rate of THREE PER CENT. per annum, on each completed £1.
BIRKBECK BUILDING SOCIETY
HOW TO PURCHASE A HOUSE FOR TWO GUINEAS PER MONTH.
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The BIRKBECK ALMANACK, with full particulars, post-free. FRANCIS RAVENSCROFT, Manager.

BREAKFAST—SUPPER
EPPS'S
GRATEFUL—COMFORTING.
COCOA
BOILING WATER OR MILK.

WOOD'S PLANT CLUB LABEL.—For all particulars, address card to J. WOOD, Woodville, Kirkstall, Leeds.

IMPORTANT PLANT PROTECTION.—Send for samples of SHAW'S TIFFANY and NETTING. No. 3 and 5 Netting are essential to Early Wall Fruit, &c. 31, Oxford Street, Manchester.

BOXES! BOXES! BOXES!—Seed, Postal, and Wreath Boxes. The Cheapest House in the Trade. Send for Price List.—H. BLACKWELL, Box Manufacturer, Fleet, Hants.

HORTICULTURAL SHADINGS, NETTINGS, TIFFANY, WADDINGS, COTTON WOOL for Packing Flowers, CANVAS, TWINES, &c., manufactured and supplied wholesale by JOSEPH COOKSON, 21, New Cannon Street, Manchester.

WARE and SONS' ARE THE FLOWER POTS BEST.
THE SUSSEX POTTERY WORKS, UCKFIELD.
Quotations given for quantities. Carriage paid to any
The Best Railway Station. are Cheapest.
SAMPLES and LISTS FREE. Crates packed.

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Mr. JAMES LAWIE, lately Head Gardener for six and a half years at North Perrott Manor, Crewkerne, Somerset, as Head Gardener to the Right Hon. Sir MASSEY LOPES, Bart., at Maristow, Roborough, South Devon.

Mr. JOHN BAGULEY, late of the Liverpool Horticultural Co. (JOHN COWAN), Limited, Garston, near Liverpool, as Traveller to Messrs. Charlesworth, Shuttleworth & Co., Orchid Importers and Growers, Heaton, near Bradford, Yorks.

Mr. JOHN WALKER, recently of Waltham Hall Gardens, Grimsby, as Gardener to G. A. CAW, Esq., The Grove, Waltham, Grimsby.

Mr. J. WYKE, late Steward and Gardener to E. P. WESTBY, Esq., D.L., Roebuck Castle, Dundrum, co. Dublin, as Gardener to the Earl of CLONMEL, Bishop's Court, Straffan, co. Kildare.

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WANTED, a GARDENER.—He must be good Mower with Scythe. One been used to Ground Work or Cemetery preferred. 22*s.* per week. Age about 30. With good character.—Apply, R. N., Cemetery, F. Greenwich

WANTED, for Cornwall, a good all-round GARDENER; a fair knowledge of Bulbs essential.—Address, giving age and experience, A. M., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

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WANTED, in the neighbourhood of London, a MARRIED MAN, without incumbrance, as UNDER GARDENER, the Wife to look after a Beer-house. Unexceptional references required as to honesty, industry, and respectability.—Apply by letter, with full particulars, to B. H, Messrs. Bates, Hendy & Co., 37, Walbrook, London.

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WANTED, a good ROSE GROWER, under a Foreman. Must be a good Budder and Grafter. Preference given to one who is well up in exhibiting cut Roses and Pot Plants. — FRANK CANT, Braiswick Nursery, Colchester.

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WANTED, a young MAN, to Grow Fruit Trees, Roses, and other Hardy Stuff. Must be a good Knifeman. Apply, stating age, wages required, and experience.—J. WRIGHT, Nursery and Seedsman, Leicester.

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WANTED, a young MAN accustomed to General Market Nursery Work, Quick at Potting.—Apply, stating age and wages expected, to K., 41, Wellington Street, Strand, W.C.

WANTED, an OUTDOOR MAN. Must be a quick Budder and good Workman. Wages, £1 per week.—PERKINS AND SONS, Warwick Road Nurseries, Coventry.

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WANTED, THREE young MEN, where Cucumbers, Tomatos, &c., are grown. Must be quick at Watering, Potting and Tying. Wages 18*s.* per week.—Apply, J. L., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

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GARDENER (HEAD).—Age 35, one child; has had thorough experience, and can be highly recommended.—J. CHEAL AND SONS, The Nurseries, Crawley.

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GARDENER (HEAD).—J. BEESLEY, Gardener to Lord Ashcombe, Denbies, can recommend his Foreman as a good practical Man. Good testimonials.—F. WELLS, 29, Hampstead Road, Dorking.

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GARDENER (HEAD); age 30.—G. E. MARTIN, Esq., Ham Court, Upton-on-Severn, wishes to recommend a young man as above. Thoroughly experienced in all branches of Gardening. First-class testimonials from last and previous employers.—Address GARDENER.

GARDENER (HEAD).—Age 34. Mr. A. MITCHELL, Steward to Mrs. W. B. Waterlow, High Trees, Red Hill, Surrey, can with confidence recommend Joseph Mead to any Lady or Gentleman requiring the services of a thoroughly practical man. Seventeen years' experience in all branches.

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GARDENER (HEAD WORKING).—Age 30; thoroughly practical in Growing Plants, Fruit, Vegetables, &c. Good references.—J. IDE, 165, Denmark Hill, Camberwell, S.E.

GARDENER (HEAD WORKING).—Age 40, married; thoroughly good, practical, and competent Gardener. Twenty-five years' experience in Growing Grapes, Peaches, Figs, Melons, Cucumbers, Tomatos, Mushrooms, Stove and Greenhouse Plants, Orchids, and Flower and Kitchen Gardening, Early and Late Forcing. Abstainer. Highest references.—GARDENER, Compton, Stockbridge, Hants.

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GARDENER (HEAD WORKING).—Age 30; thoroughly practical in Growing Fruit, Flowers, and Vegetables. Can be highly recommended by present and previous employers.—C. TINDALL, Monks Orchard Garden, Beckenham, Kent.

GARDENER (HEAD WORKING).—WILLIAM HERNE, Hanbury Hall Gardens, Droitwich will be pleased to recommend a thorough good practical all-round Gardener to any Lady or Gentleman.

GARDENER (HEAD WORKING).—Middle-aged, married, two children, ages 7 and 11; thoroughly understands Vines, Melons, Stove and Greenhouse Plants, and Flower and Kitchen Gardening; eight years' good character, and fourteen previous.—GEO. TURNER, Cranmore Lodge, Elmstead, Chislehurst, Kent.

GARDENER (HEAD WORKING), where two or more are kept; age 28, married, one child; twelve years' practical experience. — J. MINTON, Head Gardener, Rawdon Hill, Arthington, Leeds, can recommend H. Burborough, to any Lady or Gentleman in want of a good all-round man. Four and a half years at present place; excellent character.

GARDENER (HEAD WORKING).—Age 28, married, no family; sixteen years' thorough practical experience in all branches, Orchids, Table Decorations, &c. Good recommendations.—W. B., 3, Pownall Road, Fulham.

GARDENER (HEAD WORKING). — Age 27; thoroughly experienced in all branches. Can be highly recommended by present and previous employer. Clergyman desires to find situation for the above.—Rev. ROBERTS, Blackwater, Hants.

GARDENER (HEAD WORKING), or FOREMAN (GENERAL); age 28,—MR. ELPHINSTONE, Henley Park, Guildford, wishes to recommend H. Russ as above. Thirteen years' experience.

GARDENER (HEAD WORKING).—Thoroughly experienced in Early and Late Forcing, &c. Five years' highest references from present and previous employers.—T. W., 7, Effingham Road, Reigate, Surrey.

GARDENER (HEAD WORKING); age 30; sixteen years' good practical experience. Eleven and a half years' excellent reference.—C. HARRISON, Hampton Lane Farm, Solihull, Birmingham.

GARDENER (HEAD WORKING).—Age 36, married, one child; twenty years' experience in all branches of Gardening. Four years in present situation. Good reference.—GEO. McLEOD, The Gardens, Observatory House, Honor Oak Park, S.E.

GARDENER (HEAD WORKING); age 32. Abstainer.—W. KELLAND, late Foreman, Ashton Court, Bristol, and Daylesford House, Chipping Norton, two and three years respectively, seeks situation. Highly recommended by Mr Bethell and Mr. Hewett as above, and all previous employers.—48, Crompton Road, Nechells, Birmingham.

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GARDENER (HEAD WORKING), where one or two are kept.—Age 30; twelve years' good experience Inside and Out. Well recommended.—T. P., Chessington, Surrey.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 25, married when suited. Eleven years' experience in all branches. Good references.— H. WHATLING, 56, Kendall Road, Colchester.

GARDENER (SINGLE-HANDED), or where help is given.—Married when suited. Six years good character.—J. GRIFFITHS, Burcher Court, Titley R.S.O., Herefordshire.

GARDENER (SINGLE-HANDED, or SECOND), where more are kept.—Age 24; abstainer. Eight years' experience. Inside and Out. Three and a half years' good character from present situation.—G. H. PATTINSON Pen Moel, Chepstow, Glos.

GARDENER (good SINGLE-HANDED or SECOND).—Age 27, single; experience in all branches; good character.—W. D., 8, West Hill, Wandsworth, S.W.

GARDENER (SINGLE-HANDED).—Age 26; no objection to Pony or Cow. Abstainer. Good reference.—G. S., Mr. Turner, 59, Slaidburn Street, Chelsea, S.W.

GARDENER (SINGLE-HANDED, SECOND, or good UNDER).—Age 25, single; seven years' experience. Last place as Second Gardener to Sir Charles Russell.—H. YOUNG, Ridley Road, Winton, Bournemouth.

GARDENER (SINGLE-HANDED, or where two are kept).—Age 26, single; understands Greenhouse, Flower, and Kitchen Garden Work in all its branches, and had good experience. Good character.—T. B., 24, Bombay Villas, Spa Hill. Upper Norwood, S.E.

GARDENER (SINGLE-HANDED), or where help is given.—Age 28, single. Fourteen years' experience in growing Flowers, Fruit, and Vegetables. Two years in present place, and six years previous.—C. GIBBONS, Grove Park Gardens, Kingsbury, Middlesex.

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GARDENER (SINGLE-HANDED), or where help is given.—Age 28, married, one child; twelve years' experience, and well recommended.—J. BLAKE, Bedford Hill House, Balham, S.W.

GARDENER, good SINGLE-HANDED place.—Age 30, single; three years in last place, five previous. Good references.—E. P., Lytton Villa, Bulwer Road, New Barnet, Herts.

GARDENER (SINGLE-HANDED). — Age 25, single; with situation to April 1. Life experience. Tomato, Cucumber, Greenhouse Plants, Flower and Kitchen Gardening. Willing to be useful. Highest references.—T. SHOW, Chester House, Wellingboro', Northamptonshire.

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GARDENER; age 32, married, one child.—R. R. PATERSON, Esq., Northwood House, Trinity, Edinburgh, highly recommends his Gardener. Thoroughly practical in all branches.

GARDENER, where assistance is given.—Age 28; practical experience in Vines, Melons, Cucumbers, Peaches, Stove and Greenhouse, and general routine. Three years in present situation. Disengaged at any time. Good references. Personal character, if required.—G. CHEAL, Loseley Park Gardens, Guildford.

GARDENER (SECOND).—Mr. HIBBERT, Gardener to Madame Patti-Nicolini, will be pleased to recommend a married man that has been with him three years. —Craig-y-nos Castle, Swansea Valley.

GARDENER (SECOND); age 24; nine years' experience Inside and Out.—Mr. J. ATKINSON, Matfen Hall Gardens, Corbridge, R.S.O., Northumberland, wishes to recommend T. Haggitt as above.

GARDENER (SECOND), in the Houses.—Age 23; nine years' experience, three in present situation, where three are kept Inside. Good character and testimonials; well recommended. Abstainer.—F. T., The Gardens, The Chestnuts, Denmark Hill, S.E.

GARDENER (SECOND, or SINGLE-HANDED), or where help is given.—Age 25, single; good experience in Glass, Flower and Kitchen Garden. Good character.—A. D., Prospect, Pewsey, Wilts.

GARDENER (SECOND), in a good Establishment.—Age 25, single; ten years' good practical experience Inside and Out. Good references.—T. HERBERT, The Gardens, Kirby Frith Hall, Leicester.

GARDENER (SECOND).—Age 25, single; eleven years' experience Inside and Out. Vines, Peaches, Flowers, Vegetables, &c. Good references.—A. CARTER, Brettenham, Thetford, Norfolk.

GARDENER (SECOND).—Age 26, married; thoroughly experienced in the Culture of Vines, Peaches, Melons, Cucumbers, Tomatos, and the general routine of Flower Gardens. Can be highly recommended. Two years' good character from present situation. — J. KEEN, The Gardens, Eywood, Titley, Herefordshire.

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GARDENER (UNDER).—Age 24, single; used to Kitchen Garden Work. Can be well recommended. —P. E., Claremont House, Portslade, Sussex.

GARDENER (UNDER, or SINGLE-HANDED).—Age 21; total abstainer. Eighteen months' good character, two and a half years' previous.—C., 28, Blackwater Street, East Dulwich, S.E.

GARDENER (UNDER).—Age 20; used to Fruit and Kitchen Gardens, and Scythe. Strong, active, and willing. Good references.—R. LILLIOTT, Ash, Dover.

GARDENER (UNDER). — Age 22; well recommended. Abstaider.—E. H., 13, Farm Avenue, Streatham, Surrey.

GARDENER (UNDER), by a young man (age 25), for Kitchen Garden and Pleasure Grounds. Good character.—A. J. PITMAN, Heath Cottage, Frensham, Farnham, Surrey.

GARDENER (UNDER), Inside and Out.—Age 21; seven years' experience. Good character.—J. S., 14, Endsleigh Road, Ealing Dean.

GARDENER (UNDER, or THIRD) —Age 20; four years' experience. Good character.—C. J., 1, Greenford Road, Sudbury, Middlesex.

GARDENER (UNDER).—Age 19; Inside and Out preferred. Good character.—S. PLAW, Hascombe, Godalming, Surrey.

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GARDENER (UNDER).—Age 26, married, one child; well up in Lawn and Kitchen Garden. Two years' good character from last place, and four years previous. —H. B., 22, Bedford Road, Twickenham, Middlesex.

GARDENER (UNDER).—Age 20. Wants to improve himself in Greenhouse Work. A Gentleman strongly recommends the above.—CHARLES STEER, Hampton Lodge, Stourbridge.

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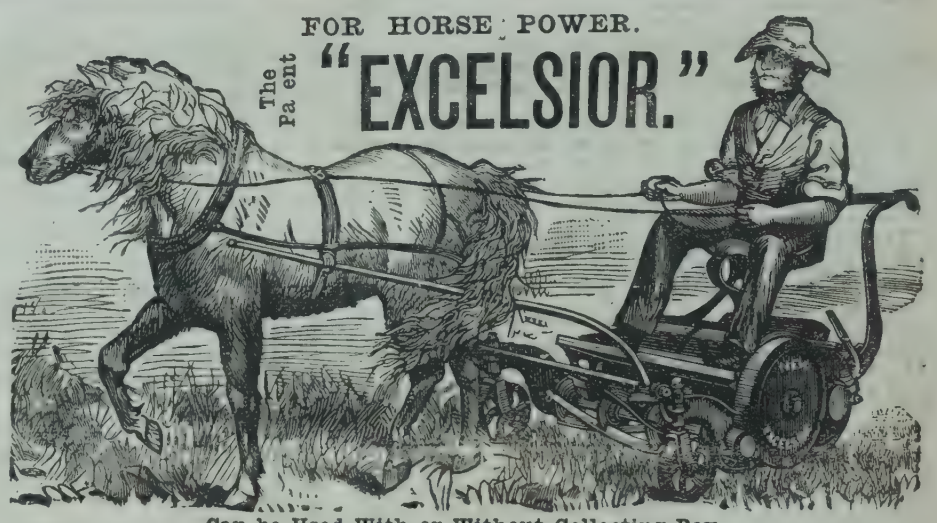

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CONTENTS.

Anemone blanda ...	333
Apples, British and American	333
Art and science, summer school of	329
Bean, the Windsor ...	334
Blackmoor House, the gardens at	328
Bougainvilleas	324
Bouvardias	324
Broccoli	333
Chauré, Jean, the late	340
Camellias, lifting ...	323
Earl's Court exhibition, 1893	330
Eucalyptus globulus ...	334
Examinations of the Royal Horticultural Society	331
Fern corridor	323
Fog in towns	328
Footpaths in pleasure grounds	334
Forsythias, the	332
Fernery, the hardy ...	323
Forestry	324
Gold-fish	333
Grape Gros Colmar ...	333
Hippeastrum, the ...	323
Johannesburg, a public park for...	330
Kew Gardeners' Guild ...	330
Kew notes	332
Labels, garden	333
Labels of glass and of porcelain	331
Middleman, the	334
Narcissus at Kew ...	332
Obituary— Woolls, Rev. Dr. ...	337
Nursery notes— Backhouse & Sons, York	334
Barr & Sons, Ditton ...	334
Orchid notes and gleanings	322
Orphan Fund, the Royal Gardeners'	329
Palms, list of garden ...	332
Plants, new or noteworthy— Calanthe vestita var. Cornelius Vanderbilt	333
Dendrobium nobile Ballianum	322
Epidendrum Palmeri	322
Odontoglossum Gravesianum	322
Pelexia maculata ...	322
Pholidota Lugardi ...	322
Sarcochilus muscosus	322
Plumbago capensis ...	334
Provident and Benefit Soc., United Hort. ...	330
Rhododendron Thomsoni	332
Societies— Manchester Botanical and Horticultural ...	337
Royal Horticultural ...	335
Spring, the first flush of	321
Tacsonia Vanvolxemi ...	324
Violets	333
Week's work, the ...	326
Flower garden, the ...	327
Fruits under glass ...	326
Hardy fruit garden ...	327
Kitchen garden, the ...	326
Orchid-houses, the ...	327
Plants under glass ...	326

ILLUSTRATIONS.

Blackmoor House, The gardens at	329
Fern corridor at Mr. May's nursery	323
Parrottia persica	335
Pieris japonica	325
Pritchardia Vuylstekeana	331

"GARDENERS' CHRONICLE."

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Marechal Niels.—Marechal Niels.—Marechal Niels.

WANTED, BEST ONLY.—Must be good shape, and fresh. Price allowed, from 1*s.* 6*d.* to 6*s.* per doz. Reference, Union Bank of London, Chancery Lane Branch. Send to E. PLUMBRIDGE, Fruit Merchant and Florist, 8, Moo-fields, City, London. Wreaths, Crosses, Cut Flowers, English and Foreign, supplied to the Trade at Market Prices.

WANTED, CARNATIONS, best Market Varieties, rooted cuttings, from stores. Price per 1000, cash.
A. MAWER, Clarendon Nursery, Sale, near Manchester.

THE NEW FLOWER from SOUTH AFRICA.

NEMESIA STRUMOSA SUTTONI.—Remarkable for the beauty and abundance of its flowers, wonderful colours, and long duration of blooming. Cultivation same as for the Aster, Phlox, and other half-hardy annuals.
Price of Seed, 2*s.* 6*d.* per packet, post-free; can only be obtained direct from—

SUTTON AND SONS, THE QUEEN'S SEEDSMEN, READING.

HUMEA ELEGANS.—English-saved Seed. Germination guaranteed. Per packet, 1*s.* post-free.
B. S. WILLIAMS AND SON,
Victoria and Paradise Nurseries, Upper Holloway, London, N.

ORCHIDS.—New and rare species, a special feature. Catalogue forwarded post-free on application.
SEEGER AND TROPP, Ltd., Orchid Nursery, East Dulwich, London, S.E.

CARNATIONS FROM SEED.—Seed of my own saving and hybridising, producing 75 per cent. of Double Flowers, equal to the finest-named sorts, but with greater vigour of growth and abundance of flowers. 25 seeds, 1*s.*; 100 seeds, 3*s.*; 500 seeds, 12*s.* 6*d.* Carnation Marguerita, flowering first season, 1*s.* per packet, post-free.
THOS. BUTCHER, Seed Merchant, Croydon.

G. C. PRIZE PACKETS, 4*s.* each, two for 7*s.*, three for 20*s.*, contain 12 finest hybridised SOMERSET SEEDLING GLADIOLI, new and distinct varieties. Also Seedling CARNATIONS and PICOTEES, double border varieties, strong, 2*s.* 6*d.* per dozen, all post-free. P.O. or stamps.
R. H. POYNTER, Nurseryman, Taunton.

LOVEL'S YORKSHIRE STRAWBERRIES. Stocky Plants, Autumn Transplanted.
THURY, NOBLE, PRESIDENT, ELTON, and Others.
Carriage paid for cash—25, 1*s.*; 100, 3*s.*; 500, 12*s.* 6*d.* List free.
W. LOVEL AND SON, Strawberry Growers, Driffield.

LOBELIAS.—Emperor William, true, 2*s.* 6*d.* per 100, £1 per 1000. Good bushy stuff, free by post for cash with order.
W. BATEMAN, The Freehold, New Southgate.

FOR SALE, a quantity of fine Stock Plants of the New White TREE CARNATION LA NEIGE, the most profitable white for Winter Bloom; in 48's. Price on application.
CRANE AND CLARKE, Hillside Nursery, March, Cambs.

"KILLMRIGHT," For Destruction of all Insect Pests and Mildew.
THE STOTT DISTRIBUTOR CO. (Lmtd.), Barton House, Manchester.

HORTICULTURAL SHADINGS, NETTINGS, TIFFANY, WADDINGS, COTTON WOOL for Packing Flowers, CANVAS, TWINES, &c., manufactured and supplied wholesale by
JOSEPH COOKSON, 21, New Cannon Street, Manchester.

FORMICACIDE Patent ANT EXTERMINATOR.—An infallible destroyer of Ants, often so troublesome in Greenhouses. In bottles, 1*s.*, 1*s.* 6*d.*, 2*s.* 6*d.* and 4*s.*, with directions. May be obtained through the Seed and Nursery Trade throughout the Kingdom.—Manufacturers: CORRY AND CO., Limited, London.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings. Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W.

THOMSON'S MANURE.—The sale of this Manure is steadily increasing, and it can be had as formerly of all the leading Nursery and Seedsmen in the United Kingdom.
London Agent, Mr. JAS. GEORGE, 14, Redgrave Road, Putney.
Agent for Channel Islands, Mr. J. H. PARSONS, Guernsey.
Sole Makers, WILLIAM THOMSON AND SONS, Limited, Tweed Vineyard, Clovenfords.

SALES BY AUCTION.

Monday Next.

200 Dwarf ROSES, TIGRIDIAS, choice home-grown LILIES, LILY OF THE VALLEY BERLIN CROWNS, DELPHINIUMS, PYRETHRUMS, GLADIOLI, hardy CLIMBERS, BEGONIAS, choice hardy PERENNIALS, IRIS KÆMPFERI, Bedding CALCEOLARIAS, &c.

MESSRS. PROTHEROE and MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, March 20, at 12 o'clock.

On view morning of Sale, and Catalogues had.

Tuesday Next.

JAPANESE and other LILIES, BEGONIAS, LILY OF THE VALLEY, GLADIOLI, new CARNATIONS, Hardy BORDER PLANTS, VALLOTAS, PINKS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, March 21, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Wednesday Next.

LILIUM HENRYI (New), the Yellow Speciosum, a magnificent new bright yellow Lily, of easy culture, and very floriferous. Flowered for the first time at Kew in August, 1889. Figured in the *Garden*, with coloured plate, November 7, 1891; also in the *Gardeners' Magazine*, with plate, November 28, 1891, and never previously imported.

A small consignment of 80 BULBS received direct from China by Messrs. Wallace & Co., of Colchester. A full description will appear in catalogue.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Rooms on WEDNESDAY NEXT, March 22.

Wednesday Next.

3960	LILIUM AURATUM,	
	including 1800 large Bulbs.	
1500	LILIUM	LONGIFLORUM.
1320	,,	SPECIOSUM ALBUM.
880	,,	,, RUBRUM.
900	,,	KRAMERI.
400	,,	LEITCHLINII, red var.
360	,,	TIGRINUM.
200	,,	,, PLENO.
1600	,,	CORDIFOLIUM.
360	,,	AURATUM VIRGINALE, yellow.
200	,,	UKEYURI.
127	,,	ELEGANS FLORE PLENO.
500	,,	,, orange var.

500 Roots of Japanese IRIS,

Being the contents of 140 cases just received from Japan in grand condition.

A small consignment of 80 Bulbs of LILIUM HENRYI (new). (See separate Advertisement.)

AZALEAS and PALMS from Belgium.

800 STANDARD, HALF-STANDARD, and DWARF ROSES. BEGONIAS, CARNATIONS, and a great variety of other Plants and Bulbs.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, March 22, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Thursday Next.

500 SPIRÆA JAPONICA, Japanese and other LILIES in variety, GLADIOLI, a quantity of PRIMULA JAPONICA in boxes, a large assortment of HARDY PLANTS and BULBS, also NEW LILIES, consisting of LILIUM BROOKEYII, L. ODORUM CALLOSUM FLAVUM, and others.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, March 23, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next, March 24.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. F. SANDER & Co., St. Albans, to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY NEXT, March 24, at half-past 12 o'Clock.

IMPORTED and ESTABLISHED ORCHIDS,

Among which will be found a grand lot of the TRUE MAJUS form of the beautiful

ONCIDIUM AMPLIATUM

IN FULL BLOOM.

A splendid importation of the remarkable

CŒLOGYNE PANDURATA

in perfect condition.

CATTLEYA SCHRODERÆ TYPE.

ONCIDIUM JONESIANUM.

Another fine batch of ODONTOGLOSSUM PESCATOREI.

A CYPRIPEDIUM SPECIES with foliage resembling C. LAWRENCEANUM, collected in the Mountains of Sumatra. It may be a geographical form of C. Lawrenceanum.

SPATHOGLOTTIS AUREA in FLOWER.

DENDROBIUM LEECHIANUM

CŒLOGYNE DAYANA GRANDIS.

DENDROCHILON SPECIES, sweet-scented, like Violets; and a CŒLOGYNE of the same section as the charming SANDERÆ which obtained a First-class Certificate at the Royal Horticultural Society's last meeting.

From the Padong Lingu Mountains in Borneo.

SOBRALIAS, ZYGOPETALUMS, ANGRÆCUMS, &c.

On view morning of Sale, and Catalogues had.

Friday Next.

SPECIAL SALE of CARNATIONS, PICOTEES, PHLOX, DELPHINIUMS, PYRETHRUMS, PÆONIES, HOLLYHOCKS, and others; English-grown LILIES, GLADIOLI in variety, NEW CARNATIONS, CALLAS, CANNAS, PINKS, &c.; DAHLIAS, PERENNIALS, GLOXINIAS, Double and Single; BEGONIAS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, March 24, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next.

MESSRS. PROTHEROE AND MORRIS will include in their SALE, on FRIDAY NEXT, fresh imported rare TERRESTRIAL ORCHIDS, for cool house or frame, including—

Disa grandiflora, the true lilac Disa	Disa polygonoides
,, lugens	,, chrysostachya
,, purpurescens	Satyrium acuminitum
,, Draconis	,, princeps
,, Harveiana (never before offered)	,, militare
	,, membranoceum, and
	,, carneum

On view morning of Sale, and Catalogues had.

The Quorn House Collection of Orchids.

LOUGHBOROUGH.

Also the COLLECTION of PITCHER PLANTS, probably the finest in Europe.

FOUR DAYS' SALE, commencing MONDAY, April 11, instead of three days, as previously advertised.

Highly important CLEARANCE SALE, by order of W. E. J. B. Farnham, Esq. Without the slightest Reserve.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION, on the Premises, Quorn House, Loughborough, on MONDAY, April 10, and 3 FOLLOWING DAYS, at 12 o'Clock precisely each day, the whole of this far-famed Collection of ESTABLISHED ORCHIDS, splendidly grown, and containing many rarities. A list of the principal plants appeared in last week's *Gardeners' Chronicle*.

Catalogues are being prepared, and may be had in a few days.

Margate.

CLEARANCE SALE of STOVE and GREENHOUSE PLANTS, PITCHER PLANTS, ORCHIDS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, Albert House, Margate, on THURSDAY NEXT, March 23, at 1 o'Clock precisely, by order of the Owner, the choice collection of STOVE and GREENHOUSE FERNS, amongst which are two fine Cibotium Scheidei; PALMS in variety, a very fine lot of CROTONS, DRACÆNAS, ALLAMANDAS, STEPHANOTIS, large CAMELLIAS, TEA ROSES, ACHIMENES, GLOXINIAS, CYCLAMEN, PANCRATIUMS, IMANTOPHYLLUM. 100 very fine Seedling AMARYLLIS, a few ORCHIDS, including Cypripediums and Dendrobium, Phalænopsis; a very choice collection of NEPENTHES, including Morganiæ; with 20 PITCHERS, Hookeriana; 15 PITCHERS Ratcliffiana, Wrigleyii, cincta, and others.

May be Viewed two days prior to the Sale. Catalogues had on the Premises, of Messrs. Jackson & Wright, Solicitors, 60, Lincoln's Inn Fields, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Wednesday Next.

A splendid COLLECTION of BORDER PLANTS, including choice sorts of Carnations, Pinks, Phlox, Pyrethrum, Asters, Hellebores, Iris, Dahlias, Hollyhocks, &c.; Gladioli and Anemones from Holland, 1000 Begonias, 1000 The Bride Gladioli, Dielytra spectabile, 30,000 Berlin Lily of the Valley Crowns (in Cases as received), without Reserve; 1000 Anemone fulgens, &c.

MR. J. C. STEVENS will SELL the above by AUCTION at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, March 22, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

Wednesday Next.

SPECIAL SALE of ROSES, from two of the best English and French Growers. 500 Choice named Standards and Half-Standard, and 500 Dwarf, Climbing, and Other ROSES, from one of our most successful English growers and exhibitors, including a large number of best new varieties; also 500 well-grown Dwarf ROSES, comprising Teas, Hybrid Perpetuals, and others, from a leading French Nursery.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, March 22.

On view morning of Sale, and Catalogues had.

Wednesday Next.

A Consignment of PALMS, ARALIAS, AZALEAS, RHODODENDRONS, ASPLENIUMS, &c., from Belgium; 1000 well-grown FRUIT TREES from France, including Apricots, Peaches, Plums, Cherries, standard Chestnuts, pyramid Apples, &c.; LILIUM AURATUM, and other LILIUMS from Japan.

MR. J. C. STEVENS will include the above in his SALE by AUCTION at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, March 22.

On view morning of Sale, and Catalogues had.

Thursday Next.

50 fine semi-established Plants of CATTLEYA ELDORADA (in which will be found many White varieties), 50 Plants of CATTLEYA SUPERBA, and a small collection of ORCHIDS in flower.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, March 23.

On view morning of Sale, and Catalogues had.

Thursday Next.

5000 grand Bulbs of LILIUM AURATUM, L. KRÆTZER (very fine), L. AURATUM PICTUM, L. SPECIOSUM ALBUM and RUBRUM, just to hand from Japan; HOME-GROWN LILIUMS, BEGONIAS, PÆONIES, DAHLIAS, &c.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY, March 23, at half-past 12 o'Clock precisely.

Thursday Next.

A SPLENDID IMPORTATION of 500 GRAND PLANTS of CYPRIPEDIUM CHAMBERLAINIANUM,

in very fine condition, and 100 Plants of the true C. CURTISII just received direct, WITHOUT THE LEAST RESERVE.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, March 23.

On view morning of Sale, and Catalogues had.

Thursday Next, March 23.

MR. THOMAS B. JAMES will include in his Weekly Sale, on THURSDAY NEXT, March 23, at half-past 11 o'Clock, at his commodious Sale Rooms, Bull Ring, Birmingham, 2500 FRUIT TREES, consisting of dwarf-trained, pyramid, and standard Apples, Pears, Plums, Peaches, Apricots, Cherries, Mulberries, &c., all very fine stuff, guaranteed true to name; also 5000 Apple Crab Stock, two years transplanted; 7000 Pear, 1-year, together with Three tons of BORDER SHRUBS, CONIFERS, climbing flowering Plants, Rhododendrons, Azalea mollis, Hydrangeas, 2000 dwarf and standard Roses, pot Roses, Vines, Plants in Flower, 1500 Border and Tree Carnations, Lemoines, hybrid and other Gladioli, and a variety of Garden Implements for Sale. Without Reserve. Catalogues post-free.

N.B.—Thomas B. James's next Sale of Orchids in flower takes place on March 28 (for Easter decoration). Further entries invited.

GREAT SALE OF ORCHIDS,

BY ORDER OF THE LIQUIDATOR.

THE LIVERPOOL HORTICULTURAL COMPANY (JOHN COWAN), Limited, being now in liquidation, are offering their immense stock of ORCHIDS at greatly reduced prices.

Descriptive and Priced CATALOGUES of the Stock are being prepared in sections, and they will be forwarded as completed to all who may furnish their name and address for that purpose. Catalogues of Sections No. 1 and 2 are now ready. Inspection is earnestly invited.

The large stock of STOVE and GREENHOUSE PLANTS, GRAPE VINES, TEA ROSES, FERNS, &c., will also shortly be offered, at a great reduction.

CATALOGUES will also be forwarded, when ready, free, on application to the COMPANY,

The Vineyard and Nurseries
GARSTON, near LIVERPOOL.

LONDON, S.E.—Good residential district. Capital JOBBING BUSINESS, ½ Acre, with 6 Greenhouses. Lucrative local Business. Turnover £500. Lease fourteen years to run. Rent £10. Price £300, open to offer. Apply, PROTHEROE AND MORRIS, 67 and 68, Cheapside, E.C.

NURSERY for SALE, or to be LET, near Blackheath, S.E., in working order. Land 442 feet by 150 feet (more or less), at low ground rent. Contains seven Glass Houses, about 100 feet to 123 feet long, heated by three Boilers; three Cold Frames, about 100 feet long; Planting Ground, &c. Stock at valuations, if desired.—Apply to THOMAS PEACOCK, Warwick Square, London, E.C.

FOR SALE, as a going concern, the business of a FLORIST and GARDEN CONTRACTOR, carried on at Derby Street Nurseries, Burton-on-Trent, for the last four and a half years by Mr. W. Fisher. Half an Acre of Nursery Ground, with good Show House and Offices, and other Houses and Pits, also Half an Acre of Land laid out and let as Tennis Courts. Further particulars and to view, apply, W. BENNETT, Valuer, Burton-on-Trent.

TO BE SOLD, a small well-situated FLORIST NURSERY and JOBBING BUSINESS, nine miles from Covent Garden Market. Very low rental. Price, about £300.—C. R., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

North Finchley.

To MARKET GROWERS and FLORISTS. On Main Road.

TO BE LET on LEASE, the FRONT PORTION of the WOODSIDE NURSERY. Eighteen Greenhouses, 2 Acres of Land, and 8-Roomed House. To a responsible tenant, the low rent of £90 would be taken. No Stock.

Particulars and order to view of PROTHEROE AND MORRIS, 67 and 68, Cheapside, London, E.C.

TO BE LET, an old-established JOBBING GARDENER'S and FLORIST'S BUSINESS, situate in London, N.W.—Premises comprise capital 6-room Cottage, 2-stall Stable, with Loft over; Cart-sheds, two Greenhouses, Heated Lights, and Spare Ground. Price for Greenhouses, Pipes, Rollers, Mowing Machine, all Tools, and everything, £80. Long lease, at low rent.

Apply, O., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for List, free.—P. MCARTHUR, The London Nursery, 4, Maida Vale, London, W.

MARKET and SHOW CHRYSANTHEMUMS. Cheap to clear.

CHIPPERFIELD, Thames Valley Nursery, Hampton Hill.

BRITISH FRUIT-GROWERS' ASSOCIATION.—A GENERAL MEETING of the above Association will be held at the "Hotel Windsor," Victoria Street, London, S.W., on TUESDAY, March 28, 1893, at 2.30 P.M. All Members are requested to attend. (Signed)
Sawbridgeworth. T. FRANCIS RIVERS, Chairman.

PROTHEROE AND MORRIS, HORTICULTURAL MARKET GARDEN and ESTATE AUCTIONEERS and VALUERS, 67 and 68, Cheapside, London, E.C., and at Leytonstone, E. Monthly Horticultural Register had on application.

TO ORCHID GROWERS.—A few Sets of Coloured Plates of the *Fernside Orchids* can be had in Paper Covers, 2*s.* 6*d.*, or post-free, 2*s.* 9*d.*
POLLETT'S Printing Office, Fann Street, E.C.

LOBELIA, Emperor William, good bushy stuff, 2*s.* 6*d.* per 100. CALCEOLARIA, Golden Gem, 5*s.* per 100.—S. HARBER, Tettenhall, Wolverhampton.

VICTORIA PLUMS.—Rough fruiting Trees, 35*s.* and 45*s.* per 100. Also really extra strong Standards and fine Standard MORELLO CHERRIES and PEARS.
WILL TAYLER, Nurseries, Hampton, Middlesex.

To the Trade.
MANGEL WURZEL and TURNIP SEED.
H. AND F. SHARPE will be pleased to make special offers of their fine Selected Stocks of MANGEL WURZEL and TURNIP SEEDS of 1892 growth, and raised from carefully-selected Stocks and Transplanted Bulbs.
SEED GROWING ESTABLISHMENT, WISBECH.

FOREST TREES for PROFIT.—Ash, Austrian Pine, Beech, Birch, Chestnuts, Elms, Hazel, Larch, Maple, Oak, Poplars, Scotch Fir, Spruce, Thorns or Quick, Willows, &c. Sizes and Prices on application.
RICHARD SMITH AND CO., Nurserymen and Seed Merchants, Worcester.

50,000 EUONYMUS, Green and Golden, all splendid bushy plants.—GREEN: 9 in. to 12 in., at 25*s.* per 100; 12 in. to 15 in., at 35*s.* per 100; 15 in. to 18 in., at 50*s.* per 100; 18 in. to 21 in., at 70*s.* per 100; 21 in. to 24 in., at 95*s.* per 100; 30 to 40 in. at special prices.
GOLDEN: 5 in. to 12 in., at 4*s.* to 9*s.* per doz. Cash with Order. J. J. CLARK, Goldstone, Brighton.

TOMATO "CHALLENGER" (Collins').—Awarded Four First-class Certificates at London Shows. The best kind for Amateurs and Market Growers. Fruit large, smooth, heavy, bright scarlet, grandly flavoured, free setting, very prolific. Over 1500 packets sold in 1892. Sealed Packets only 1*s.* (Wholesale, HURST & SON). 66 pp. Illustrated Seed LIST gratis.—COLLINS BROS. AND GABRIEL, 39, Waterloo Road, London, S.E.

CARNATIONS.—Reynolds Hole, 25*s.*; Germania, 6*4s.*; Old Crimson Clove, and Salisbury (white Clove), 12*s.* 6*d.*; Merry Andrew (yellow-cerise), 48*s.*; Bride, 50*s.*; Mary Morris, 50*s.*; Raby (pink), 20*s.* per 100. Double Primroses, crimson-velvet (Madame Pompadour), 6*1s.*; White, 10*s.* 6*d.*; Lilac, 12*s.*; Cloth of Gold, 40*s.*; Salmon, 6*4s.*; Marie Crousse, 36*s.*; Paddy, 35*s.*; Sulphur, 20*s.*; Blue Polyanthus, 30*s.*; Hose-in-Hose, white and red, 12*s.* per 100. Named Pyrethrums, Phloxes, Pæonies, and Herbaceous Plants. Lists.
HOPKINS, Mere, Knutsford.

CREEPERS AND CLIMBERS.

NOW is the time to Plant for the outside adornment of Dwelling-houses, Dead Walls, Screens, or other places needing a covering.
Suitable Hardy Plants in endless variety.
DICKSONS NURSERIES, CHESTER.

FOR ORCHIDS and GARDENERS to Grow Them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

COVERT.—Whin or Gorse Seedlings, and Common Broom Seedlings, 2*s.* per 1000; £7 10*s.* per 100,000.
SAMUEL SMITH, Slaghills Nursery, near Matlock.

ALPINE and HERBACEOUS PLANTS.—Unique Collection.—100 sorts, 30*s.*; 100 Saxifrages, 30*s.* CATALOGUE descriptive with Cultural Notes, 6*d.*, post-free.
STANSFIELD BROS., 97, St. Luke's Road, Southport.

PRIMROSE (Rare Old), Double Dark Crimson; and POLYANTHUS (REX THEODORE), Dark Double Crimson, and Double Light (DERCLEUGHIE), for Sale, 6*s.* per dozen. Stamped Correspondence Invited. Cash with Order. Note Address—
J. T. GREIG, Sunnyside, Fyvie, Aberdeenshire.

SMILAX, strong crowns, in 48's and 60's, just breaking, cheap to clear.
JOHNSON AND CO., The Nurseries, Hampton, Middlesex.

To the Trade.
SCOTCH FIR (True Native), extra fine, well-rooted plants in quantity, 15 to 20, 18 to 24, 24 to 30, and 24 to 36 inches; Native LARCH, 2 to 3, and 3 to 4 feet; strong ASH, OAK, BEECH, SYCAMORE, BIRCH, POPLAR, and Whinham's Industry GOOSEBERRY. See LIST, Free.
THOMAS MATHESON, Nurseries, Morpeth.

CHRYSANTHEMUMS.— All the new and choice varieties, including strong Plants of Edwin Beckett, 1*s.* 6*d.* each, 12*s.* per dozen; Gloire du Rocher, 4*d.* each, 3*s.* per dozen. Full CATALOGUE, free, also list of Hardy Perennials. Special quotations.—R. C. NOTCUTT, F.R.H.S., Broughton Road Nursery, Ipswich.

RASPBERRY CANES. — Carter's Prolific, 20*s.*; Norwich Wonder and Fastolf, 15*s.* per 1000. Free on Rail. Cheque with Order. Not less than 1000 canes of either sort supplied.
ALBERT BATH, Vine Court, Sevenoaks, Kent.

THE MOST SUITABLE FOR
SHADING ORCHIDS, FERNS,
Palms, and Stove and GREENHOUSE PLANTS.

It is a strong, durable Cotton Netting, woven in squares so close as to exclude the direct rays of the sun, but admitting the greatest amount of light attainable through shading.

WILLIAMS' HOTHOUSE SHADING.

It withstands the weather better than any other class of Shading, and may be beneficially used on account of the thickness of its texture, during cold weather, to keep the frost out. The leading Orchid and Plant Growers in the country have used this material for some years, and speak very highly of it, pronouncing it to be the very best material for Plants they have ever used.

Blinds made up and fixed complete.

Sold in pieces, 30 yards long by 1½ yard wide. Price 40*s.* each. Samples submitted gratis.

B. S. WILLIAMS & SON
Victoria and Paradise Nurseries,
UPPER HOLLOWAY, LONDON, N.

EXHIBITIONS.

ROYAL BOTANIC SOCIETY
Gardens, Regent's Park, N.W.
The FIRST EXHIBITION of SPRING FLOWERS will take place on WEDNESDAY NEXT, March 22. Gates open at 2 o'Clock.
The Band will play from 2.30 to 5.30 P.M. Tickets to be obtained at the Gardens only by Vouchers from Fellows of the Society. Price, 2*s.* 6*d.* each.

CRYSTAL PALACE
SPRING EXHIBITION OF PLANTS, FLOWERS, &c. SATURDAY, March 25.
Entries close Saturday, March 18. Schedules and Entry Forms on application to Mr. W. G. HEAD, Superintendent, Gardens Department, Crystal Palace, S.E.

BRIGHTON and SUSSEX "NEW" HORTICULTURAL SOCIETY.
SECOND ANNUAL SPRING and BULB SHOW, TUESDAY and WEDNESDAY, April 11 and 12.
The Dome, Royal Pavilion.
Schedule on application to the Secretary—
MARK LONGHURST, 18, Church Road, Hove.
Entries Close April 6.

CLAY CROSS HORTICULTURAL SOCIETY. — THIRTY-SIXTH ANNUAL SHOW, AUGUST 15. PRIZES, including Veitch Memorial Prizes, £279. Entries close August 7. Schedules now ready.
Assistant Secretary, G. LAMB, Clay Cross, near Chesterfield.

To Nurserymen, Gardeners, &c.
300 TONS of rich, mellow LOAM for SALE, suitable for Roses, Cucumbers, Melons, &c.—6*s.* per ton, in trucks at Reigate Town Station, S.E.R. Apply,
D. PITT AND SONS, Reigate.

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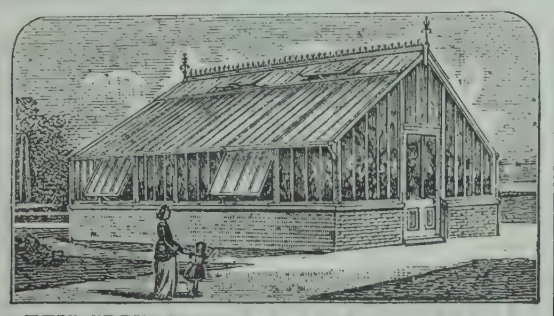

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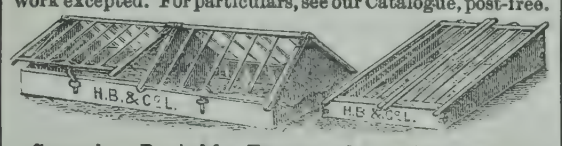

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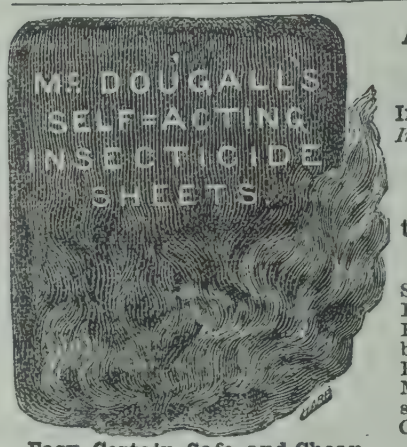

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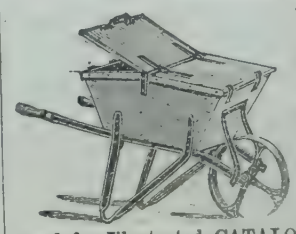

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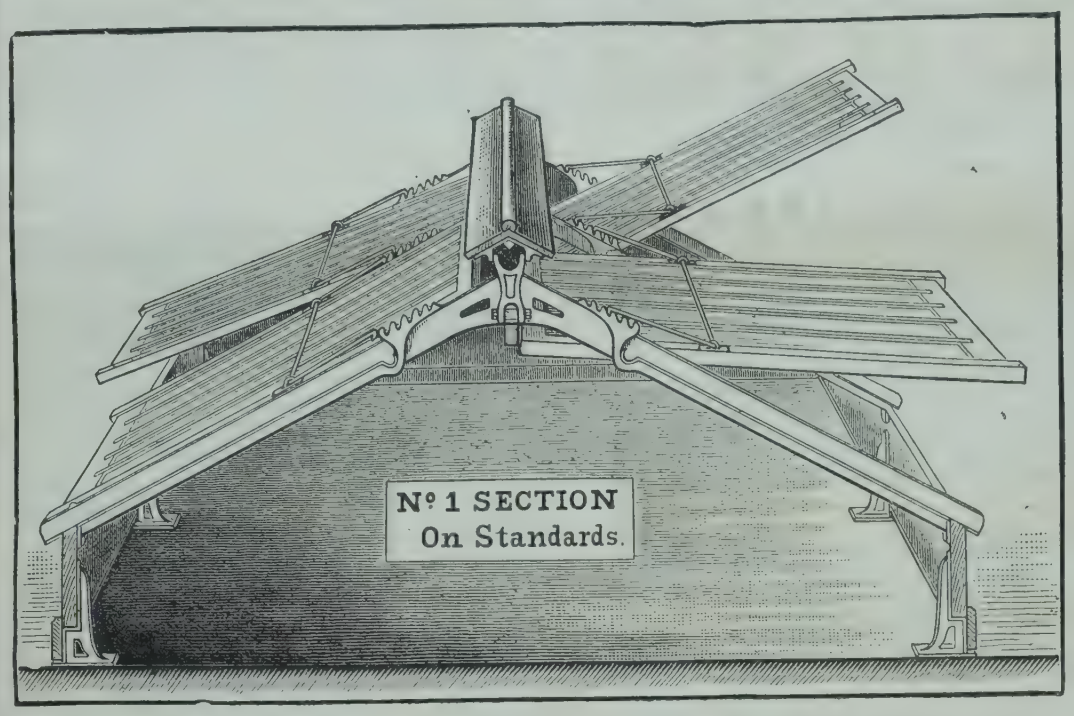

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THE

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SATURDAY, MARCH 18, 1893.

THE FIRST FLUSH OF SPRING.

I AM not about to be poetical, in fact, I could not be were I ever so well inclined, and so I leave the Primroses and Violets, and Larch buds and Hazel blooms, and all that sort of thing to others, and enter on that which is more to my taste (alas! poor one), that which is practical, and which comes to me in the corners of my own little garden, for my garden is small, and as my taste for flowers is enormous, I find it hard to accommodate all that I wish to have; and as my pride is in somewhat the same predicament, I am obliged, like little ships, to keep near shore. I grow no collections of anything, the Rose man, the Daffodil man, the alpine man, and all those whose minds are set upon one particular flower, would be very much disappointed, I fancy, with my garden. What a little place to make such a fuss about! Yes, it is so; and I am open to the indictment, but with all that I have a garden, in which at all times the lovers of flowers may find something to interest them. I have no space for effects. I cannot group in masses, I cannot dazzle with a sheet of brilliant colouring, and yet the other day a lady and gentleman riding past, and attracted by a lot of colouring in the drive leading up to my house, rode on, and said it was the prettiest piece of colouring they had seen for some time. Well, what was it? this desire when I first came here a quarter of a century ago, was a trouble to me. I did not know what to do with it. There was at the back a shrubbery of a very mixed character, while the border in front contained all sorts of evergreens. Though high and low plants and shrubs, &c., I could do nothing with it, so I turned it into a rough rockery; and in this I planted various things, which I hoped were suited to the place. Amongst other things were a few bulbs of Cyclamen Coum and Atkinsii, and this place seemed to suit them admirably. In summer the soil is literally baked if it be a hot one, but there is a partial shade from the overhanging trees, and this they have made their home to their complete enjoyment; they have seeded all over the place, and their forms of flowering and variations of colour make them most pleasing. And then long before any species of Snowdrop that I have is in flower, these display their charming flowers. Coupled with these was a good clump of the Winter Aconite, and some clumps of the common Snowdrop, and also Galanthus Elwesii. With regard to the Aconite, I should like to ask a question. I planted two pieces of it, one has spread all over the neighbouring piece of ground, while the other has not spread at all, though the clump has increased in size, but has not spread. Are there two varieties of it? or is this only an accidental variation? Although this parterre was only about 3 yards

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by one yard, yet it afforded a delightful bed of colour, and was one of those things that give one the first flush of spring.

At the end of this rockery I have a nice little batch of Anemone blanda, kindly sent to me by Mr. Whittle. It is well known how very much this species varies in colour, and these were sent to me with the character of being darker than the type. I think they are darker than many which I have grown, although I fancy some from other quarters are nearly as dark. There is hardly any sweeter harbinger of spring than this lovely alpine, and it is so easily grown that everybody ought to have it. It will grow in the border as well as on the rockery, and wherever it is, its delicate colouring and neat foliage make its welcome.

Of course one must not omit the Crocus among the flowers that contribute to give us the first flush of spring, and this season they have been peculiarly beautiful. My borders are edged with the large yellow. The wet weather that we had must have contributed to their well-being, for they have not been for years so good. The mice have not eaten the roots, nor the sparrows picked the flowers to pieces, as is their wont; but I think some clumps of the species on the rockery have given me as much pleasure. The delicate pusillus, white and blue; Aucheri, yellow, with brown on the back of the petals; dalmaticus, and this I have with the added name of violaceus, but I see nothing of its colour, as it is pure white, so that I am afraid I have not got it correct; ochroleucus, a bright yellow; but I think there is nothing for brilliancy to equal the garden variety, Cloth of Gold, a rich brilliant golden-yellow, with a delightful tinge of orange in it which adds greatly to its beauty; the Hepaticas, with which in previous years I have had some difficulty, seemed to have rejoiced in the abundance of moisture which we have had. The varieties of Hepatica have done well, and so have all the patches of angulosa, which are very charming. The delightful little Saxifraga, S. Burseriana, has very early shown its great beauty, smothering the plant pretty well with its pure white flowers. The first flush of spring, too, has come to the shrubbery; here in my border is a delighful plant of the white variety of Daphne Mezereum, not only pure and beautiful, but shedding a most delicious fragrance all round. I think that if I had more space I should go in much for the many beautiful flowering shrubs now within our reach; but as it is, I must be content with the very few that I have space for.

Daffodils, too, are putting in their claims to keeping as in the first flush of spring; the paddock in front of my house is studded over with clumps of the old Lent Lily, to which I have of late added some of the Trumpet varieties—they are not yet in flower; but as one watches their fat flower-buds, we anticipate what a golden beauty we shall have to look upon shortly. Nor is this all: on the rockery I see that N. minor is in full flower, and that quaint little member of the family, N. cyclamineus has one or two flowers open.

Although in our woods Primroses have been gathered in abundance, I do not find that the garden varieties are amongst the earliest harbingers of spring; they are all more or less showy blooms, and are now gay enough. One that I had some years ago from my friend, Mr. Hammond, of St. Alban's Court, under the name of lilacina, is in flower, and so also the species P. cashmiriana; but I have been careful to confine my notice to those flowers which open here in February, and thus cheer us after the long dreary time of winter. We welcome them gladly, and perhaps the more so when we know, as I do, that I cannot many more times do so; and as I look upon them in their fading beauty, I feel that they are an indication that the time is passing away, and that for once more I must bid good-bye to these charming little gems, which many overlook, but which to me are not only valuable for their intrinsic beauty, but because they continue to cheer one by giving us the "first flush of spring." *Wild Rose. February.*

New or Noteworthy Plants.

ODONTOGLOSSUM LANCEANS, *Rchb. f., var.* GRAVESIANUM. *New var.*

A five-branched panicle of over forty flowers from Messrs. F. Sander & Co., comes as a hybrid out of their superb strain of O. crispum, and distinct though it is, it must be regarded as coming under the varied series classed by the late Professor Reichenbach as O. lanceans. The variety Gravesianum is nearer perhaps to that known as "Jenningsianum." The sepals and petals are creamy-white, profusely spotted on the basal halves with small reddish-purple marks, those on the petals being smaller than those on the sepals. The long narrow lip has some resemblance to that of O. cirrosum in the rounded toothed side-lobes. The crest has two pointed teeth in front, and lesser ones at the base. The column is white, brownish-red on the under side; the lip yellowish-white, with one blotch and several smaller ones of a red colour in the centre. *James O'Brien.*

Dendrobium nobile Ballianum, *new var.*

A beautiful form of Dendrobium nobile has recently flowered from amongst an importation of D. nobile at Messrs. Sander & Co.'s, and to which the above name is given by desire. The flower is of fine form and wax-like substance, and its chief peculiarity is, that the more or less dark purple disc seen in the lip of the type, and the purplish colour in the segments of many of the forms, are almost entirely suppressed. The flowers of D. n. Ballianum are of a clear shining white, with a pale pearly-pink blush, which is more pronounced towards the tips of the petals, sepals, and lip. The disc of the labellum is of a very pale soft dull rose-pink, the front pale primrose, and the apex blush-pink, and differs from any form of D. nobile imported. *J. O'B.*

Calanthe vestita *var.* Cornelius Vanderbilt.

Here we have a splendid variety of this old and well-known plant, differing from the type in its stouter habit and the luxuriance of the flower, which surpasses by far the typical form; the red blotch at the base of the lip is decidedly larger and more radiant and vivid, otherwise there is no difference.

In spite of all resemblance to the imported genuine wild specimens, we have before us a merely artificial plant, a hybrid obtained by fertilising C. vestita rubra oculata with the pollen of C. Veitchii. It was raised by Mr. R. Gardner, head gardener to Cornelius Vanderbilt, Esq., Newport, Rhode Island, U.S.A., who has given us an accurate account of the origin of the plant.

It is a fact that the hybrid has reverted to one of its parents, and perhaps we may derive from this very plant a valuable hint for future guidance. As a rule, we can say that the influence of the pollen-parent is the more potential, and that its characteristics prevail in the hybrid; but in this case the influence of the pollen parent (i.e., C. Veitchii) is evidently overwhelmed by that of the female parent, and at first sight the rule seems to be broken; but remembering that C. Veitchii itself is a garden hybrid between C. vestita var. rubro oculata ("that variety of the white C. vestita which has a deep purple blotch at the base of the lip." *Bot. Mag.*, t. 5375), and C. rosea (then Limatodes rosea, Lindl.), we have in our plant twice C. vestita rubra oculata (male and female), and Limatodes rosea once, and only as female plant.

Considering the genesis of our plant, another form but C. vestita could not be expected, probably more vigorous and splendid than the wild type, in consequence of its hybrid origin, but resembling the typical form in every respect.

Rules of general value can only be derived from a great number of typical cases, but we admit that crossing hybrids with one of its parents, or hybrids with hybrids of similar origin, the new plant in all appearances reverts back into the species represented in both parents, that the influence of the other hybrid parents will be annihilated—in one word, that the new hybrid cannot be a new plant with a new combination of the character of both parents, but only a reiteration of the most prevalent ones. *Dr. F. Kränzlin, Berlin.*

Pholidota Lugardi

was sent by Captain Lugard to Sir John Kirk, of Wavertree, Sevenoaks, Kent, from the Chin Hills, Western Burma, where it is found at 6000 to 8000 feet elevation. It flowers in June. It is allied to P. articulata, Lindl., but is more robust, erect, and larger in all its parts (p. 6).

Epidendrum (Barkeria) Palmeri.

Is a very distinct Epidendrum belonging to the section Barkeria, collected by Mr. Edward Palmer, at Colima, Mexico, in 1891. It is characterised by its narrow leaves, small bracts, and numerous flowers, with papillose nerves to the lip. It is described from dried specimens (p. 6).

Saccochilus muscosus.

This species was sent from the Andaman Islands, together with Phalænopsis tetraspis, by E. H. Man, Esq. It has dull yellow flowers spotted with red-brown, and a white lip with a few small purple spots round the mouth of the spur. It flowered in the Kew collection during last November (p. 7).

Pelexia maculata.

This distinct species is believed to have been introduced by Messrs. Hugh Low & Co., but its habitat is not recorded. Its leaves are olive-green, blotched with whitish-green on the upper surface, and dull purplish-green below. The flowers are pale dull green, the sepals and petals tipped with pink, and the lip white. It flowered in the Glasnevin Botanic Garden, under the care of Mr. F. W. Moore, in July last (p. 7.) [The preceding four paragraphs are taken from the *Kew Bulletin.*]

Orchid Notes and Gleanings.

CYPRIPEDIUM "MOENS."

M. L. Linden gives the name Cypripedium × memoria Moensii to this variety, but it may be more convenient for garden purposes to use the simpler form we here propose. Whatever name be given to it, there is no doubt that this new hybrid is amply worth the attention of the connoisseur. The dorsal sepal is suborbicular, with the base stalk-like, from the reversion of the margins. The colour is a rich claret hue, bordered with white. The petals are of like tint, spotted at the base, and finely ciliated at the margins, with a median line of dark brown. The lip is shining brown, flushed with rose; staminode rose-coloured. It is figured in the *Lindenia*, t. 361.

Cypripedium Lucienianum ×.

A hybrid, as it is alleged, between C. villosum and C. bellatulum. The dorsal sepal is very large, white, heavily blotched, and spotted with purple, as in C. Boxalli var. atro-purpureum. The petals oblong-obovate, deflexed, reddish, with white margins; lip, reddish shining. *Lindenia*, t. 362.

Coelogyne Hookeriana.

One of the Pleione section, discovered by Sir Joseph Hooker in the Sikkim Himalayas, at an elevation of 7000 to 10,000 feet. The flowers are of a rich rosy-lilac colour. *Lindenia*, t. 363.

Mormodes igneum var. maculatum.

Differs from the type in the rich spotting of the sepals and petals, and there is a little difference in the ground colour. It was introduced from Peru by l'Horticulture Internationale. *Lindenia*, t. 364.

FERNERY AT MR. MAY'S NURSERY, EDMONTON.

The accompanying engraving (fig. 45), represents a Fern corridor, about 150 feet long, and barely 10 feet wide. It will be seen that species of Nephrolepis, and other drooping kinds, are suspended in pots and baskets from the roof, which make a complete furnishing, whilst upon the stages are well-grown, sturdy plants of various genera, that enjoy a cool, or slightly intermediate temperature, and are specially adaptable for purposes of decoration. The corridor forms one of the most pleasing features at the Edmonton establishment.

Fig. 45.—Fern corridor at Mr. May's Nursery, Edmonton.

THE HARDY FERNERY.

The period of winter rest for hardy Ferns has now drawn so far to its close, that the roots are commencing actively to prepare for the new spring growth, and in sheltered situations the crowns themselves may be observed swelling and fattening up with distinct promise of a proximate upheaval of feathery verdure. It is, therefore, the best time to take in hand any shifting, division, or repotting which may be requisite, the active state of the roots and absence of tender and easily-damaged frondage enabling them at once speedily to establish themselves after removal, and at the same time obviating the risk of spoiling the appearance of the plants for possibly the entire season.

In out-of-door rockeries which are in any degree exposed to drying winds, care must be taken when removing the old fronds not to leave the crowns altogether unprotected. When the new fronds begin to lift, there issues from the base of each a little tuft of roots, damage to which by drought or otherwise seriously checks or even stops altogether the development of the fronds they spring from; hence a light mulching of leaf-mould or *débris* of the old fronds themselves is beneficial as affording at once both protection and nutrition. Where, as in some of the evergreen Ferns, the fronds are persistent, they should not be cut off until they turn brown and shrivel, otherwise the new growth is apt to be checked, some parts of the vitality of the crown being certainly contributed by the old fronds so long as they retain their greenness. The deciduous ones, of course, require no such consideration, the old fronds being absolutely dead and rotted, and in this they possess the same advantage as deciduous trees, viz., an entirely fresh and new growth in the spring, unmixed with the shabby remains of a previous season.

For the reasons above given, the present is a capital time for the establishment of new rockeries or hardy ferneries generally, especially as at this season they lend themselves so freely to division. The Buckler and Shield Ferns (Lastreas and Polystichums), and the Lady Fern (Athyrium filix-fœmina) in nearly all their manifold varietal forms, propagate themselves freely by forming side divisions, or in some cases by bulbils upon their fronds. If it be desired to remove the former, it is well to take up the entire plant, when by shaking out the soil, the point of attachment of the various crowns can be easily seen and severed if need be, though generally they can be pulled or forced apart by a blunt knife, each then retaining its own roots, and forming at once a decent specimen of its kind. If the plants be small offsets, an ivory or bone knife will detach them easily, prizing them off rather than cutting them. If very choice varieties be in question, it is well to pot them in good compost, and give them a little frame protection until they start. At this late time of the winter it will do them no harm to give a little warmth, thus bringing them into decorative use a month or six weeks earlier than would normally be the case. The stimulus must, however, be moderate, or weakness will result. *C. T. Druery.*

LIFTING CAMELLIAS.

The planting-out of the Camellia in borders is a common practice, but the lifting of them when signs of ill-health become noticeable, is not so common. Some twenty years ago I planted two beds with five plants in each, one near each corner or facing the angle, and one in the centre, with the object in view that in time the centre one would fill the whole space, and as these plants grew in size, the others on the side nearest to it, were cut back till it became necessary to decide on either cutting them down or lifting them, and the latter course was decided upon. The plants were lifted in the spring of last year and with successful results. These plants were about 9 feet high, and from 6 to 7 feet in diameter, and they were carefully potted in loam, peat, and sand, with a plentiful supply of half-inch broken bones. The after-treatment consisted in their being kept dewed over several times a day, and shaded when the sun was bright. They soon afterwards began to make growth, and in the course of the season from 3 to 5 inches were made. The plants flowered freely this spring, not having, so far as I know, lost any flower-buds. The plants left in the two beds are C. fimbriata alba, 9 feet by 8; and C. alba plena, of the same height. Camellia flowers are not much the mode at present, excepting white varieties; but the other varieties, such as Auguste Delfosse, Bicolor de la Reine, C. H. Hovey, C. M. Hovey, eximia, Giardina Franchetti, Henri Favre, imbricata, Marchioness of Exeter, Mathotiana, Queen of Beauties, and Eugène Massima, which I consider is one of the most pleasing colours, viz., a soft shade of deep rose, shading off to a paler tint at the edges of the smooth evenly-imbricated petals. When fashion again changes, Camellias may come in once more. *A. Evans.*

THE HIPPEASTRUM.

I have frequently observed that the amateur cultivator of certain plants takes most interest in them when they are coming into flower, and at that time is eager for information concerning them. A few there are, who take a higher view of gardening than this, and who by careful study of plant life in all its stages of growth and of rest, find a never-ceasing round of enjoyment amongst their plants in spring, summer, autumn, and winter. Many amateurs, and I fear some practical gardeners, for want of knowledge, which they might easily obtain by studying the life history of any plants they are interested in, fail to cultivate them successfully, and go on in a haphazard way, when a little thought and forethought might have crowned their work with success. Take the Hippeastrum, for instance: I have seen many failures in its culture through nothing but gardeners failing to realise the fact, that the plants after flowering require very much more attention than they did before doing so. Not that they should lack attention at any time, but they need it most when in building up their bulbs and laying the foundation for flowering next season. The structure of the flower-scapes for 1894 will be laid in July and August of the present year. What I have had to complain of is this; plants when in flower are removed to the greenhouse or conservatory from the hothouse where they made their growth, and the flowers may last for two weeks or so; after they pass away the plant itself is thought little of, and is left in the greenhouse amongst the other plants as long as the leaves remain green, when the leaves decay, and become unsightly, the flower-pots containing the bulbs are pushed out of sight under the stage.

Now, I do not object to place even valuable varieties in the greenhouse when in flower, but as soon as the flowering period is over they are taken back to the hothouse again, and the flower-pots are plunged over the rims in spent tanner's bark; and with a gentle bottom-heat the roots find their way into the plunging material, and fairly revel in it, until growth is completed in August and September. The bulbs

were not re-potted this year until the middle of January and later; and as I write these lines the last week in February, the larger number of the scapes are well up, and the earliest blooms on the point of opening. One cannot but be interested in them at such a time, and the interest is greatly increased when seedlings of good parentage are expected to open their flowers for the first time.

The Hippeastrum is one of those plants which freely produce seed under favourable conditions, and the flowers are so very easily cross-fertilised that any amateur or gardener should be able to manage it. At this season, with the plants pushing up their flower-spikes, it may be useful to give a few details of culture. As I have already hinted, no care in culture now can compensate for neglect when the plants were maturing the bulbs; we may look in vain for the appearance of the flower-spikes now, if the plants lost their leaves early by neglect last year. If they have been well cared for, at least 95 per cent. of the full-sized bulbs will produce flowers, and it is pleasant to see them pushing out from the crown of the bulbs, one, two, and sometimes three spikes from each, for some of the best varieties in our collection have produced three spikes from one bulb, with an aggregate of seventeen flowers; it is rather curious, but I have seen six flowers on two of the spikes, and five on the other, but never six on each of the three. In the early stages of growth, great care must be taken in the application of water either to the leaves or roots of the plants, for some bulbs are very liable indeed to decay, either owing to moisture in the atmosphere, or water applied too soon to the soil after repotting, or too freely later. I repot the bulbs in fairly moist soil at the first, and they do not require any water at the roots for at least three weeks after repotting, and only after that time if they are really dry. If the temperature of the house is kept too high, the leaves will be drawn up, and the flower stems also; 55° as a minimum is a good temperature, and the house should not be kept too closely shut up. I like to admit air every day, even in dull cold weather. This causes the flowers to be rigid, and the leaves to stand up stiffly. When the flowers are developed, they may be placed in the greenhouse or conservatory, where they last very much longer than they do in the hothouse. They must in either case be shaded from bright sunshine, which soon causes the petals to drop. An examination of the bulbs when the flowers are fully expanded will show how exhausted they have become by the development of the leaves and flower scape; they would be less than half their size and weight, with the skin hanging loosely around them, whereas at the time of repotting, it would be tightly stretched over the outer coating, almost to bursting. All this has to be made up again during the few months in which growth can be made, and not only made up, but the bulbs should greatly increase in size up to what they can be grown under good cultivation.

There does not really seem to be any recognised standard of excellence for the Hippeastrum, as we have in the case of other garden flowers, such as the Tulip, the Dahlia, &c.; but all the successful raisers of new varieties go in one direction—in the line of large flowers, with broad, well-formed segments of good substance, forming a symmetrical flower. In this direction there is steady progress to note from year to year. The colours of the flowers are bright, almost sparkling in their brilliancy, and lovely in the softer shades of rose, blush, and pale colours arranged in stripes and flakes on white or cream-coloured grounds. An error may be made, and is made, in not ruthlessly destroying plants with a feeble constitution; some of them cannot be coaxed into growth sufficiently strong to give a flower-spike after they have been some years in cultivation.

If a weakly-constitutioned variety is retained in a collection because of the superior merit of its flowers in form or colour, it should not on any account be used as a seed-bearer. A weakly plant possessing flowers of unique colour, exquisite form, or some other quite novel peculiarity, may be used as a pollen-parent upon some vigorous-constitutioned variety, and in this way the novel features may be retained, and greater vigour thrown into the progeny. It is interesting and curious to observe the difference between the flowers, as we find them "improved" into one uniform shape by the hand of the gardener, and the great diversity of form and colour in natural species. As examples of flowers without tubes, but totally different in colour, we have H. pardinum and H. Leopoldii. Next, there is the parent of many garden varieties, H. Reginæ, with scarcely any tube, but entirely different in colour; H. reticulatum, the species with netted veined leaves, with a medium-sized tube, and quite different from any other in the leaf, as well as in the form and colour of its flowers. Again, we have in H. Raynerii (the blue! Hippeastrum), with pale purplish flowers spotted within, the large leaves sickle-shaped and edged with buff, in the growth of the plant and form of the flowers quite unlike any other. H. Solandriflorum, again, has flowers 10 inches long, it is also different in flower and leaf. All these might be crossed to obtain flowers in form and colour different from anything we now possess. The work would need to be done by an amateur who took more than a pecuniary interest in the business; at least, there could be no certainty that profit would be made, but science would undoubtedly gain by the experiment. *J. Douglas.*

Cultural Memoranda.

TACSONIA VANVOLXEMI.

Trained thinly over the roof of a warm conservatory, this handsome climber is a very graceful plant. It should be planted in positions where there is space to extend its shoots and sunlight to ripen the wood. It is better if the roots are somewhat confined in narrow borders or tubs, the plants flowering very freely when that is so. The finest specimens of this variety, and T. exoniensis×, that I ever met with were at Longford Castle, and these two were finely bloomed by the then and present gardener, Mr. H. W. Ward. Liquid manure was frequently and copiously supplied. The plant is easily propagated from cuttings taken with a heel, and about 3 inches in length, and placed in pots of sandy loamy soil in a brisk bottom-heat. The plant may also be raised from seed.

Bouvardias.

Bouvardias should not at any time be subjected to a too high temperature, and if they are to bloom in the winter, a night temperature of 55°, with a rise of 10°, or even a little higher, in the day will bring out their flowers perfectly. Shoots fit for making cuttings are easily found on plants that have been kept in warmth during the winter, and these should be taken off with a heel whenever possible, although they will root without one whilst the wood is still immature. If put into small cutting-pots in the ordinary manner, and plunged in a hotbed with a brisk bottom-heat, rooting soon takes place. The rooted cuttings should be potted-off in small pots in a light sandy soil warmed to the temperature of the bed, and when rooted into the soil and making good headway, the leading shoot, and afterwards the resulting lateral shoots, should have the points pinched out to cause bushiness of habit. Young plants should not be over-potted. Cramping the roots in pots too small for them is better than this, and a good useful specimen may be had in a 48 or a 32. Rather more loam than previously may be used at the last potting, and generally, a stronger soil should be used, than if small pots are employed.

In July they may be stood in a cold frame, standing the plants sufficiently far apart to prevent overcrowding, giving plenty of air daily, and dewing them overhead each afternoon. The old cut-back plants should be kept close and shaded for a few days, and when they begin to break freely may be partly shaken out of the soil and put into smaller pots, shifting them on as occasion requires, but keeping them close for a time after cutting back. Towards the end of September, the new and old stock should be placed in the greenhouse, and taken to warmer quarters in batches, to hasten flowering, as required. Alfred Neuner is a good double white, and an excellent variety; President Garfield, a beautiful salmon-pink, double-flowered; Vreelandi, white; The Bride, white, blush-tinted; President Cleveland, scarlet, and very free-flowering; Hogarth, Leiantha, and many others.

Bougainvilleas.

These plants, to flower them well, should be pruned somewhat severely every year at this date, or in the case of cutting unusually hard back, in the autumn, and they should be kept moderately dry at the roots till growth recommences, when copious waterings will be necessary. The plants are propagated from cuttings of the young shoots about 3 inches in length, taken with a heel of old wood, and put into small pots containing sandy soil, watered, and when dried somewhat, plunged in bottom-heat of 80° in a close frame. Rooting soon takes place, and when a good number of roots are made, the plants should then be potted, re-potting them when the roots have filled the pots. Whilst growing into specimens a lighter soil should be used than that finally employed for the flowering-pot, or when planting in a border. A sprinkling of bone-meal or Thomson's Vine Manure mixed with the soil, maintains the vigour of the plant, and without strong well-ripened wood, the new shoots are likely to be spindly to produce fine clusters of flowers. *H. Markham.*

SEASONABLE WORK.

The felling of heavy timber and thinning of plantations had better be finished as far as possible before the trees are loaded with sap, and the buds and leaves begin to expand; and as spring is the best time of the year for seasoning all sorts of timber, the different kinds that may be wanted for estate and other purposes should be cut up into boarding, planking, and scantlings of different shapes and sizes, according to demand, and the stuff placed under cover in an open, airy shed, to be seasoned. As insect pests are now beginning to be on the move, and as many of them use trees on the decline for breeding purposes, such trees had better be cut down at once and removed from the plantations; but in cases where the trees cannot be removed at present owing to the press of other urgent spring work, they may be left for the present on the plantation roads; but in all cases Pine trees in particular should have the bark removed to prevent the Pine-beetle and Pine-weevil from using them, as it is always between the wood and bark where these insects deposit their eggs. In places where these insects are plentiful, it is also advisable to scarify the stumps of recently-felled Pine trees, as the weevil (Curculia pini) deposits its eggs in groups at the angular corners of the larger size of surface roots; while the beetle (Hylurgus piniperda) excavates a subcortical tunnel generally along the trunk, and deposits an egg here and there on both sides of the burrow as the work proceeds. This explains the necessity of peeling off the bark to keep these pests within due bounds. In the natural forest, branches and rubbish of all sorts should be collected into heaps on open spaces here and there, and burned; the ashes should then be spread out on the surface, and a mixture of hardy grass-seeds sown on the spot, which, in due course, will afford a welcome bit of grass for the deer and sheep. The best grasses for this purpose, is a mixture of the hardy Fescues, as well as Cocksfoot grass (Dactylis glomerata), and Hair-grass (Aira cæspitosa), both of which form large round-headed tufts, makes excel-

lent covert, and affords a cosy retreat for game to hatch their young under their canopy of pendent foliage. Some plantations are overrun with squirrels, which gnaw and peel the leaders of coniferous trees, but in shooting them, care should be taken not to smash the top of the trees with the shot. Trees that are badly infested with the caterpillar of the Goat-moth (Cossus ligniperda), as well as such as are infested with the caterpillar of the woods, Leopard-moth (Zeuzera æsculi), which may be known by the sawdust-like stuff which they excavate from their burrows, and can be seen resting in the chinks of the bark of the stem as well as on the ground at the base of the stem. As trees of this kind are doomed to make little further progress, and as the wood is of little value, they had better be cut down at once, and either committed to the flames on the spot, or used as firewood elsewhere, with the view of lessening the numbers of the pest, and keeping them within bounds. The short-tailed field-mice (Arvicola agrestis) sometimes does much damage to young coniferous trees, as well as hard-wood trees, by eating the bark around the base of the stem, as well as the surface-roots, but by dressing the wounds with Stockholm tar they generally shift their quarters, and the trees are saved. They are very prolific, and breed from three to six times during a year, and produce from four to eight at a birth. When the woods are well stocked with night-owls, they keep down the numbers of the mice and lessen the risk of damage. If not already done, standard and other trees that have had their tops ruptured by wind during winter, should have their wounds dressed by paring off all splintered wood down to the solid timber and the surface of the wood dressed with a coat of thick paint, the same colour as the bark of the tree, to prevent the ingress of water, and the growth of fungus-spores. Old dilapidated trees that have

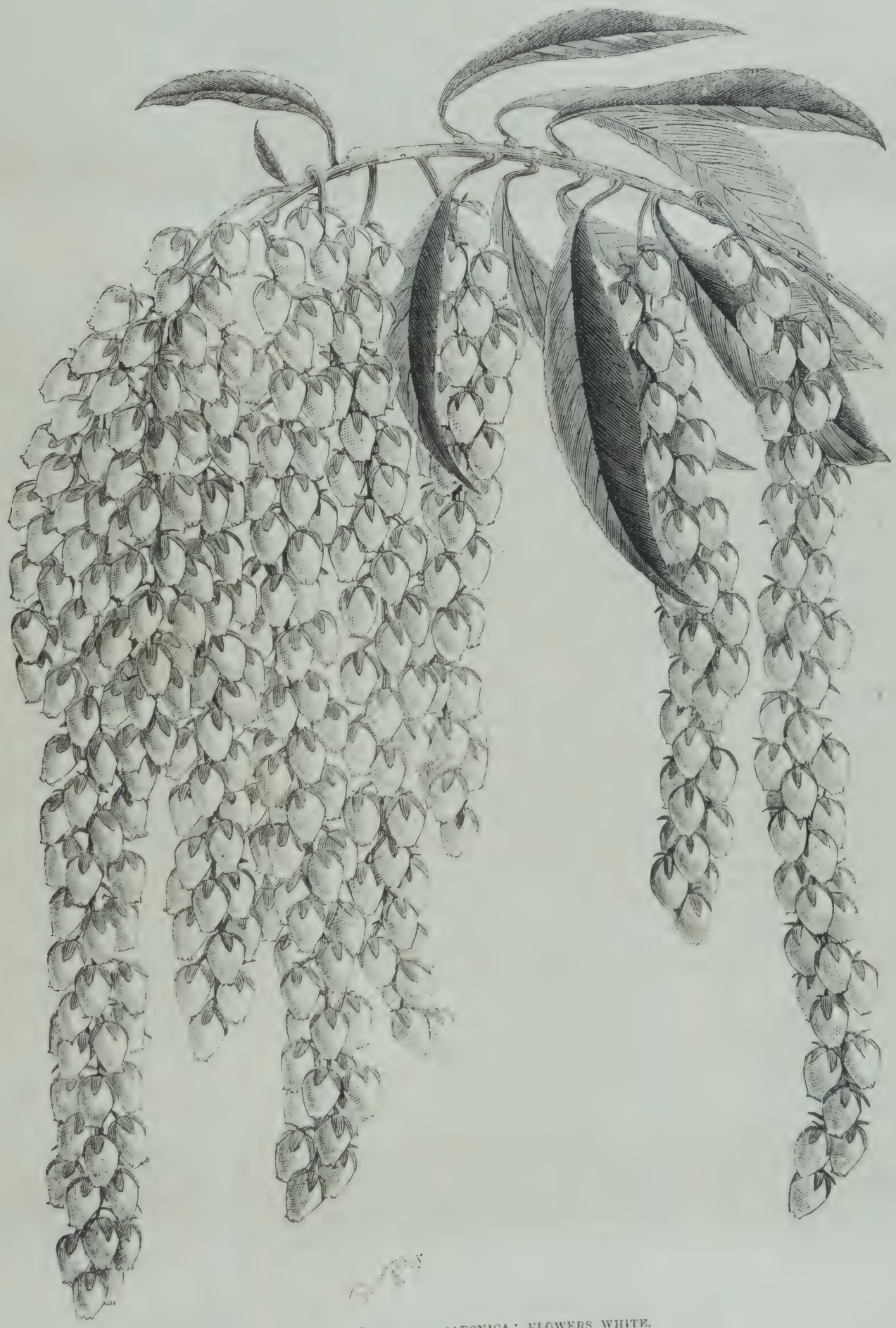

Fig. 46.—Pieris japonica: flowers white.

(See "Floral Committee," in Royal Horticultural Society's Report, p. 335.)

a history should likewise be examined, and all dead and rotten wood removed, and the wounds dressed in the best way that the circumstances of the case may suggest to arrest decay. I may, however, remark that in cases where rotten holes or pockets occur in the trunk, these should be cleaned out, and the place filled up with concrete to prevent the lodgment of water, insects, and fungus spores.

Planting.

The planting of forest and ornamental trees should be finished, if possible, before the buds and leaves begin to expand; but owing to the antiseptic properties of peat-soil, coniferous trees generally give the best results when planted on such a soil in the month of April, as the roots never lie for any length of time in the cold bog until they begin to grow. Standard trees of recent introduction should be examined, and any of them that are showing signs of distress should have a proper restorative applied at once. In cases where the soil has become exhausted, or of a poor thin nature, a top-dressing of well-decomposed farmyard manure will prove beneficial to both hardwooded and coniferous trees, and cannot be too soon applied. Young trees that are pushing up several leaders at the top should have the weakest cut back, or cut off altogether; but trees that are known to bleed after pruning had better be left alone till early autumn. Young trees that were planted in autumn and during winter should be looked over, and any of them that are blown to one side should be set up, and a little fresh soil added, and made firm with the foot. Collars or ligatures that have been placed around the stems of trees at the time of staking and tying, to keep them in position, should be examined, to see that they are not too tight and cutting the bark, and if so, loosen them a little, to allow the stem space to expand during the growing season. Amateurs when planting their gardens and grounds at suburban villas, should take care not to plant trees that will ultimately attain a large size in proximity to their houses, as in course of time their shade will obscure the light to a large extent, give the place a dark gloomy appearance, and, besides, it is objectionable from a sanitary point of view. In planting the trees, break up the soil thoroughly with a pick, and spread out the roots to their full length without crossing each other; cover them with a little fine soil of a loose open texture, and finish by placing the ordinary soil on the top, and making it firm with the foot. Deep planting is not to be commended; the roots should not be deeper than they had previously been when in the nursery. Tying and staking should be attended to when necessary, and in many cases a mulching will prove highly beneficial. *J. B. Webster, Fairview, Stangmore, Dungannon.*

The Week's Work.

FRUITS UNDER GLASS.

By M. Temple, *Carron House, Stirlingshire.*

FRUITING PINES.—Plants on which are ripening fruit should be kept dry at the roots, and syringing entirely dispensed with. Those fruits which are now swelling rapidly will require copious supplies of water. The large amount of sun-heat, and artificial heat by night, will demand closer attention being paid to keeping the pinery moist as well as the soil, especially if the houses are spacious, sprinkling all surfaces several times a day. Shut up the house early in the afternoon, allowing the temperature to rise to 80° to 85°, and permitting the heat to fall to 70° during night. If fruits are coming up, let those plants be kept dry overhead till flowering is past, and afford liquid manure to all well-rooted plants. Peruvian guano is safe manure to use, but it should not be stronger than to slightly colour the water, and this when given often, and weak in preference to stronger applications at longer periods. Uncertain mixtures of liquid manure from the farm and stable yard often do much harm to plants in pots.

SUCCESSION PLANTS.—Recently-potted plants if placed near the glass may require slight shading during the middle of the day, especially if the weather has been dull for some time. Healthy plants should be kept freely growing, and fresh air daily admitted to them to sweeten the house and strengthen growth. Those which are to supply fruit during the early autumn should be kept somewhat dry at the roots, and have all the light that is possible. Queens suit well for this purpose. The night temperature may fall to 65°, or still lower if weather should be dull and cold. If any plants show signs of bad health—as those which have had too much water with absence of bottom-heat during the winter months always do—clear off the roots from the soil, cutting away the base of the roots if decayed, and removing some of the drooping bottom leaves to allow of the emission of fresh roots, and repot in clean well-drained pots, using clean turfy loam, some finely broken charcoal, with a small handful of bonemeal, and the same of soot, if the pot be a 10-inch one. Plunge the plants in a bottom-heat of about 90°, keeping the atmosphere somewhat moist, at a temperature of 75°, or 10° higher with sunheat, till growth becomes active, then ventilate more freely. Treat suckers in a similar way when newly potted, but with an average of 5° lower temperature, and the use of shading if the sun should be bright. Get a good store of loam placed in dry quarters for use next season.

VINES.—Attend closely to former directions, airing early, moistening all surfaces in the vinery freely, and utilising sunheat, which may not rise higher than 85°, allowing a fall to 70° at night, or in severe weather to 65°.

SUCCESSION-HOUSES.—In northern and cold districts especially, all late Vines should now be moving; as those which are to be kept late should have their crop well ripened in September. It is false economy to use fire-heat late in the season when the work of ripening might be finished weeks earlier. With bright sun the Vines now breaking should be freely syringed, allowing the sunheat to raise the warmth at closing time to 75°; the night temperature being kept at 50° to 55°, according as the weather is cold or the reverse.

PEACHES AND NECTARINES, which are swelling their fruit, may have a gradual thinning, allowing the fruit to stand clear of each other. The temperatures till stoning is past should not exceed 60° to 65° at night, and 10° higher with sun.

LATE HOUSES should move slowly. Strawberries must have plenty of air when setting and ripening. Successions may be brought on in frames, they then force readily.

PLANTS UNDER GLASS.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

PALMS.—Amongst the so-called decorative Palms, Kentia Fosteriana and K. Belmoreana keep in good condition in pots longer than all others, and they are quickly brought round again when out of condition. Both are the more useful when growing in 4 and 6-inch pots, they being very suitable for a variety of purposes, in table decoration, filling vases, &c.; whereas those which are grown in 8 and 10-inch pots are good for general decoration. These and other species of Palms which may have been in use a great deal during the past autumn and winter, should have the drainage of the pots put into good condition; repotting may not always be necessary every year. The two species mentioned at the beginning of this article keep the colour of their leaves in the greenhouse or conservatory in the ordinary way, but if the plants are exposed suddenly to frosty air, or even to cold not so low as the freezing-point, say in moving them from place to place, they will turn of a yellow tinge, but which, when placed in a warm temperature, will soon recover. The present is a good time to examine Palms, potting and cleaning, and doing anything that may be required. Some Palms are very liable to be infested with white scale, which may be got rid of by syringing with lemon oil or a preparation of petroleum. They may be rubbed off with the finger and thumb or a damp sponge; but the leaves get less broken if the first-named be employed. After the repotting, place the plants in a warm house, and if no proper Palm-house or stove exists, a vinery at work will serve the purpose. Seaforthia elegans is a Palm that soon turns yellow if exposed to cold, and it is therefore less fit for general use than Kentias. All the Palm tribe delight in a soil in which turfy loam forms the chief part, and this, with the addition of sharp sand, a small quantity of peat and leaf-mould, forms a soil in which any Palm will grow. Latania borbonica, Chamærops excelsa, Corypha australis, and Phœnix reclinata are species that are useful for cool conservatories, but they are not so graceful as some others. Cocos Weddeliana, Areca aurea, and A. lutescens are some of the more useful Palms when young for work demanding tall plants. These require stove-heat to keep them in good condition, and they are the more serviceable if kept in pots of no great size. When these last-named species get leggy, it is best to replace them with seedlings, of which a few should always be growing on.

RHODODENDRONS.—The Indian varieties of greenhouse Rhododendrons that may require to be repotted or trained, should now get attention. The potting soil may consist of fibrous peat of good quality, to which plenty of silver-sand is added. The Countess of Haddington, Edgworthii, and Gibsonii, still hold their own for beauty and fragrance.

GENERAL HINTS.—Bouvardias which may have been kept dry should be watered, syringed daily, and given a little more heat; they will soon afford plenty of blooms. Poinsettias may be cut back and watered, and placed in heat, to encourage growths to form, which may be taken off with a heel if cuttings are wanted. These strike readily in small pots put on or in a hot-bed, or propagating house, affording them shade from bright sunshine. Plants of Euphorbia Jacquiniæflora that have been kept dry at the root should be treated in the same manner, but it strikes readiest from young shoots of 3 or 4 inches in length, taken off with a heel, and the wound allowed to dry, but without allowing the leaves to flag. Plumbago rosea is an excellent pot plant, also when planted out in a bed or border in a not very warm stove it is both ornamental and useful in the winter. Grown in a hot stove, it is a plant that is very subject to thrips, and during spring and summer the warmth of the intermediate-house suffices. It is easily increased by means of cuttings.

THE KITCHEN GARDEN.

By H. C. Prinsep, *Gardener, Buxted Park, Uckfield.*

FRAMES.—Peas and such like vegetables in frames must have much attention. Those which were sown in small pots on turves or in other ways for planting in the open, should have full exposure on fine days, and air should also be admitted to the frames at night in mild weather, which should not be covered at all, unless severe frost threaten at night, as the hardier the plants are cultivated the better will they be enabled to withstand inclement weather after being planted. Those which are intended for bearing in the frames should be carefully ventilated, or mildew will be sure to attack them. It is bad practice to coddle Peas, and on sunny days the plants should be ventilated as much as possible without unduly lowering the temperature of the frames. Cauliflower and Lettuce plants, which may have been protected in frames during the winter, should now be hardened off by removing the lights on mild days.

FRENCH BEANS.—Make another sowing of these, and where no heated pits are available, the seed may be sown on a slight hot-bed, for when the seed has once germinated, there will be enough heat retained by the glass to keep up the requisite warmth (55° to 60°) for the growth of the plants. The frames must be matted at night. Attend to those previously sown, and see that they do not suffer from want of water, or the red-spider will soon make its appearance. Thin out where crowded, and afford bearing plants weak manure-water.

PARSNIPS should now be sown on ground that has been well-prepared. It is a mistake to dig manure into the land if it is likely to interfere with the downward course of the root. No better plot for Parsnips can be found than that on which Celery was planted last season. It should be dug one spit, and the soil finely broken up.

POTATOS.—On light soils, the main crop may shortly be planted; but on cold heavy land, planting will be best deferred for a week or two, especially if the sets have been spread out, so that the growth they make is strong. It is not difficult to get good crops from light land, but some extra pains must be taken if fine samples are to be obtained from soils that are cold, stiff, and retentive. Gardeners know

that in order to secure the heaviest crops of Potatos, the land must be in good heart; all the same, this end must not be sought by affording large quantities of fresh or strawy manure at planting time. If land has been properly tilled, it is not necessary to afford manurial dressing at that time. Our land is heavy, and consequently cold, and I find that the first week in April is the most suitable time to plant. The sets are prepared by being stood with the broad ends upwards in the early part of the winter. The growth made is short and stout, so that they are in a good condition for planting at the time named. I prefer to plant whole sets, of medium size, to cut sets, removing all but two or three of the strongest shoots. Before planting, the ground gets a dressing of nitrate of soda, kainit, or other fertiliser, and when the surface is dry, this is forked into it, and at the same time, the soil is rendered as fine as possible. The plot is then marked out for the rows, the distance between these varied according to the growth of haulm of the variety; Ashleaf, and those of similar tops, 3 feet apart; strong-growing, 6 inches more. Drills are then drawn 2 inches deep, and the sets placed in them from 1 foot apart for small growers, to 1¼ foot for robust ones. The soil between the rows is then drawn over the sets till ridges are formed about 9 inches high. Our object in planting so near the surface is, that the roots may be well up above the ground level, as on heavy land, and the method favours dryness of the soil, and makes the latter warmer. Seasons must be wet indeed if, by such treatment, good results are not obtained. On light, dry soils, it is not necessary to go to all this trouble, as such are worked with more ease, and are naturally dry and warm.

ASPARAGUS.—Where this plant is grown after the French fashion (that is, blanching the growth for the greater part of its length), the soil should now be taken out from the alleys between the beds for the purpose of earthing them up; but before this is done, the whole should have a dressing of salt, superphosphate of lime, and nitrate of soda, as these fertilisers greatly promote growth. From experience, gardeners know that an overdose of these powerful stimulants does more harm than good, so that great care is necessary in the use of them. If half a hundred-weight of each be applied to a quarter of an acre, it should be afforded at two or three times for the plants to derive the greatest benefit from their application. On cold land raised beds are the best for Asparagus; on light dry soils, on the contrary, it is far better to have the beds on the flat. If it be taken into consideration that about nine-tenths of this useful vegetable consists of water, it will at once be seen that unless this be plentifully provided, the crop must be a light one. At the same time, the roots will rot in land containing stagnant moisture.

THE ORCHID HOUSES.

By W. Holmes, *Gardener, Pickering Lodge, Timperley.*

SHOWY DENDROBIUMS.—The following species and hybrids are such as would make a splendid collection, useful either for cut flowers or for decorative purposes generally:—Dendrobium Ainsworthii ×, D. heterocarpum aureum, D. Cassiope ×, D. crassinode, D. c. album, D. Dominianum ×, D. Findleyanum, D. Leechianum, D. moniliforme, D. lituiflorum, D. luteolum, D. nobile, D. n. nobilius ×, D. n. Cooksoni ×, D. n. Sanderianum ×, and numerous varieties of D. nobile, which are all good. D. splendidissimum grandiflorum, the finest of all the Ainsworthii group, should not be omitted. With a good stock of these Dendrobes, flowers can easily be obtained for six months in the year by hastening some and retarding others.

HINTS ON CURRENT OPERATIONS.—The repotting of the Cypripediums should be followed up as fast as may be convenient. These plants are not so impatient as some, as to what and the time they are potted in, provided the plants are in health. The first that I take in hand are C. barbatum, and the group of which it is the type, and the fleshy-rooted species, C. Curtisii, C. Lawrenceanum, C. Veitchii, C. selligerum majus, C. Io, C. Swanianum. I have found that all of these grow best in good peat and sphagnum moss if the plants are raised to some extent above the rim of the pots, not affording them pots that are too large, in fact, confining them to smallish pots. The crocking of the pots should be thorough, say half-full; and the crocks must be clean. C. Druryii does well in sphagnum moss, with but very little peat. This species grows differently to any other, that is, the rhizome from growth to growth is longer, and it soon runs over the rim of the pot; and to get a compact plant in as small pots as possible, the leading growths should be pegged down from time to time until the roots from these fix themselves in the potting materials. These species of Cypripedium will succeed if placed on the north side of the Dendrobium-house; whereas C. Spicerianum, C. insigne, C. Leeanum and its variety superbum; C. Sallierii, C. œnanthum, and C. Harrisianum are equally happy in the intermediate-house. The best compost for these last-named consists of peat, yellow loam, sphagnum moss, silver sand well mixed together, and the plants potted below the rim, as more water is required by these than those having fleshy roots. The watering of Selenipediums, many of which may be in or will shortly flower, should have careful attention, affording them occasionally weak liquid manure when growing freely. Amongst these species and varieties are C. Stonei, C. Ainsworthii ×, C. albo-purpureum ×, C. cardinale ×, one of the very finest; C. Dominianum ×, C. grande, C. Schroderæ ×, C. Sedeni candidulum ×, C. caudatum, C. caudatum Wallisii. These Selenipediums succeed under the same conditions as C. barbatum, i.e., in a shady part of a warm moist house. When in good health, water must be copiously used, and the plants well syringed overhead.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maiden Erlegh, Reading.*

PROTECTING PEAR BLOSSOM.—The trusses of bloom-buds on trees growing on south and west walls being already in an advanced stage, and gardeners having good cause to recollect the destruction to the Pear-bloom by the spell of wintry weather about the middle of April last year, nothing more than a reminder will be necessary to impress upon them the importance of protecting the trees in some of the many methods resorted to. Nothing answers much better as an improvised shelter, than a wide board fixed under the coping, the same as advised for Peach and Apricot trees, from which a double thickness of Strawberry-netting is hung; which, if secured properly, will not require further attention till removed, probably early in the month of May. Where insufficiency of netting will not permit of all the fruit trees being thus protected, the cordon trees, if grown, should certainly be protected from frost. If boards cannot be obtained, poles can be used to keep the netting from the trees, which, after being fastened to tenter-hooks at the top of the wall, should also be tied at the bottom to the poles to keep it taut. The same remarks apply to Plum trees when in bloom.

PREPARING FOR GRAFTING.—With the trees, and more especially Pears in such an advanced stage, those of limited experience in grafting may consider it time to begin the work, and hence my now mentioning the matter. Firstly, I would deprecate undue haste, as at least one more week should elapse before grafting begins, the last week in the month being sufficiently early; and even then, unless the weather is somewhat mild, and in other respects favourable for the work, a commencement is scarcely desirable before the first week in April. In young bushes or pyramids, saw off the branches to within 6 inches of the main stem, and on orchard standards and old trees, saw them off about the same distance beyond the secondary branches, which saves at least a season in the refurnishing of the crown with branches. The Pear being ready for grafting at least a week before the Apple, it should be taken first, the Plum and the Apple following in succession, the last being the Apple.

METHODS OF GRAFTING.—Where the branches which are to be grafted do not exceed three-quarters of an inch in diameter, whip-grafting, as practised in nurseries, is the most common, and gives the best union; but for larger branches, rind grafting, which simply consists in forcing a hard piece of wood (corresponding with the size of the scion) down between the bark and the wood, to receive the scion, which, having had a piece 2 or 3 inches long removed from the side with a sharp knife, is ready to be inserted.

PREPARING THE CLAY.—Where this plan still obtains, take some loamy-clay, which beat up well with a spade to the consistency of dough, removing stones; then take about the same quantity of fresh cow-manure and horse-droppings, rubbing the latter through a half-inch meshed sieve, mixing the whole well together, and keeping it in a shady corner to prevent drying.

GRAFTING-WAX.—This I consider in every respect preferable to clay, being easily applied, and not being unsightly; it also requires no after-attention. Grafting-wax may be obtained from the horticultural sundriesman, or the seedsman. In covering the graft with it, dip the hand in water previous to smoothing it over, in the same way dry wood-ashes are used, to prevent grafting-clay sticking to the hands.

THE FLOWER GARDEN.

By T. H. Crasp, *Gardener, Canford Manor, Wimborne.*

THE LAWN.—If nothing has been done to impoverished turf before this date, there is still time to eradicate unsightly weeds, which now they have begun to grow are easily distinguished. The grass may be greatly renovated and improved in appearance if a top-dressing be afforded of some kind of light rich soil, and if the grass plants are thin, seed of fine grasses may be mixed with or raked into the soil in the proportion of 1 to 2 lb. to one bushel of soil. Most lawns require this kind of treatment each alternate year to keep them in good condition. Where moss infests the turf, much of it may be scratched up with a sharp-toothed iron rake, which if followed with a thorough sweeping with a stiff birch broom, and a dressing of soil and grass seeds, will result in a great improvement being visible the first season. Any re-turfing or levelling remaining to be done should be completed forthwith, otherwise the turves will not have time to get properly settled.

HARDY CLIMBERS.—The pruning of climbers should now be brought to a close, as in many instances growth has begun. Tea Roses, when planted against a wall and liberally manured, make much growth, and it is necessary to thin out that which is weakly, nailing or tying-in the more vigorous shoots at almost full length. Chimonanthus fragrans, Jasminum nudiflorum, or any early-flowering climbers which have gone out of bloom, may be pruned, taking care to lay a good deal of the young wood for producing flowers next season. Wistaria sinensis, Passiflora cœrulea, and its white-flowered variety Constance Elliott, Loniceras of various species, should have weak and lateral shoots spurred in, the leading shoots being fastened in if there is space for extension. The earlier blooming varieties and species of Clematis, which flower on the wood of the previous year, should only have the dead wood taken out at this season, and a little thinning done if crowded. The late-flowering varieties of the Jackmanni type should be pruned back more freely; in fact, it is a good practice every two or three years to cut them back to the ground-line; by such a treatment they form very vigorous shoots from the roots, which cover a great deal more space the same year than the unpruned plants would do in two or three years. Ivy on walls should now have the leaves trimmed off close to the old wood, using hedge-shears for the purpose. It will look unsightly for a time, but the new foliage will soon re-cover the wall, and save further attention being paid to it for the remainder of the year; and not only that, but do away with the nuisance of dead leaves blowing about the place in the summer. Insect chrysalids, &c., get also cleared away with this trimming. Where Ivy is used as an edging plant, the treatment is the same.

HARDY ROCK FERNERY.—Where transplanting or planting are contemplated operations, no delay should occur in making a finish of them. Remove withered fronds and rubbish, and afford a mulching consisting of loam three parts, peat one part, and some sand in addition. This top-dressing will do the plants good, and make the fernery look tidy. The soil should be placed close up to the root-stock or crown, where it will serve as protection from frost.

A Scotch Gardener, balancing the gains made by England and by Scotland respectively of late years, says that Scotland has taken from England bitter beer, Christmas, and Chrysanthemums; and that England has gained from Scotland, whisky, oatmeal, kilts, and bagpipes!

EDITORIAL NOTICES.

Letters for Publication.—*All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* written on one side only of the paper, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to return unused communications, or illustrations, unless by special arrangement.*

Plants, &c., to be Named.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be carefully packed and numbered, and not more than six should be sent at one time.*

Advertisements should be sent to the PUBLISHER.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETING.

SATURDAY Mar. 25—Royal Botanic Society.

SHOWS.

WEDNESDAY, Mar. 22 { Royal Botanic Society's First Spring Show.

THURSDAY Mar. 23 { Paisley Horticultural Society Spring Exhibition (two days).

SATURDAY Mar. 25 { Exhibition of Plants and Flowers at Crystal Palace.

SALES.

MONDAY, Mar. 20 { Roses, Hardy Plants, and Bulbs, at Protheroe & Morris' Rooms.

TUESDAY, Mar. 21 { Japanese and other Lilies, Valottas, Begonias, &c., at Protheroe & Morris' Rooms.

WEDNESDAY, Mar. 22 { Lilies from Japan, Azaleas, Roses, &c., at Protheroe & Morris' Rooms.

THURSDAY, Mar. 23 { Clearance Sale of Stove and Greenhouse Plants, Pitcher Plants, Orchids, &c., at Albert House, Margate, by Protheroe & Morris. Plants and Bulbs at Protheroe & Morris' Rooms.

FRIDAY, Mar. 24 { Picotees, Carnations, Pæonies, Phlox, Pyrethrums, &c., at Protheroe & Morris' Rooms. Orchids from F. Sander & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—43°.5.

Town Fog.

The second report on this subject, presented to the Scientific Committee of the Royal Horticultural Society by Professor F. W. Oliver, on Tuesday last, is a document of very great interest. We must await its publication in the *Journal* of the Society for the full appreciation of its details. In the meantime, we may say that the author, acting in concert with Dr. Bailey, of Manchester, has pursued the subject in a thoroughly scientific spirit, carrying observation of facts and phenomena as far as his limitations would permit, and then proceeding to investigate the matter further by actual experiment with the deposit itself, and with several of its constituents when isolated.

In this way, the Professor gives details of the chemical analyses of the sooty deposit on the glass and on the foliage, which is so striking a feature of town fog, and then proceeds to give an outline sketch of the effects of fog as observed at Kew, at Chelsea, and elsewhere. Country fogs, uncontaminated with smoke, are quite harmless to vegetation. He distinguishes between those cases in which the leaves become disfigured, but do not immediately or speedily fall, and those in which in addition to the discoloration, there is also speedy disarticulation. The first class of cases are probably the result of the contact of an acid, such as sulphuric acid, with the upper surface of the leaf. Metallic iron (a known constituent of fogs), similarly corrodes the tissues from above downwards.

In the second class of cases, the fog and its noxious vapours not only attack the surface which is protected by cuticle, but they penetrate the interior of the leaf by means of the pores or stomates, and thus come into contact with the delicate and unprotected tissues in the interior, and injure or destroy them. Concurrently with these effects, a removal of the starch from the tissues of the leaves is invariably noticed. Transpiration or the giving off of watery vapour from the plant is also observed to be checked by the presence of small quantities of sulphurous acid gas, so that the plant becomes, so to speak, dropsical.

One very important section of Professor Oliver's report has reference to the varying results exerted by fog on different plants. Ferns, for instance, do not suffer much; nor, speaking generally, do Monocotyledons (including Orchids, Crinums, Palms, &c.). It is among the dicotyledonous stove plants that the greatest amount of damage is done. Speaking generally, the Professor considers Ferns and Monocotyledons as specially shade-loving—or, at least, shade-enduring plants. Our own impression is, that the amount of injury inflicted on the foliage may be more particularly dependent upon the anatomical structure of the leaf. If, for instance, there is a thick cuticle—an underlying layer of water-containing cells, as in many Orchids—or a a double or triple layer of palisade-cells; or if the structure of the two sides of the leaf be approximately uniform, as it is in many Monocotyledons, then leaves so constructed are better equipped to resist injurious agencies, whether of shade or vapour, than are the leaves of other plants less favourably endowed.

Having set forth the usual constituents of fog, and their general effect upon the tissues of the leaves, the Professor proceeds to give an account of the experiments he has made with the isolated ingredients of the fog. Of these, the most interesting are those made on the action of "pyridine." Pyridine is one of many tarry substances derived from the decomposition of coal. It is very volatile, and when its vapour was allowed to come into contact with the surface of leaves, the same effects were produced as are noted in the case of fog. It is thus shown that sulphurous vapours are by no means the only injurious ingredients of the fogs of London or Manchester, but that the "tarry products" are injurious in a high degree.

Besides discussing the directly injurious effects of poisonous vapours, Prof. F. Oliver goes on to discuss the general lowering of tone in the plant, consequent on prolonged absence of sunlight in the winter months, and shows how this diminished vitality renders the injury from fog proportionately greater than it otherwise would be. It is on account of the non-liability of Ferns to this lowering of tone (they being "shade plants") that—in the opinion of the author—this group is able to resist the toxic action of fog, notwithstanding the fact that, mechanically, they are but little protected.

Having dealt with the action of fog upon the foliage, the author next considers its influence upon flowers, showing the changes that take place in the appearance of the flower and in its internal organisation. It is curious to note that while the flowers of Angræcum sesquipedale suffer severely, both in the bud state and when expanded, the flowers of A. hyaloides and A. citratum have always passed through fog uninjured. Other white flowers which remain uninjured are Primulas, Cyclamens, and Chrysanthemums. These variations may be due to differences in structure analogous to those we have pointed out in the leaves, but more probably to differences in their chemical constituents.

In considering remedial measures, Professor Oliver considers the two prominent factors of diminished light and of contaminated air. Diminished light might be remedied by the adoption of the electric light. There is no question that this would be a real remedy, but the objection at present is the cost. Nevertheless, we must recall the fact that some of our American cousins who are at least as good business men as we are, find that it pays to use the electric light in winter in the culture of forced vegetables for market. We have no doubt that in the no very distant future the progressive market gardener will find it to his advantage to use the very potent aid that electricity affords.

As to contaminated air, Professor Oliver details certain methods by means of which the air admitted to houses may be purified, as by filtering it through canvas, or allowing it to pass over charcoal. Mr. Toope's system of ensuring a current of cleansed air through the house is mentioned in terms of approval.

Lastly, the Professor touches upon the cultural precautions to be adopted in foggy weather—these are reducible mainly to lowering the temperature as far as is consistent with safety, and to the maintenance of a sufficiently moist atmosphere. With reference to this matter, the great object, it appears to us, is to keep the plant as much at rest as it is possible to do. The working power of the plant is obstructed and rendered difficult by circumstances. Meet the case by not allowing the plant to attempt to work more than can be avoided. Concurrently with diminished light and contaminated air, which are unavoidable, subject the plant to diminished heat, and (short of dryness) to a diminished moisture, and to a quiet still atmosphere—in a word, carry out the general principle of adapting the plant, so far as circumstances permit, to the conditions under which it is placed.

We are promised in the future a very detailed report or monograph illustrated from the large series of drawings made by the author and his able assistants, Miss Ewart, and Professor Weiss. It is very desirable that the experience of those who have to grow plants in foggy localities near London or our great manufacturing towns should be made known. It would form a valuable adjunct to Professor Oliver's paper. There is in any case ample evidence to show that this report will eventually be of great public benefit, even as already it redounds to the credit of the Professor and of the society under whose auspices these elaborate investigations have so far been carried out.

Blackmoor House.—The illustration given on p. 329, affords a view of the flower garden at Blackmoor, the comparatively new residence of Lord Selborne. The land now forming the gardens and pleasure grounds formed at one time a part of or adjoined the dreary waste of Blackmoor common, which itself is an outlying portion of Woolmer Forest, whose dark looking Fir plantations covering Weaver Downs are seen to the eastward. A more unpromising site for a garden could hardly be found; yet, by a judicious expenditure of labour, and choice of suitable trees and shrubs, a most enjoyable place has literally been created out of waste. We have received the following particulars concerning the gardens from the pen of Mr. Kirk, the present gardener to Lord Selborne:—Along the south front of the house is a broad gravel path of considerable length, from which one looks down off the top terrace on to the two star-shaped

beds, around each of which are eight smaller ones. These are filled in summer with bright-coloured flowers suitable to the design. The parterre is reached by a flight of stone steps from the broad walk above-mentioned. In spring the beds are filled with bulbs, Silene pendula, Collinsia, Limnanthes, Myosotis, Wallflowers, and other plants. Adjoining these on the upper terrace are two fine old Oaks, which form a pleasant retreat from the sun. The larger flower garden is reached by another flight of stone steps, and consists of about forty large beds, which when seen from the terrace have a fine effect. Some of the beds are filled with Ghent Azaleas, which as well as being so lovely when in bloom, are very showy late in the autumn with their many-coloured foliage. There are besides these four beds of Aucubas, and some good specimens of Cupressus erecta viridis dotted about amongst the beds. Near the walk some Yews are planted; in the centre is a large Rhododendron bed, amongst which four years ago bulbs of Lilium auratum were planted. To the right of the upper terrace, looking across the lawn, is a piece of water with a rustic bridge, come into view, and around the water large clumps of Rhododendrons are planted. A spacious herbaceous border forms part of the furnishing of the garden, and the collection of hardy plants is an excellent one. At the back of this border is a hedge of Arbor-vitæ, dividing it from the Park. In another part are beds of Roses arranged in radial fashion. Roses do not flourish in the light sandy soil, but by using plenty of farmyard-manure and heavy loam brought from a distance, a rich harvest of excellent bloom is obtained. The kitchen garden is enclosed by walls, and here the various glasshouses are placed. Outside the walls is a rockery, about 40 yards long, which, although made and planted only last spring, is now nearly covered with the various species of Sedum, Saxifrage, Aubrietia, Sempervivum, Anemone, dwarf Phlox, Thyme, Cyclamen, and many others. Much effective planting has been done in and about the gardens, and Conifers have been prodigally used as hedges, screens, in masses, and as solitary specimens. Sequoia, Cryptomeria, Cedrus, Abies, Picea, and other species are growing into fine stuff in the light sandy soil. The total area of the garden measures about 16 acres.

Fig. 47.—THE GARDENS AT BLACKMOOR HOUSE, SEAT OF THE RIGHT HON. LORD SELBORNE. (SEE P. 328)

THE ROYAL GARDENERS' ORPHAN FUND.—We are informed by Mr. A. F. Barron, the honorary secretary of the above, that by request of the chairman, Baron Ferdinand de Rothschild, M.P., the annual dinner of the Royal Gardeners' Orphan Fund, arranged for March 22, is postponed to Wednesday, April 26.

SUMMER SCHOOL OF ART AND SCIENCE.—The Edinburgh summer meeting for the promotion of vacation studies is to extend from July 31 to August 26. The general scheme may be illustrated by the following extract from the programme:—

Starting from the familiar idea of working from the concrete to the abstract, from the senses towards the intellect, it is attempted in each subject of study (1) to freshen the student's mind by a wealth of impressions; (2) to introduce him to the advancing literature of the subject; (3) to supply him with the means of summarising, arranging, and more clearly thinking out these accumulations of observation and reading. Hence (1) the insistance upon demonstrations, experiment, and field excursions; (2) the introduction in several subjects of the Seminar, which, with its guidance to the world of books and activity in using them, is so marked a strength of the German University; (3) the extended use of graphic methods.

The student, though first of all freshened as an observer, is regarded not as a receptacle for information, but as a possible producer of independent thought. Hence the examination method, everywhere falling into such merited disrepute, is here definitely abandoned; a keener stimulus, even a more satisfactory test of progress, being found in accustoming the student to take part in his own education, by attention—first to the increase and systematisation of his materials, next to the occasional contributions of his best results, to the common stock of class notes and summaries, and thence to fuller collaboration with his teacher.

We have no space to enter into details of the whole scheme, but we may extract those particulars most interesting to our readers:—

III. Biology.—Twenty lectures—fifteen by Mr. J. Arthur Thomson, M.A., Lecturer on Zoology and on Biology in the School of Medicine, Edinburgh; and five by Mr. Norman Wyld, Assistant Lecturer on Biology, University College, Bristol. 11—12 daily Class Assistant, Mr. G. H. Barker.

First Fortnight. — "Bionomics." 1. Relations between Organisms and Inorganic Nature; 2. Relations between Plants and Animals; 3. Relations between Plants and Plants; 4. Relations between Animals and Animals; 5. Man's Place in Nature.

Second Fortnight.—"Evolution." 1. Evidences of Evolution; 2. History of Ætiology; 3. Heredity, or the Relation between Generations; 4. Primary, or Originative Factors in Evolution; 5. Secondary, or Directive Factors in Evolution.

IV. Practical Botany.—Twenty lessons, in great part in the field, by Mr. Robert Turnbull, B.Sc., Lecturer on Agricultural Botany to the County Council of Aberdeen. 2—4 daily.

V. Practical Zoology.—Twenty Lessons, mostly at Granton Marine Station, by Mr. J. Arthur Thomson, assisted by Miss Marion Newbigin. 2–4 daily.

VI. Field Geology.—Ten lessons on Field Geology, by Mr. Norman Wyld. 2—4 daily during first fortnight.

Cash on Delivery.—A petition to the Postmaster-General is in course of preparation, setting forth—

"That in the interests of British commerce it is desirable to introduce the 'Cash on Delivery' system into the General Post Office.

"That such a system is successfully working in the British Colonies, and in almost every European country.

"That it would be equally a boon to the public as the trader, and a protection to both against fraud.

(*a.*)—To the public because under the system they need not pay for goods until actually delivered.

(*b*).—To the trader because the cash value for his goods would be insured.

"That the fact that the parcel delivery companies have worked the system successfully and profitably proves that the superior and wider reaching machinery of the General Post Office may be employed in the same direction with at least equal success.

"That the introduction of the 'C. O. D.' post would give an enormous impetus to commerce generally, and that no opportunity of promoting the interests of trade throughout the country should be lost by the Post Office, especially when at the same time it is likely to be productive of profit to the department."

The Secretaries to the movement are Messrs. Warden & Wood, offices of the *Gentlewoman*, Arundel Street, London, W.C.

Guild of Kew Gardeners.—We are requested to draw attention to the notice of the above society, which appeared in our columns a few weeks ago. All old Kewites, who have not yet sent in their names and addresses for publication in the Guild's *Journal*, should do so without delay.

Fruit Growers' Association.—A general meeting of the subscribers will be held shortly to determine the course of procedure to be adopted in the present state of the Association. The main point to be discussed is, whether the Association shall be dissolved, or whether in view of the work already done and the field still before it, its operations shall be continued.

Earl's Court Exhibition, 1893.—At a representative meeting of horticulturists, held at the Hotel Windsor, Mr. H. E. Milner in the chair, and among those present being Mr. William Paul of Waltham Cross, Mr. G. Francis Rivers of Sawbridgeworth, Mr. G. Cheal of Crawley, Mr. H. G. Cutbush, Mr. John Laing, Mr. Harry Turner of Slough, and several others. The chairman gave a brief programme for the Exhibition of Gardening and Forestry to be held at Earl's Court this year, which, especially as regards the forestry section—at present the most advanced—is being most cordially supported by the Woods and Forest Department and the Agents-General for the Colonies, also the leading landed proprietors. Mr. Milner stated that the Exhibition was promoted by private enterprise, at the same time he saw no reason why practical and scientific horticulture and forestry should not be advanced by this year's Exhibition—and, in fact, it was mainly with this object in view that he was induced to take the prominent position he had; and he hoped that those present, and all horticulturists, would give him their support, not only in their own interests, but also for the benefit of the general public. Mr. George Cadell had undertaken the charge of the forestry department, and in his capable hands he was sure that that section would be well represented. With regard to horticulture, it is proposed to hold a series of flower shows fortnightly, commencing on May 13 until the end of September, under canvas this year, and efforts will be made to make the display, as far as possible, continuous in the intervals between the fortnightly shows. In the grounds it is proposed to demonstrate the planting of woods for cover and shelter, &c., suitable for the four main classes of soil, specimen of timber and ornamental trees, especially those usually classed as pictorial trees. It is also proposed that this section, which will doubtless prove of great interest to landed proprietors, managers of forests, &c., be further supplemented by a series of representations of the best evergreen, deciduous trees and shrubs, suitable for London and town gardens, and other features likely to be of value from an educational point of view. Very liberal prizes will be offered in the competitive classes at the fortnightly shows; and with regard to extraneous exhibits, it is proposed that the award shall take the form of Silver Cups or Silver Plate, instead of Medals—but a Gold Medal of higher value will be awarded to exhibits of superlative merit. The proposals set forth by Mr. Milner were heartily supported by Mr. William Paul and others, in consideration of the able and satisfactory manner in which the International Horticultural Exhibition of last year was conducted by Mr. Milner. A small committee was then formed to draw up the schedule and carry out the details. H.M. Commissioner of Woods and Forests, the Trustees of the British Museum, the Director of the Science Division, and the Keeper of Zoology, South Kensington. The Deputy Surveyors of the New Forest and Dean Forest, &c., have already promised their valuable aid and exhibits; while under the kind permission of the Science and Art Department, a collection of woods from Japan—a country which possesses the most remarkable variety of flora in the world—will be shown.

The United Horticultural Provident and Benefit Society.—The annual meeting of this useful Society took place on the 13th inst., at the Caledonian Hotel, Adelphi. Mr. G. J. Ingram presiding, supported by the trustees, and a large number of members. The annual report, read by the Secretary, was of a remarkably satisfactory character; the chief points being emphasised by the Chairman in moving its adoption, who said that in looking through the rules he was struck with the advantages offered to the members by the Society over those of other benefit societies. In the first place, in addition to being a benefit society, it was also a savings bank, interest being added to each member's deposit; and the deductions under the rules were very slight indeed. The Benevolent Fund supplied a distinct advantage over other societies, as by it the Society was able to assist distressed members, and in the event of their death assistance could be rendered to the widow and orphan children. Then there was the Convalescent Fund, the subscriptions to which were voluntary, any member could contribute to it or decline to do so; and out of which a sick member could be granted a sum to enable him to go away for a beneficial change when recovering from an illness. In the face of such advantages, he wondered so few gardeners were associated with the Society as members, and he thought it must be because the Society was so little known. The growth of the membership during the past ten years had been remarkable, though the numbers were limited. In 1882 there were 104 members only; in January, 1892, the number had risen to 442, and now it was 474, though he thought it should be several times that number. In 1882 the income of the Society was £243 6*s.* 8*d.*; in 1891, £1037 5*s.*; at the close of the financial year, 1893, £1228, including a donation of £100 from Mr. and Mrs. Harry J. Veitch on the celebration of their silver wedding. Not less remarkable had been the growth of the investments of the Society. In 1882, the total amount invested was £2488. In 1891 this amount had been increased to £6700, and at the present time it was £7700, £1000 having been added during the past year. In conclusion, the Chairman earnestly advised the members to make the Society known in their several localities, and thus secure a substantial increase in their numbers. The financial statement made by the Treasurer, Mr. J. Hudson, showed that contributions from life members amounted to £63; from ordinary members, £857 14*s.* 5*d.* From Mr. and Mrs. H. J. Veitch, £100, which was carried to the convalescent fund; and dividends on investments, £207 10*s.* 5*d.* On the other side, sick pay has amounted to £88 12*s.* 8*d.*; £32 5*s* 11*d.* had been paid to the representatives of deceased members; management expenses and Secretary's salary had amounted to £62 6*s.* 9*d*, and £1000 worth of Stock had been purchased at a cost of £981 3*s.* 6*d.*, leaving a balance of £173 12*s.* 9*d.* to be carried forward to 1893. The motion for the adoption of the report and financial statement was carried by acclamation. Messrs. Cole, Peerless, and Kelk were re-elected members of the committee, and Mr. A. Hemsley, in the place of Mr. Dickens, retired. The Trustees and Secretary were re-elected, and hearty votes of thanks given to them for past services. The Treasurer and auditors were also thanked; the former, in responding, said eleven new members had been elected that evening. The proceedings closed with a cordial vote of thanks to Mr. Ingram for presiding.

A Public Park at Johannesburg, Transvaal.—Our esteemed correspondent, Mr. R. W. Adlam, in a note accompanying a communication on South African plants, writes:—"I have just been appointed to an important post in this town, viz., Superintendent of Public Parks and Street Planting. I have just now a big job on hand in laying out Joubert's Park, an area of 17 acres, from an architect's, not a landscape gardener's plan. My scheme is this. First a hedge of Cupressus macrocarpa planted right round next to the boundary fence, then a mixed shelter-belt inside this, consisting of Eucalyptus robusta, E. globulus, Pinus insignis, Casuarina tenuissima, Acacia dealbata and melanoxylon. The principal avenues are to be planted with English Oak, Eucalyptus robusta, Planes and Tulip trees. There will be beds of flowers, groups of flowering shrubs, ponds for Nymphæas and Nelumbiums, a rockery and fernery, a rosery, and a collection of native plants arranged in Natural Orders. Lawns and specimen trees are a *sine quâ non*." If Mr. Adlam carries out his ideas of making use throughout of the more suitable native and Australian trees, shrubs, and flowers, to the exclusion generally of others, and at the same time he is enabled to make a large and extensive collection of South African, or merely native plants arranged in their Natural Orders, he will have rendered good service to the inhabitants of the Transvaal in general, and Johannesburgians in particular. We would venture to exclude even English Oak from the planting, if only because of its slow growth. We shall return to the subject of Johannesburg and its gardens, and horticulture generally thereabouts, in an early issue.

Flowers, &c, in Hyde Park.—Large breadths of pretty colour are afforded by Crocuses and Snowdrops, &c., in some parts of this park. Patches of Winter Aconites, with their dark green foliage and yellow blossoms, harmonise with the lighter green of the turf. The mild weather that prevailed last week has brought out the bloom of the Almonds amazingly. Rooks' nests are again being built in increasing numbers in the Elm trees on the west of the Broad Walk in Kensington Gardens at the rear of the Orangery; and there is every prospect of a colony of rooks taking up their abode once more. There have only been a few stray nests since the old Elms were felled in which these birds used to nest.

Jean Chauré.—We regret to hear of the death of M. Jean Eugène Chauré, who died on the 1st inst., in his seventy-second year. Originally a nurseryman at Vitry, he devoted much time and skill to the propagation of new plants and the raising of hybrids, and took much interest in all questions relating to horticulture, and in 1877 founded the *Moniteur d'Horticulture*, a fortnightly

journal devoted to the diffusion of horticultural knowledge. At Parc Saint Maur he established an experimental garden, at which he gave occasional lectures and demonstrations.

NEW YORK BOTANIC GARDEN.—According to the *New York Tribune*, Mr. J. PIERPOINT MORGAN has practically obtained the 250,000 dols. required to start the garden. Seven cont ibutors had already given 25,000 dols. each, and it is expected that other three contributors of the like amount will speedily be found. This money will, it is estimated, secure 250 acres of land for the purpose, but a million dollars will be required to defray the cost of buildings and installation.

THE HORTICULTURAL COLLEGE, SWANLEY, KENT.—On Thursday, March 2, a meeting of the Experiments Committee, in connection with the Kent County Council, was held at the Horticultural College, Swanley. Specimens of Black Currant buds attacked by mites, and branches of Gooseberry bushes attacked by scale, were examined by a lens and microscope. Professor CHESHIRE explained the life-history of the scale. Spraying with either Paris Green or London Purple was recommended as a remedy. It was decided to spray one of the plantations with Paris Green, and the other with London Purple, to destroy the insects. At the next meeting, March 16, an account of the Cucumber disease due to the presence of eel-worms is to be given.

PLANTING AT BARRY LINKS.—We learn from the *Scotsman* of the 4th inst., that the War Office has decided to plant with forest trees a portion of the Links at Barry, so as to provide increased shelter for the military encampments there. They have entrusted Messrs. METHVEN & SONS, nurserymen to the Queen, Edinburgh, with the carrying out of this important work.

DR. JUSTUS KARL HASSKARL, the veteran Cinchona pioneer, who is now living at Cleve, in Germany, has been awarded a Gold Medal by the Dutch Government, in acknowledgment of the gift of his herbarium to Leyden University, says the *Chemist and Druggist*. The herbarium consists of over 20,000 botanical specimens, mostly collected by the donor, and arranged by him. Dr. HASSKARL has also presented to the same university his valuable collection of Cinchona specimens.

PAVING BLOCKS OF COIR.—Coir or Cocoa-nut fibre is compressed into blocks with the fibres arranged vertically. The fibres or blocks may be steeped in or treated with tar, pitch, resin, creosote, or with a solution of india-rubber or gutta-percha. Brick-dust or fine sand may be mixed with the tar, and the blocks may be bound round by bands. Mr. J. HART-DAVIES, 186, Fleet Street, London. (J. MCDONNELL, Chilaw, Ceylon). *Patent Journal*, December 14, 1892.

DIOSCOREA IN THE CAUCASUS.—When a species of Dioscorea was found in the Pyrenees, the fact excited much interest among plant-geographers, and this will be accentuated by the discovery of another species in the Caucasus. D. caucasica is described by our correspondent, Dr. ALBOFF in the *Acta Hort. Petropolitana* for January as occurring in the fissures of calcareous rocks in Abchasia. It is said to resemble D. villosa of JACQUIN in the creeping rootstock and foliage, but differs materially in floral details. The genus is essentially tropical and subtropical in its distribution, but these outlying species will give rise to much speculation as to how and why.

FIG. 48.—PRITCHARDIA VUYLSTEKEANA. (SEE P. 332)

BINGHAM GARDEN AND ALLOTMENT HOLDERS ASSOCIATION.—In connection with this society, a lecture was delivered on Wednesday, March 8, by M. S. THACKER, of Nottingham, on "Grafting, Planting, and Pruning of Fruit Trees." There was a large and appreciative audience. The lecturer did not confine himself to only lecturing, but also by means of diagrams and trees, showed the right way of pruning, grafting, &c. A discussion followed the lecture.

LABELS.—Mr. MAX LEICHTLIN has sent us samples of labels, made according to his directions, and some of which were distributed among the members of the Royal Horticultural Society on Tuesday last. They are made, some of toughened glass, others of porcelain with one surface slightly roughened, so that it can readily be written on by a moderately-hard pencil. The inscription on the glass labels can easily be effaced by moisture, that on the porcelain may be removed by the use of sand-paper, or a little sand. The cost for labels (each about 7½ inches long by 1¼ inch wide) is at the rate of £1 per 100. They are clean serviceable labels, specially adapted for indoor use, and though not quite unbreakable, yet resist considerable force. Some have been sent by us to Chiswick and to Kew, as well as to private growers, so that they may be tested in use.

ROYAL HORTICULTURAL SOCIETY'S EXAMINATION IN HORTICULTURE.—As affording intending candidates some notion of the subjects in which they will probably be examined, we give the questions which were put to those who attended the first examination, that of 1892, it being understood that the candidates had received instruction in the subjects to which the questions refer:—

EIGHT QUESTIONS ONLY TO BE ANSWERED.
ANY EIGHT THE CANDIDATE PREFERS.

1. What constituents do plants obtain from the soil, and how do they obtain them?
2. Explain the benefits to be derived from draining, digging, and trenching the soil.
3. What differences exist in the cultivation of green crops, and of root crops respectively? What kind of manure is suitable in each case?
4. What advantages are derived from dressing the land with lime, and how ought it to be applied? For what purpose is gas lime of value?
5. What is the most appropriate season to apply nitrate of soda to crops? And state the reasons for the choice.
6. For what objects is pruning resorted to? Why is summer pinching in some cases preferable to pruning?
7. Name some fruit-bearing trees and bushes which bear on the old, and some which produce fruit on the new wood, and state what modifications are consequently required in the method of pruning.
8. What methods would you adopt to get rid of (*a*) annual weeds, (*b*) perennial weeds?
9. Give a brief sketch of the life history of the winter moth, and state what measures are most likely to be effectual in keeping it in check.
10. Name some other insect pests affecting fruit trees, and indicate methods of destroying them.
11. In what ways does the Potato and Tomato-fungus (Peronospora) do harm to the Potato, and to the Tomato respectively?
12. How may ravages of the Potato-fungus (Peronospora) be kept in check?

EIGHT QUESTIONS ONLY TO BE ANSWERED.
ANY EIGHT THE CANDIDATE PREFERS.

1. What are the characteristics of good garden soil, and what steps should be taken to improve a soil that is too light, and one that is too stiff?
2. Point out the advantages of deep cultivation, and describe the proper method of trenching the ground.
3. Describe the best methods of cultivating Potatos to obtain an early and late supply under varying conditions of soil and position.
4. What is the most suitable time for sowing seeds of green crops (Cabbages and the like)? Give a brief outline of the principal points to be observed in their culture.
5. Describe briefly the methods of propagating Gooseberries, Currants, Raspberries, and Strawberries.
6. What are the conditions requisite for the success of grafting and budding? State the best time of year for performing those operations.
7. Name some of the trees and shrubs that are propagated by budding and by grafting respectively, and state why those operations are performed.
8. What are the objects sought to be obtained by earthing-up Potatos, Celery, Peas, and Cabbages?
9. What special effects are produced on plants by nitrogenous manures, whether of animal or vegetable origin?
10. To what crops, and at what season, may superphosphate of lime be employed with advantage?
11. How are weeds injurious, and why are some more so than others?
12. What methods should be employed to destroy weeds?
13. What are the principal insect enemies of the Apple and state briefly the best methods of dealing with them?
14. What are the most common enemies of Cabbages, Turnips, and Celery, and how may they best be combated?
15. Which parts of a flower are essential, and which accessory?
16. What steps would you take to prevent fertilisation through the agency of insects, so as to keep a particular stock "true?"

Crystal Palace.—The Queen having decided to open the Imperial Institute on May 10, the date fixed for the grand summer show at the Crystal Palace, the directors have, in consequence, decided to hold the exhibition on May 11 and 12.

PLANT PORTRAITS.

Agave Victoria Regina, *Illust. Monatshefte*, January, t. 1.

Aster roseus, *Revue de l'Horticulture Belge*, March 1.—A form of A. Novæ Angliæ.

Azalea indica Marie Thérèse, *Revue de l'Horticulture Belge*, March.—White, deeply flushed and striped with rose.

Bilbergia Bruanti, *Gardeners' Magazine*, Feb. 25.

Calamus robustus, Lind. et Rodigas, *Illustration Horticole*, t. 169.—A Bornean species of compact and vigorous habit; petioles with rings of spines at intervals, leaves oblong, pinnate, with numerous linear, dark green segments.

Calochortus Kennedyi.—A brilliant scarlet-flowered species, hardy at Kew, *Garden*, February 11.

Cattleya labiata, *Reichenbachia*, t. 49.

Dendrobium (hybridum) Cassiope, *Reichenbachia*, t. 51.

Dendrobium (hybridum) Venus, *Reichenbachia*, t. 50.

Odontoglossum ramosissimum, Lind., var. cœleste, Lind. et Rodigas.—A variety with the sepals and petals blotched with violet.

Solanum jasminoides, *Revue de l'Horticulture Belge*, March.

GARDEN PALMS.

(*Continued from p.* 260.)

Podococcus Barteri, *Mann and Wendl.*

This is a monotypic genus, related to Wallichia, which it resembles in the wedge shape of its leaflets. It was discovered by Mann and Barter in swampy places at the mouth of the Gaboon, and several other rivers on the west coast of Africa. For its introduction we are indebted to Herr Wendland, who has had it in cultivation at Herrenhausen some years, and who presented two little plants of it to Kew in 1887. Seeds of it were collected by Mr. H. H. Johnston, and sent to Kew in 1886, but they failed to germinate. In a letter to the Director, Mr. Johnston gave the following account of his discovery of this Palm:—

"One day, when taking a walk in the vicinity of Brass (a sandy island in the Niger delta, facing the sea, and differing from the neighbouring swamps in being firm land covered with lofty trees), I saw growing a Palm that was quite new to me as an African species. It is rather low-growing, and the fronds are strangely Fern-like. The flowers grow on a long whip-like spike, which ceases to be erect when the fruit is mature; it then droops downwards. The fruit resembles in look a small Date, and gives forth a strong honey-like smell, so strong, indeed, that the presence of the Palm may be suspected long before it is seen."

There is a full description and figure of this Palm in the *Linnean Transactions*, vol. xxiv., p. 426, by Wendland, who states that Podococcus is distinguished from all other genera by its pedicellate ovary, and by its fruit, which when mature stands at almost right angles with the pedicel. It grows to a height of from 5 to 8 feet, the stem slender, Bamboo-like, with suckers at the base, and with six to nine leaves forming a graceful loose head; each leaf is about 5 feet long, with eight or ten glaucous green leaflets, which are elongate eliptical, plicate, the largest a foot by 4 inches, the margins jagged and toothed. The spadix is unbranched, slender, and 2½ feet long, the fruit ¾ inch long, yellow when ripe. They are peculiar in having a short curved stalk.

The young plants at Kew are healthy, but they grow very slowly, and sucker very freely, although kept in a hot moist house. They are quite distinct from all other Palms.

Pritchardia, *Wendl. and Seem.*

This genus was founded by Wendland and Seemann upon a Palm discovered by the latter in Fiji in 1860, and named in honour of W. T. Pritchard, Esq., H.B.M. Consul in Fiji at that time. It was figured and described in *Flora Vitiensis* under the name of P. pacifica. When full grown, it is said to have a trunk about 30 feet high, smooth, straight, and 1 foot in diameter at the base. It bears a crown of about twenty leaves, which are quite spineless, soft in texture, like some of the Carludovicas, with fibrous fluffy petioles, and broad fan-shaped blades, which, when young, are covered with whitish down; the largest leaves are from 5 to 6 feet in diameter. The flowers are borne on erect brush-like spadices, which are exposed, owing to the early decay of the spadix. The fruit is round, ½ inch in diameter, cherry-like, black-purple when ripe. The pericarp is thin, not fibrous, but brittle and easily broken; the seed is round, not unlike that of Sabal, with a smooth brown surface and milk-white albumen. Seemann introduced this species by means of seeds, which, he says, "germinate freely, and out of a handful thrown carelessly into a Wardian case in Fiji, more than thirty had begun to grow when they reached New South Wales, where they were taken care of in the botanic garden, and duly distributed among the various establishments forming collections of rare and beautiful Palms." Three of these seedlings were received at Kew in 1864, and what I take to be one of them in the Palm-house has now a stout stem about 10 feet high, with a grand head of very large, noble, leaves. There is a still taller example in the botanic garden at Leiden, measuring 25 feet high, including the leaves. It appears to have become plentiful soon after its introduction, for we find it in several of the nursery catalogues before 1870, in which year Messrs. J. Veitch & Sons exhibited a fine specimen of it before the Linnean Society. The genus has been monographed by Beccari in *Malesia*, vol. iii. (1890), according to whom there are nine good species, all natives of small islands in the South Pacific. Six of these are in cultivation, beside two others supposed to belong to this genus, and named P. aurea and P. borneensis, both Lindenian introductions. The species resemble one another very closely in general characters, but differ in inflorescence, and especially in the size and form of the fruits, which in P. Gaudichandii are as large as Walnuts, whilst in P. Thurstonii they are smaller than Peas. The leaves of P. pacifica appear to be the largest. P. Thurstonii was introduced to Kew from Fiji in 1883, and named in compliment to its discoverer, the present Governor of Fiji, Sir John B. Thurston, one of the most active of Kew colonial correspondents. It has the habit of P. pacifica, from which it differs by its long slender flower-stalks, which are like long fishing-rods, bearing a thyrse-like inflorescence at the extremity. It is figured and described at length by Drude, in *Gartenflora*, 1887. The species appear to seed freely; the seeds are easily imported, and germinate readily, and the plants grow quickly and healthily in an ordinary stove. B. Gaudichaudii and P. Martii were in cultivation before 1874. P. Pericularum and P. Vuylstekeana (fig. 48), were introduced by Vuylsteke, of Ghent, who exhibited them as new plants at the Quinquennial Exhibition held in 1883. They are said to be from one of the Pomotu Islands, which is, or was, uninhabited, and had never previously been visited by Europeans.

The name Pritchardia has also been used for a Californian genus of Palms now known as Washingtonia, and also for two species of Licuala, viz., L. grandis and L. Veitchii. True Pritchardias have no spines, their leaves are exceptionally soft and pliant, and they differ from all other fan-leaved Palms in the form of the blade, which is cuneate in outline. The seedling leaves are undivided. Cultivated species:—

P. aurea, Hort. Linden (1882).
P. borneensis, Hort. Linden (1891).
P. Gaudichaudii, Wendl., syn. P. macrocarpa, Lind. Sandwich Islands.
P. Martii, Wendl. Sandwich Islands.
P. pacifica, Wendl. and Seem. Fiji.
P. Pericularum, Wendl. Pomotu Islands.
P. Thurstoni, Drude. Fiji.
P. Vuylstekeana, Wendl. Pomotu Islands.

W. Watson.

KEW NOTES.

The Forsythias.—Amongst March-flowering shrubs the Forsythias are of importance, F. suspensa in particular, as this is of freer growth than F. viridissima. Both kinds resemble each other except in habit, the flowers of the richest yellow, and produced in great profusion. Whilst F. suspensa can be grown as a climber against a wall, F. viridissima is decidedly a shrub, the shoots quite erect and stiff, and smothered with bloom in early spring. It should be planted in every large garden where good shrubs are appreciated for its early flowering, as in March trees still bear a wintry aspect. At Kew a very interesting bed near the Succulent-house is composed entirely of F. suspensa. The plants are only a few feet in height, but the shoots are trained across the bed, and some hang down gracefully, presenting a mass of yellow flowers at this season, quite one of the brightest effects it is possible to get in early March. The soil for Forsythias should be fairly light, and although they are perfectly hardy, it is well to give slight shelter from cold winds. The more useful and beautiful of the two is F. suspensa.

Rhododendron Thomsoni.

This beautiful species, introduced from Sikkim about the year 1851, is flowering freely at Kew. It is quite safe to plant it in the open, if the situation is sheltered, and is grown in the Royal Gardens in the dell, also in a specially-prepared bed of peaty soil, which has the shelter of adjacent plant-houses. The flowers are deep crimson, campanulate, and borne from 6 to 8 together in a head, the leaves abundant, deep green, and in rich contrast. When in full bloom, a well-grown specimen is remarkably handsome, the flowers so rich and distinct in colour. R. Thomsoni is uncommon in gardens, but there is a fine specimen in the interesting garden of The Denbies at Dorking. It is grown there in one of the highest spots, 610 feet above the sea-level, but the plant is in the centre of a group of Rhododendrons, and thus protected from cold easterly winds and late frosts, which injure the flowers. It is quite necessary to give shelter of this character.

Narcissus at Kew.

All who are interested in Narcissi should visit the Royal Gardens, Kew, at intervals during the ensuing weeks, as a complete collection is grown and planted in a pleasing way. The bulbs have made rapid growth during the past few days, and the earlier flowering forms are commencing to bloom. Narcissus pallidus præcox is planted largely in the grass on the mound near the Cumberland Gate entrance, and the flowers make a sheet of soft colour, to be followed later on with other kinds, the season ending with the forms of N. poeticus. Visitors to Kew appear most interested in this garden of Narcissi, for such it may be called, and the bulbs have become thoroughly naturalised. The early-flowering kinds should always have as much shelter as possible, owing to keen easterly winds which prevail when they are in full beauty. An east wind dries up the segments, and the flowers lose freshness and character. Since the new entrance from the rockery to the herbaceous garden has been made, this portion of the grounds is most visited, as it is now more accessible. This fine old wall clothed with rare climbers is of interest, and also the broad border in front, filled with a collection of Narcissi, each section grouped by itself, and every species and variety represented by a large clump. This border of Narcissi is one of the most interesting and pleasing spots in the Royal Gardens during the spring months. On the rockery N. minor, N. minimus, and N. cyclamineus are in full bloom. N. minor will succeed in a more exposed position than the others, and is a charming form, the flowers

small, but produced very freely, and of a rich yellow colour. A good spot for N. minimus is at the base of a wall, in fairly moist soil, away from cold winds; it is a little gem, not more than 4 inches in height, and very free. N. cyclamineus and its var. major, which has larger flowers than the type, should be grown in quite a moist place, even quite boggy soil. It is found in Spain growing by the side of streams. Many who have this Narcissus in their collections, fail to grow it well, through not planting the bulbs in a boggy soil, and in a position sheltered from cold easterly winds. It is so distinct and attractive that it repays for good cultivation. *V.*

Home Correspondence.

THE PRESERVATION OF BROCCOLI.—I see "X." draws attention to the plan of covering the ground about the plants during the winter with strawy litter. My experience of it is, that it does no good whatever, because it is just at the base of the leaves where the frost affects the plants. It is not possible to cover vulnerable parts of the plants so effectually as to exclude frost entirely. If the mulch is high enough when put on, the rains force it down, and it leaves the tenderer part exposed to frost. Another objection I have to mulching, on strong land especially, is that moisture is kept in the soil, which remains always wet. These conditions cannot be favourable to the preservation of Broccoli. The important point to observe is to select only hardy varieties, sow early, and give the plants plenty of space, so that they can mature their growth, thus rendering the stems less susceptible to frost. If these points are observed and acted upon, and they are really the chief, there need be little fear of Broccoli plants receiving serious injury, in the open fields at any rate. *S.* [In the south. Ed.]

HARDY BROCCOLI.—I am rather interested in my beds of Broccoli this year after the hard weather, and am very pleased to find two varieties have stood the test of severe frost well, as not two per cent. have succumbed. These two varieties are Veitch's Model and Leamington. In the case of four other varieties, quite two-thirds have perished. The reason for the immunity from loss of the first two is their dwarf stature; thus, the stems were better protected by the leaves, whereas those that perished were very tall. I should like to know if Veitch's Model and Leamington are naturally dwarf kinds, as I have never grown them before. *A. Long, Wyfold Court, near Reading.*

GROS COLMAR GRAPE.—Differing as I do with "J. S." in the matter of pruning, it may be of interest to readers of the *Gardeners' Chronicle* to be told that all cutting back is done by me to one bud. For this, I have many reasons, and the chief one is the production of a regular and profitable crop of Grapes year by year with the least possible risk. I am not going into the merits of the long-rod method at this time, but will confine my few remarks to my own practice. Pruning year by year to one eye, we find that when the Vines break there is generally another bud showing at the base, and frequently this is the one that is left for fruiting, and, of course this tends to keep the spur short. To my mind, it is not so much winter pruning that is the cause of success; but rather the continuous attention to stopping, &c., of the previous summer's shoots, the bunches being then formed in the dormant bud; and be they large or small, we cannot alter them much by what is done in the spring, beyond encouraging a regular break in the Vine. That it is a fact Gros Colmar is not hurt by close pruning and summer pinching; and another is, that we get plenty of fibrous roots nearer the surface than is usual with the long-rod method; although possibly larger bunches may be taken from long rods, as one can also do by leaving two or three eyes at pruning; but never do these bunches fill up and make such useful ones as when grown on a close-cut spur. *Stephen Castle, Fordingbridge.*

GARDEN LABELS.—Your correspondent speaking of these, March 4, p. 265, says that, "what we want is a clean label of a light colour, not likely to get smashed by rough treatment, holding the writing well and of a material that can be written with a pencil. The great drawback to the use of zinc is that the writing must be effected by a special ink, and that it never looks clean." What he says about wooden labels I do not question, but I think that with regard to zinc very different views on several points are held, at which I will briefly glance. His communication further tells us that he has produced a label that he thinks comes nearer to perfection than any label hitherto produced. This is rather a big statement, and must imply that he is acquainted with the vast variety of labels now in use, and presumably those in use in this country. From my own experience with a vast number of correspondents, chiefly lovers of open air flower gardening, many of whom have improvised capital labels of a more or less imperishable character, I should be inclined to believe that hardly any man can know the nature and capabilities of the vast number of ingeniously-made labels at present in use out-of-doors. I have seen so many of these with my friends that I might almost have formed a museum collection of them, so that I think he is a bold man who will say that he has beaten the record. Far be it for me to deny that he has done so, but I cannot resist a suspicion that he may be in error when his communication finishes up with these words respecting the labels he has produced, viz.:—"For indoor use, for pot-plants or Orchids, they are unsurpassed." I hardly need say that for these special uses we have a dozen or more labels already that fully answer the conditions required of a label as by him specified. It is the outdoor label that is the puzzle. If he has a label that will keep clean, that will last for a lifetime, carry a name distinctly, written with a pencil (presumably a lead-pencil), such as a gardener carries in his pocket, he doubtless has a label worthy of favourable consideration. I have been at label-making for my own use for at least twenty years, for open-air purposes exclusively. It is well-known that imperishable labels can be produced, and hitherto I believe that all have been made of metal, either wholly lead, zinc, or iron. Zinc has the advantage over iron and lead, from the fact that it may receive the name intended by the writing process, whereas lead and iron require to have the name either stamped or cast. I am well aware of the drawback in connection with zinc, from giving off a lime-like exudation, but it may not be generally known, that if the better brands of zinc are employed, the exudation is only of a temporary character. After a few days in the ground in wet weather, they may seem as if they had been dipped in a box of chalk, but if they are wiped over, the whiteness is easily removed, and so far as my experience goes, though the zinc has a somewhat duller appearance than when new, it continues to be of a sober tone, displaying well the black characters done by metallic ink, chiefly of platinum in solution of proper strength. Your correspondent's statement that the label should be of a light colour is open to question; anyhow, it is a question of taste, and I find most of my friends prefer a quiet-looking tally, and even then many prefer to place the label behind rather than in front of the plant. As to the convenience or otherwise of writing zinc labels for out-of-doors, if the materials are kept handy, they may be written almost as quickly as wooden labels, and when we reflect that they last so much longer, I think a little extra pains should not be grudged. For instance, I have scores of zinc labels that were put in the ground sixteen years ago that can be quite clearly read to-day. How many wooden labels should I have had to write in that time for the one and the same plant so long and faithfully represented by one zinc label? In this view the inconvenience and time expended are against the hastily-written wooden tallies. I must urge that unless your correspondent's label has capabilities for open air use, such as firmness in the ground, resistance of frost action, indelibility of the pencil writing against snow water, which is very different to rain, and many other minor qualities not essential for indoor labels, may not be giving us, as he says he is, a more perfect label than any hitherto produced. *J. Wood, Woodville, Kirkstall.*

GOLD FISH.—In some pools of water existing in brickfields in this neighbourhood, some of them deep, a number of gold fish are to be found, which are of a crossed type, for scarcely any are of a golden colour at first, this tint only showing when the fish are about 2 to 3 inches long, and many always remain of a brown colour. I have, at various times, put some of these small fish into the vinery and Peach-house tanks, and in nearly every case the fishes have changed in colour after being in the tanks for a few months. Some of them have lived and thriven for as long as eight years, but in no case have they multiplied. The tanks are 5 feet deep, 7 feet long, and 4 feet wide. They have a 3-inch hot-water pipe running around the sides, at 2 feet from the bottom, which is heated according to requirements. Sometimes the water above the pipes registers 90°, whilst below them it is 30° lower than this. The fish have therefore a choice of highly-warmed and nearly cold water. When the rain water in the tanks is exhausted, the water from a deep well in the chalk is used. The fish do not seem to mind the change, and the well water is very cold as it enters the tank. The fish are never fed. *E. M., Hants.*

ANEMONE BLANDA.—A charming early spring flower is A. blanda. It varies from purest white to shades of blue, the centre sometimes white—a delicate contrast; whilst flowers may be picked out almost double. The white variety is beautiful; but by far the best is the deep blue form, as the colour is rich, decided, and not washed out. It is interesting to note that the deeper-coloured kinds are less vigorous in growth than the paler varieties. Not only does this Anemone vary in colour, but also in the size and shape of the flowers, and continues in bloom over a long season, lasting until A. apennina flowers, some weeks later. In mild weather, its buds expand even at Christmas. A. blanda is a plant for all good rockeries, and is very hardy and vigorous in growth. *V. C.*

VIOLET, KING OF VIOLETS.—Finding the above-named Violet proved so much hardier than Marie Louise and Comte Brazza, I have worked up a stock of it, and find that by planting in a cold frame it forms a succession to those varieties. In the open the plant stands severe weather, and flowers freely, whereas the other varieties planted alongside have been ruined by the frost. The colour of the King is indigo-blue, and the flowers are very double, and the growth of the plant is dwarf; consequently it may be planted closer together than Marie Louise and other larger growers. I used to plant Violets in all vacant spaces at the foot of walls, but after so frequently losing so many from the frost, I find it better to plant on the borders in the width of the garden, and use frame-lights in bad weather to protect them. *J. H.*

BRITISH AND AMERICAN APPLES.—I note Mr. Evans' reply on above matter. Impossible! No such sudden fall took place in Apple values. Common sense must tell him there is certainly a blunder on some one's part. "December 3: Blenheim and Cox's Orange, 5*s.* 6*d.* per bushel," and "December 9, same sample, 2*s.* 6*d.*, 3*s.*" If Mr. Evans sent his Apples in half bushels, the latter price would be correct, and, I submit, if in bushels, the error is the salesman's, or his clerk's. Individual errors are always possible, but such violent fluctuations in December as recorded for Apples (after being harvested), I have never known during my thirty-five years' experience. Mr. Evans, or the buyer, was sadly taken in, by paying 40*s.* per barrel for Americans, "small size, spotted, and very inferior quality." The whole English growth of Cox's Orange and Blenheims would not nearly be sufficient for one week's supply, and to say it is a fact that one pound of home-grown Apples equals three pounds of imported is a matter that the public disputes. If Mr. Evans depends upon a large and continuous supply by grafting old trees, it is a fair indication that he is not alive to the requirements of the times; not only is he likely to have different kinds in one orchard, but may get them on each tree. All gardeners should know that a tree fifteen years old is in its prime, and should produce fine fruit; but I question if anyone would suggest the bare possibility that it could continue to produce "fine fruit" for fifty years after. Had my theory been adopted soon enough in the past, there would have been no necessity for remarks of this nature now, the result (not "disastrous") would have made us masters of the situation, and all comers could then have been defied. I still say Tasmanian imports need cause no alarm; the 5*s.* per case cost of transit is sufficient to confirm my views; and if, in addition, the cost of the case, paper for each Apple, labour of packing, and value of fruit, besides rail charges to Hobart, are considered, he will, no doubt, accept my statement of 8*s.* as well under the mark for placing them on this market. French supplies had to make way for American (better fruit), at less money; hence the decline in French exports. I did not say English fruit can be seen in many shops displayed in American packages. Mr. Evans will find, on perusal, that my letter stated

"English produce in foreign packages," and as I was then referring to Sir W. Hart Dyke's intended Bill to regulate the sale of foreign produce, I do not quite see why he should assume I referred to Apples. *J. B. Thomas.*

THE WINDSOR BEAN.—I have just received a retail seed catalogue, which gives an engraving of the Harlington Windsor, which is generally acknowledged to be our best type, and the pod contains six Beans! and a curious fact about the picture is, that the Beans actually overlap each other as they lay in the pod, which is most unnatural, and actually opposed to fact. Previous to this, I had seen in a catalogue a pod of a Windsor Bean represented as containing four Beans, which is decidedly unusual. Where the artist got his model pod from is not stated, but he probably evolved it from his own consciousness. But is it not a bit misleading on the part of catalogue-makers to put such pictures in their lists. If any one were to buy of this firm a quart of Harlington Windsor Beans, in the belief that they would get six Beans in a pod, they would be greatly disappointed. Extra good cultivation will sometimes give three Beans in a pod, and occasionally four; but it is a question of selected stocks and high culture. In the case of ordinary garden culture two rather than three in a pod usually holds good. Pictorial representations in catalogues should be a fair representation of the type, and not a fanciful one. *Faba.*

HARDINESS OF EUCALYPTUS GLOBULUS.—The only plant of Eucalyptus globulus I have seen that has stood our winter so far north, is one at Balruddery, near Dundee, the residence of J. M. White, Esq. I believe it was planted twelve years ago, and has never had any protection, beyond being slightly sheltered from the north by a lofty conservatory which it stands near; but unfortunately the winter of 1891–92 proved too severe, as it lost 4 feet of its top. Still, a fine stem of 20 feet remains uninjured, and girths about 18 inches 3 feet from the ground. A fine crop of shoots, 2 to 3 feet long, were thrown out all down the stem last summer, and these have only lost the tips, after being exposed to 23° of frost this winter. *A Ingram, Clapton Nursery, N.E.*

PLUMBAGO CAPENSIS.—I was glad to observe in your issue of the 11th ult. information by two correspondents, in response to "W. D.'s" enquiry, anent this plant as a bedder. As, however, your correspondents' description of the use of this species of Plumbago somewhat differs to that practised for such a long period at Wilton House, Salisbury, as indicated by "W. D.," also that I happen to be the member of the Birmingham Gardeners' Association, permit me to correct a slight mis-statement by "W. D.," and of which, I fear, I was inadvertently the cause. I intended to state the fact that Calceolaria amplexicaulis had been used elsewhere, instead of at Wilton, in connection with the Plumbago, and where, as far as I am cognisant, the latter has always been bedded out in two large beds set apart for it, and without any accompaniment save the light brown stone edging to the beds. When in charge of the flower garden there, upwards of thirty years ago, I used to peg the Plumbago down close to the soil, and spring-struck, as well as old-established plants, bloomed freely alike; and the effect may be more easily imagined than described, when I state that in due course the sheet of the lovely light blue flowers was so perfect, that it was difficult to insert one's hand without touching them. Since then, for several years in succession, when residing in south Warwickshire, I used it with very good effect (though, owing to climatal conditions, not so successfully as at Wilton), and it was there that I employed it in conjunction with divers combinations, the Calceolaria amplexicaulis in question being one of them, mixed, or otherwise. One of the most effective combinations, however, was a mass of the Plumbago margined with either a pale pink Pelargonium or Verbena, and an edging of the chaste and elegant Polemonium cœruleum variegatum, or with the latter alone. Another pleasing effect, on the famous "shot silk" style (Verbena venosa and Mangle's variegated Pelargonium mixed) of good old Donald Beaton, was produced by Plumbago and Mangles' Pelargonium intermixed, the light pink loose trusses of the latter consorting admirably with those of the former. Some years ago I observed this Plumbago used with good effect in Battersea Park. The wonder is that such an easily-managed plant is not universally adopted for the purpose indicated in suitable positions, and it requires no more trouble to winter it than the ordinary bedding plants. As a parallel to the long-continued particular adoption of the Plumbago for such a lengthened period, it may be interesting to add, is to be found, I believe, at Penrhyn Castle, North Wales, in the shape of Rollisson's Purple Unique Pelargonium, and where it has been used as a bedder for upwards of thirty years regularly. It was, however, introduced into the flower garden there upwards of forty years ago, in conjunction with one or two other hybrids of that section, and of which I have a distinct recollection, having been in charge of that department myself, when "trying my 'prentice hand" under the late Mr. John Burn. So many "good things" having cropped up in my memory in connection with the flower garden of yore, must be the apology of my excuse for having thus far intrenched upon your valuable space. *Apropos* of the foregoing notes in connection with the Wilton flower garden, I have thought that it might be interesting to add that there are two paintings by Mr. Philip Burne-Jones on exhibition at the present time in the New Gallery, representative of the Italian Flower Garden, and a small full-length portrait of the Countess of Pembroke upon the steps of the famous Palladian Bridge at Wilton House. *William Gardiner, Harborne, Birmingham.*

FOOTPATHS IN PLEASURE-GROUNDS.—These should surely diverge as much as possible at right angles; in fact, there should be very few exceptions. The acute angle provokes short cuts over what is not intended to be trodden upon. *Will Tayler.* [We do not consider it is fair to criticise a simple ground-plan of a garden or park without having seen the ground and noted its contour, the position of objects, such as trees, shrubs, masses of rock, and others, which may have to remain; and also being made acquainted with the conditions imposed on the landscape gardener by his employer. Ed]

THE MIDDLEMAN.—Without doubt, the very best middleman is the grower himself. Nine-tenths of those who grow largely for market sale, and reside within 20 miles of London, do their own selling in the market. If they did not, very many could not make both ends meet. But then the smaller growers cannot afford to run up to market several times a week and occupy a stand, because their bulks are not of sufficient dimensions to make it pay. Hence, they are compelled to utilise the middleman; and perhaps it is fair to retort on the part of myriads of this class of growers, to Mr. Whitehead Cousins, that they, too, complain bitterly very often, of the difficulty experienced in getting empties returned. It is rather odd to find that the very people who call so earnestly for small holdings and *la petite culture* are those who so strongly denounce the middleman; yet no system of small holdings for fruit, flower, and vegetable culture, can be made at all profitable without his aid. It would be just as reasonable to expect that our town trader could send his goods to customers in all directions without the aid of the carrier, as that the quantities of produce, no matter what, raised on small holdings, could reach consumers without the aid of collectors or middlemen. That is the practice which prevails in France, a vast country of small producers, and they, though only by very hard labour, find it to pay. With respect to existent middlemen, I have inquired of scores of producers for market, both private gardeners, myriads of whom now grow to that end, and of *bonâ fide* market growers, who send to Covent Garden, what are their returns, and they almost always seemed satisfied, expressing the highest confidence in their salesmen. What is the use of falling foul of what is, in these days, an indispensable institution? *A. D.*

NURSERY NOTES.

HARDY FLOWERS AT MESSRS. BARR & SONS, LONG DITTON.

The few days of sunshine in mid-February "brought on" some of the hardy flowers here. The Narcissus, for which the firm is justly famous, are necessarily represented by pale smiles at present. The earliest and smallest of the Narcissi, N. minimus, was noticeable on a recent call, with its rich full yellow flowers. It is excellent for edgings, for rockeries, and pot-culture. That pretty Daffodil, N. cyclamineus, was just beginning to unfold its flowers. Crocuses were to be noticed in great variety. Cyclamen Coum arrested attention with its dark-based bright crimson flowers. Other noteworthy subjects were noted in the beautiful novelty Iris Bakeriana, a lovely and striking species, flowers resembling in form those of I. reticulata; Standard, sky-blue, falls white, blotched, and spotted dark violet. The flower possesses the recommendation of being fragrant. Two other good Irises in flower worthy of note are:—Iris reticulata Krelagei, red-purple, blotched golden-yellow—very fragrant; and I. sophenensis, introduced from Asia Minor; this is a variety of I. reticulata, the flowers of a reddish-purple colour, the falls marked with a yellow line down the centre. It revels in a light spot, where the soil is sandy, and the position sheltered. An interesting variety. The flowers, however, are not so fragrant as those of the type.

The Hellebores were out in full beauty. Chief amongst them were H. punctatus, purple, spotted with a darker colour; and many forms of H. orientalis. These hardy winter-flowering plants are covered with blossoms at a period of the year when plants in flower outdoors are rare. They resist the frost well, their flowers rising fresh and fair after even quite sharp frosts. As flowers for cut purposes, they are specially valuable at this season of the yea , these being well preserved if actually immersed in the water directly they begin to droop.

A fine new rockery is being constructed here under the direction of Mr. W. Barr, who has the management of this branch establishment. This rockery, when finished and planted, will add new interest and variety to this excellent store place of hardy garden plants. *J. B.*

Plants in Flower at Messrs. Backhouse,'s, York.

Perhaps the following remarks and notes of plants in bloom will be of interest to your readers. Owing to February being mild, the number of plants in flower is unusually large; and I have before me a list of them which I will enumerate in the order of their flowering. The first to make its appearance was the Winter Aconite, Eranthis hyemalis, in the last week in January, and it is still in flower. It was followed by Iris Bakeriana, a fine addition to spring-flowering bulbs, and of easy culture; Bulbocodium vernum, or Spring Colchicum, with its purple-lilac flowers, forms quite a mass of pretty colour; Colchicum luteum, with golden Crocus-like flowers; Leucojum vernum, L. carpaticum, Spring Snowflakes. The latter Leucojum differs only from L. vernum in the petals having yellow tips. Then came Galanthus Elwesii, G. plicatus, G. Fosteri, which differs from the others in having broad, deep green leaves, which contrast well with the large white flowers on established plants. The curious Sharlocki should not be omitted, nor Chionodoxa Luciliæ and C. Sardensis, which are both beautiful just now. Chionodoxa Sardensis is a plant of late introduction, and has flowers of much deeper shade of blue than in C. Luciliæ. Anemone blanda and A. blanda alba are just appearing; also Morisia hypogæa, a plant introduced a year or two ago, and as yet little known. Of all the early alpines this is the most beautiful, beginning to flower in January and continuing until May; the little buds which are formed at the axils of each leaf, opening their beautiful golden yellow cardamine-like flowers with the first rays of sunshine. The flowers stand upright, and about 2 inches above the foliage, which lies close to the ground, and resemble a much divided Blechnum spicant frond. Narcissus minimus and N. cylamineus are effective just new. The Crocus family are all beautiful, and I will just mention a few of the best. Crocus alatavicus is the first to open, followed by C. speciosus, C. nudiflorus, C. Aucheri, C. Imperatonius, C. annus? golden-yellow; C. Weldeni, pure white; C. chrysanthus, chocolate and purple; C. leucostigma, lilac-purple, very free; C. lævigatus, violet; C. vernus Leedsii, chocolate and white; and C. Boryanus. The above species of Crocus succeed in light sandy soil. Scilla bifolia,

Hyacinthus azureus, Muscari pallens, Sisyrinchium grandiflorum, and S. grandiflorum var. album, may be seen to perfection at the present time.

Some of the Saxifrages are worthy of note, S. Burseriana multifida being the first to open its blossoms, to be followed by S. Frederici Augusti, sometimes called luteo-purpurea, with its heads of pale primrose-yellow flowers borne upright on stems 3 inches high, with four or five flowers in a head; S. sancta, a very compact-growing plant, with heads of deep orange-yellow flowers; S. Burseriana major, S. B. grandiflora, and S. oppositifolia section are all effective species; S. oppositifolia pyrenaica rubra, varying in colour from deep rose to pure white, being the best. The above are well adapted for the rockery or border, and are hardy.

All of the Hepaticas are fully out now. H. angulosa and its varieties, which vary in colour from delicate soft rose to deep blue; it grows well in either shade or full sunshine. The Hepaticas benefit much if top-dressed with good fresh soil, the plants growing upwards in time, and getting out of the ground.

Helleborus orientalis in variety are effective plants, which range in colour from deep red to pure white—well adapted for growing under trees. Sanguinaria canadensis grandiflora is now showing its buds above-ground, and in a few days it will be like a sheet of snow. Primula marginata and its varieties are very fine, with their lavender-blue flowers contrasting with their beautiful foliage. Primula purpurea, P. minima, Cyclamen Coum, C. vernum, and Fritillaria tristis are all but out. *W. A. C.*

SOCIETIES.

ROYAL HORTICULTURAL.

March 14.—The show on Tuesday last at the Drill Hall, James Street, Westminster, was an exceptionally fine one. Exhibits were so numerous it was with difficulty that they were accommodated, and their general character and quality left little to be desired. Before the lecture by Professor Henslow in the afternoon, sixty new members were admitted to the Society, making a total of upwards of 100 since the beginning of February.

Floral Committee.

Present: W. Marshall, Esq., in the chair, and Messrs. C. T. Druery, H. B. May, R. Dean, C. F. Bause, G. Gordon, R. B. Lowe, C. Jefferies, W. C. Leach, J. Jennings, C. E. Pearson, W. Furze, W. Bain, C. J. Salter, E. Mawley, C. E. Shea, J. D. Pawle, H. H. D'Ombrain, H. Herbst, G. Stevens, J. Watkins, J. B. Pcë, T. Baines, H. Turner, P. Barr, R. Owen, J. Fraser, and J. H. Fitt.

There were many groups of plants in flower, and amongst these was a fine collection of hard-wooded plants exhibited by Messrs. Hugh Low & Co., Bush Hill Park Nurseries, Enfield. Included were Pimelea spectabilis, Boronias megastigma and elatior, Chorozema Lowii, Tremandra ericifolia hirsuta, several varieties of Epacris, Eriostemon linearifolium and E. scabra, Acacia rotundifolia, A. Drummondii, and A. cordata, Darwinia tulipfera, Hibbertia Reedii, &c. All the plants were in good condition.

Messrs. Wm. Cutbush & Son, Highgate, London, N., had a large group of miscellaneous plants, including many of the plants contained in the above collection. Some very well-flowered specimens of Erica Wilmoreana, and some plants of the beautiful Begonia Gloire de Sceaux, were notable, and there were also to be seen some Azaleas, a few Caladiums, Pernettyas in variety, and some plants of the Otaheite Orange in fruit. An interesting group, consisting of sprays of hardy trees and shrubs, inasmuch as they indicate what are at present in bloom in the Royal Gardens, Kew, was sent by the Director of those gardens. They were: Acer rubrum, A. neapolitanum, Amygdalus communis, A. persicoides, Berberis japonica, Cassandra calyculata, Daphne Mezereum, D. m. var. album, Dirca palustris, Erica carnea, E. c. var. alba, Pieris japonica (see fig. 46, p. 325), P. floribunda Forsythia suspensa, Lonicera Standishii, Nuttallia cerasiformis, Parrottia persica (fig. 49), Prunus cerasiformis var. Pissardii, P. divaricata, Pyrus japonica, Ribes sanguineum, R. s. var. glutinosa, Salix caprea × silesiaca, S. cinerea, S. mollissima, Rhododendron altaclerense ×, R. fulgens; R. Nobleanum ×, R. præcox ×, R. Thomsonii, Ribes spectabile, Amygdalus persicoides.

Messrs. Jno. Laing & Son, Forest Hill, sent a group of greenhouse plants, including some Cliveias, Acacias, Ferns, Dracænas, Orchids, &c.

Messrs. J. James & Son, Woodside, Farnham Royal, Slough, had a group of Cinerarias in bloom. The plants were dwarf, and the flowers large and

Fig. 49.—Parrottia persica.

brilliant, which qualities always attend specimens from this establishment.

A group of Dracænas, Caladiums, Lily of the Valley, &c., came from Messrs. E. D. Shuttleworth & Co., Limited, Peckham Rye, and Fleet, Hants, as did also some fine Narcissus blooms, including N. Telamonius plenus, N. Sir Watkin, N. Emperor, N. Nelsonii major, N. maximus, N. rugilobus, N. bicolor Horsfieldii, N. poeticus ornatus, N. Empress, &c. Some Iris reticulata purpurea, Primula marginata, and the delicate-looking Anemone pulsatilla, were included.

Mr. T. S. Ware, Hale Farm Nursery, Tottenham, staged a good collection of hardy flowers, consisting for the most part of Narcissus, that included N. princeps, N. maximus, N. poeticus ornatus, N. Leedsii Circe, N. incomparabilis aurantius, fl.-pl., N. odorus major, &c. Besides these were Iris persica, Fritillaria aurea, Erythronium purpureum, the pretty little Primula marginata, P. verticillata, P. Clusiana, P. glaucescens, Scilla bifolia alba, and many others.

Mr. W. R. Newport, The Model Nursery, Hillingdon Heath, Uxbridge, W., brought a good batch of single Primulas, model white. The habit was good, and the blooms of fair size. Cyclamens were from Mr. J. Odell, Gould's Green, Hillingdon, who had a large number of well-flowered, good habited corms—Crimson Queen, Giant White, Snowflake, and C. Rosetta, are good varieties in the respective colours.

Messrs. Paul & Son, Cheshunt, in a collection of herbaceous plants (Silver Banksian Medal), included the following:—Hepatica triloba, H. t. rubra and H. t. alba, Saxifraga Boydi alba, S. Burseriana hybrida, S. oppositifolia major, Sisyrinchium grandiflorum, Scilla bifolia, Anemone pulsatilla, Draba Haynaldi, Megasea Stracheyi, and Scopolia Fladnichiana, which was awarded a First-class Certificate. This species as shown grows about 10 or 12 inches high, and produces small yellow tubular flowers. Some Hippeastrums came from the same nursery, including some good seedlings. An Award of Merit was given for H. Salvator Rosa, a very large flower, with wide petals, colour blood-red, with white mark in the centre of each petal. Also some Roses, Teas and H.P.'s in pots, which were much admired.

Messrs. Wm. Paul & Son, Waltham Cross, Herts, staged a wonderful collection of Camellias, in sixty or seventy varieties. The blooms had been taken off with part of the stem attached, and were exhibited in boxes of moss, three or four of each variety. Also a plant of their Tea Rose Corinna, exhibited as a new forcing Rose.

Messrs. Jas. Veitch & Son, Chelsea, exhibited a number of first-rate Hippeastrums, of which the following received Awards of Merit:—Socrates, a very handsome flower, of good colour, only a trace of green visible. Eldorado, a distinct variety, in which the centre lower petal is longer, and tongue-like—colour dark crimson, with short green ribs. Corinna is another advance in colour; it is dark velvety-crimson, and no sign of green whatever in the flower. Excellent is a short flower with wide petals; colour bright scarlet, with white band in centre of each petal. Nimrod was the largest of those shown, an immense flower of good crimson, with green veining in the base of tube only. The same firm contributed sprays of Corylopsis pauciflora, a hardy species from Japan, producing small yellow flowers.

A basket of blue Primroses, very attractive and pretty, were sent by G. F. Wilson, Esq., Weybridge and Wisley, described by him as being about fifty descendants of Scott Wilson, of different shades of blue, plum-blue, lavender, &c.

The Viscountess Hambledon, Greenlands, Henley-on-Thames, showed a plant of Hippeastrum Greenland Gem, carrying four very fine blooms.

The Duke of Northumberland, Albury Park, sent sprays of Deutzia crenata flore-pleno in bloom; and Mr. J. Douglas some cut blooms of Cineraria (Votes of Thanks).

A very pretty group of winter-flowering Begonias was contributed by Sir Trevor Lawrence, including the new showy Begonia Triomphe de Lemoine, most flowery specimens, none more than 1¼ feet high. Backing this lot was a number of finely-flowered of the well-known B. nitida, not showing to advantage by their contiguity to the novelty, sweet-scented, but straggling in habit.

Some large plants of Cliveia miniata and Amaryllis aulica were from Mr. S. G. Lutwyche, Oakfield, South Eden Park, Beckenham; gr., Mr. J. A. May (Silver Banksian Medal). Mr. C. Holden, 61, Warwick Road, Ealing, had a group of plants, including Azaleas, Camellias, a few Ferns, &c.; and a basket of Neapolitan Violets came from Mr. J. Miller, gr. to Lord Foley, Ruxley Lodge, Esher.

M. C. Bruggman, Ville Franche sur Mer, Alpes Maritimes, exhibited two varieties of Chrysanthemum frutescens, C. f. Alma Bruggman, with rays of white suffused with yellow, and others with yellow rays.

Messrs. P. Barr & Sons, King Street, Covent Garden, London, showed a lot of Chionodoxa Sardensis, C. Luciliæ, Scilla bifolia, all beautifully bloomed, also Iris stylosa, I. reticulata, a quantity of early-flowering Narcissus; the best, or rather more advanced, being Ard Righ and obvallaris.

Other exhibits were Helleborus punctatus, and boxful of growing plants of Sisyrinchium grandiflorum album, a plant with grass-like leaves, more than 1 foot high, and dirty-white flowers, borne singly on stalks that slightly overtop the foliage.

Messrs. J. Veitch & Sons, Chelsea, showed a plant of Rhododendron Early Gem, with pale purple flowers; it was entirely covered with flowers, and measured 3 feet in height, and the same in diameter.

Scattered amongst Messrs. B. S. Williams & Sons' excellent contribution of Orchids were the following plants:—Anthurium Scherzerianum Rothschildianum in two examples, one differing from the usual form by a whiter ground, and the scarlet spots arranged in groups on it instead of being regularly distributed; A. Sanderianum, with deep crimson spathe and greenish-yellow spadix; Caraguata cardinale, a remarkable decorative Bromeliad, with broadly-channeled green, semi-pendent leaves, and a bright crimson tuft in the centre; Amaryllis Ophelia, a strong grower, the flower with crimson flames on a greenish-white ground; it is distinct. Cliveia Scarlet Gem, a closely-set, many-flowered head of bright orange-scarlet flowers. A form of Dracæna congesta var. robusta had semi-drooping green foliage. Some fine Amaryllis (Hippeastrum), and the white form of Anthurium Scherzerianum completed this exhibit.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; Messrs. J. O'Brien, S. Courtauld, J. B. Haywood, F. Sander, J. Douglas, W. H. White, E. Moon, J. T. Gabriel, H. M. Pollett, T. W. Bond, H. Williams, E. Hill, T. Statter, W. B. Latham, G. R. le Doux, and Dr. M. T. Masters, F.R.S.

There was a very fine show of well-arranged Orchids from amateurs and nurserymen. The group from Sir Trevor Lawrence, Bart., Burford (grower, Mr. W. H. White), was very attractive, by reason of a number of rare and beautiful species, notably a grand form of Odontoglossum Ruckerianum splendens (Award of Merit), Cypripedium Rothschildianum, the finely-coloured Dendrobium nobile Tautzianum, the pale D. n. Murrhinianum, D. signatum, D. Findlayanum, D. cheltenhamense ×, Cypripedium Dautheri "The Albino," with whitish-green flowers; the pretty Maxillaria sanguinea, with numerous flowers, with white labellum, having a crimson-coloured base, and the elegant little South African terrestrial Orchid, Tryphia orthoceras, with many neat sprays of white and lilac flowers (Botanical Certificate).

Messrs. F. Sander & Co., St. Albans, also had a group of rare Orchids. Dendrobium nobile Ballianum, blush-white flowers being unique (First-class Certificate). Phalænopsis Stuartiana, St. Albans variety, had very large flowers; Cœlogyne Sanderæ had snow-white flowers, with ample fimbriated yellow and red labellum—a very charming species (First-class Certificate). Also in the group were good examples of Vanda teres, with blush-white flowers; the rare Oncidium Brunleesianum, Dendrobium Kingianum, several D. luteolum, the new hybrid Phaius amabilis, Dendrobium nobile Cooksoni, Cypripedium caudatum Wallisii, some good Lycaste Skinnerii, &c.

Messrs. B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, N., had an extensive group, in which the species and varieties of Cypripediums were very fine; among them were C. × Ceres var. (Spicerianum × hirsutissimum), with grand flowers; C. Williamsii ×, C. Pitcherianum × Williams' var., C. P. striatum ×, C. Morganiæ ×, C. insigne Fostermanni, C. Elliotianum, C. Peetersianum ×, C. Boxalli nigrum, C. B. marginatum, &c. Also specially good were Cœlogyne cristata alba, Cattleya Trianæ quadricolor, Cymbidium eburneum, Dendrobium nobile Cooksonii, Lycaste costata, varieties of L. Skinneri, the singular L. gigantea viridis, and an excellent lot of Odontoglossums.

Walter Furze, Esq., Roselands, Teddington (gr., Mr. E. Coombs), staged an excellent group of well-grown showy Orchids, the specimens of Dendrobium Wardianum being very remarkable; so also were the varieties of D. nobile, D. crassinode, D. superbum, D. Findlayanum, Cypripedium Lathamianum ×, and many other Cypripediums; Cattleyas, Cœlogynes, Odontoglossums, &c., the whole arranged with great skill.

Messrs. Hugh Low & Co., Clapton, had a small group of Orchids, among which were the pretty Cypripedium × De Witt Smith (Spicerianum × Lowii), C. callosum, Low's var., and the pretty clear yellow Bulbophyllum Sillemianum.

J. Foster Alcock, Esq., Berkhamsted, showed Cypripedium Schroderæ × with three strong spikes; C. vernixium ×, Lælia anceps Stella, Cœlogyne cristata alba, Cattleya Harrisoniæ violacea, and a very fine Cypripedium Elliottianum.

A small group of Odontoglossums came from C. J. Lucas, Esq., Warnham Court, Horsham, gr. Mr. Duncan; and a similar exhibit, in which a singular hybrid between O. Corradinei and O. Wilckeanum was conspicuous, from W. Thompson, Esq., Walton Grange, Stone, Staffordshire, gr. Mr. W. Stevens.

From the gardens of Baron Schroder, The Dell, Egham, gr. Mr. H. Ballantine, came the most novel hybrid in Lælia × vitellina, a beautiful variety, supposed to be out of L. harpophylla. The growth of the plant was like that of a small L. Perrinii, and it bore a single flower some 5 inches across, and almost entirely of a rich orange-tinted Indian yellow. It will doubtless produce more flowers on an inflorescence, and will be a very handsome hybrid.

Thos. Statter, Esq., Stand Hall, Whitefield, Manchester, gr., Mr. R. Johnstone, exhibited a noble plant of Lycaste Skinnerii alba, bearing nine very large flowers from one leading bulb, the plant being wholly unaffected by the effort; also Dendrobium nobile nobilius, and D. n. virginalis.

F. Wigan, Esq., Clare Lawn, East Sheen, grower, Mr. W. H. Young, showed a splendid specimen of Cœlogyne pandurata, Megaclinium falcatum, and Masdevallia Vespertilio.

Messrs. Jas. Veitch & Son, Chelsea, sent Dendrobium × Euryalus (D. × Ainsworthii ♀, D. nobile ♂), D. × Æneas (japonicum ♀, crystallinum ♂), Epidendrum Endresio-Wallisii ×, and the richly-coloured Epiphronitis Veitchii ×. Messrs. Fred. Horsman & Co., Colchester, showed Lycaste Skinneri "Hettie," a beautiful form like a L. S. alba, but tinted with carmine on the lower parts of the petals, and with a pink tinge over the sepals.

Messrs. Pitcher & Manda, The United States Nurseries, Hextable, showed two plants of Cattleya Trianæ Smithii, an exceptionally richly-coloured flower. G. R. le Doux, Esq, Langton House, East Moulsey (gr., Mr. B. Bowyer), showed Cypripedium Ledouxii × (callosum × Harrisianum) somewhat resembling C. œnanthum ×, and with the dorsal sepal almost entirely of a purple colour. Among other exhibits from Mr. le Doux were also Cattleya Trianæ Ada le Doux, and some good varieties of Odontoglossum triumphans. Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne, exhibited his Cypripedium × Bryani, previously certificated.

S. G. Lutwyche, Esq., Oakfield, Beckenham (gr., Mr. J. A. May), sent a small plant of Dendrobium Devonianum candidulum. A. H. Smee, Esq., The Grange, Carshalton (gr., Mr. Cummins), showed a fine spike of Cyrtopodium punctatum Saintlegerianum. Walter C. Clark, Esq., Sefton Park, Liverpool, sent a magnificent spike of a fine form of Cymbidium Lowianum, with twenty-three flowers, the colour on the labellum nearly scarlet. Reginald Young, Esq., Sefton Park, Liverpool, sent a flower of a form of Cattleya Trianæ, with rich bright amethyst-crimson lip.

Messrs. John Laing & Sons, Forest Hill, again showed their Dendrobium crassinode giganteum. H. Shaw, Esq., Ashton-under-Lyne, sent flowers of Maxillaria Sanderiana and of a Dendrobium. Lord Foley sent for name Cœlogyne flaccida. W. Soper, Esq, Clapham Road, S.W., sent Odontoglossum Rossii, Sophronitis grandiflora, &c.

Messrs. Linden, l'Horticulture Internationale, Parc Leopold, Brussels, showed Phalænopsis Aphrodite (amabilis), Linden's var., in which the crimson colour seen at the base of the lip in ordinary forms was wanting. From the Royal Botanic Gardens, Glasnevin, Dublin, F. W. Moore, Esq., the Curator, sent flowers of Aërides platycheilum and Lycaste xytriophora; and Mr. Chas. Vuylsteke, Loochristi, Ghent, exhibited a very singular little Odontoglossum, probably a form of O. blandum.

Fruit Committee.

Present: P. Crowley, Esq., in the chair; and Messrs. T. F. Rivers, Harrison Weir, W. Wilks, J. Cheal, C. Ross, G. Goldsmith, G. T. Miles, G. W. Cummins, A. Dean, J. Wright, T. J. Saltmarsh, J. A. Laing, W. Bates, H. Pearson, G. H. Sage, E. Burrell, G. Wythes, H. Balderson, J. Hudson, J. Smith, G. Norman, G. Bunyard, and J. Willard.

Mr. S. Hardy, Ash House, Parson's Green, S.W., exhibited a large quantity of Mushrooms in various stages of growth, solid and good. He also exhibited photographs of Mushroom-beds in bearing, besides furnishing an account of materials employed in the last six months, and the weight of Mushrooms gathered this year, the list amounting to 3764 lb. (Bronze Knightian Medal). Some Bon Chretien Pears, Melons, coarse-fleshed, but passable as to flavour, and therefore acceptable at this season; and some vineyard Grapes, red and green, were shown by Messrs. Draper & Co., Covent Garden, being part of a consignment from the Cape.

As examples of good late-keeping Grapes, Mr. Smythe, gr., Basing Park, Hants, sent bunches of Black Alicante, Mrs. Pince Muscat, and Lady Downes', all in a well-conserved condition for this late part of the season.

From the Royal Gardens, Frogmore, there were shown a dish of new Grapes of fairly edible quality cut from Vines started on November 1.

A prolific, small-ribbed variety of Tomato, named Ladybird, came from Mr. Leach, gr., Albury Park, Surrey. It appears to set its fruits very freely, a matter of consideration in a winter Tomato (Vote of Thanks).

Some seedling Apples of no recognised merit came from Messrs. W. Young, C. Ross, and Messrs. T. F. Rivers.

Mr. Miller, Lord Foley's gardener, Ruxley Lodge, Esher, showed a box of La Grosse Sucrée Strawberry, ripe, and well coloured.

List of Awards.

Floral Committee.

First-class Certificate.

To Caraguata cardinale, from Messrs. B. S. Williams & Son, Holloway.

To Corylopsis pauciflora, from Messrs. J. Veitch & Sons, Chelsea.

Award of Merit.

To Fritillaria aurea, from Mr. T. S. Ware, Tottenham.

To Hippeastrum Corinna, from Messrs. J. Veitch & Sons, Chelsea.

To Hippeastrum Excellent, from Messrs. J. Veitch & Sons, Chelsea.

To Hippeastrum Nimrod, from Messrs. J. Veitch & Sons, Chelsea.

To Hippeastrum El'dorado, from Messrs. J. Veitch & Sons, Chelsea.

To Hippeastrum Socrates, from Messrs J. Veitch & Sons, Chelsea.

To Begonia Triomphe de Lemoine, from Sir Trevor Lawrence, Dorking.

To Amaryllis Salvator Rosa, from Messrs. G. Paul & Son, Cheshunt.

To Scopolia Fladnichiana, from Messrs. G. Paul & Son, Cheshunt.

To Chrysanthemum frutescens Alma Brüggemann, from Mr. C. Brüggemann, Villefranche-sur-Mer, France.

To Cliveia Scarlet Gem, from Messrs. B. S. Williams & Son, Holloway.

Medals.

Silver Flora.

To Messrs. W. Paul & Son, Waltham Cross, for a Collection of Cut Camellias.

To Mr. T. S. Ware, Tottenham, for a Collection of Hardy Flowers.

To Messrs. Hugh Low & Co., Clapton, for a Group of Miscellaneous Greenhouse Plants.

To Messrs. Cutbush & Son, Highgate, for a Group of Mixed Plants.

To Messrs. J. Laing & Sons, Forest Hill, for a Group of Greenhouse Plants.

To Mr. John Odell, Gould's Green, Hillingdon, for a group of Cyclamens.

Silver Banksian.

To J. C. Tasker, Esq., Middleton Hall, Brentwood, Essex (gr., Mr. J. Perry), for a group of pot Roses.

To Mr. W. R Newport, The Model Nursery, Hillingdon Heath, Uxbridge, for a group of Primulas.

To Mr. C. Holden, 61, Warwick Road, Ealing, for a group of Plants.

To Messrs. J. James & Son, Farnham Royal, Slough, for a group of Cinerarias.

To Messrs. E. D. Shuttleworth & Co., Peckham Rye, for a group of miscellaneous plants.

To Messrs. Paul & Son, Cheshunt, for a group of herbaceous plants and Amaryllis.

To S. G. Lutwyche, Oakfield, South Eden Park, Beckenham, for a group of Amaryllis and Clivias.

Bronze.

To Messrs. Barr & Son, Covent Garden, for a group of hardy flowers.

To Messrs. E. D. Shuttleworth & Co., Fleet, Hants, for group of cut flowers.

To Sir Trevor Lawrence, Dorking, for a group of winter-flowering Begonias.

Vote of Thanks.

To the Director, Royal Gardens, Kew, for a collection of cut flowers of hardy shrubs.

To Lord Foley, Ruxley Lodge, Esher (gr., Mr. Miller), for a basket of Neapolitan Violets.

To Mr. J. Odell, Hillingdon, for Cyclamen Peculiarity.

To Mr. Douglas, Great Gearies, Ilford, for cut blooms of Cinerarias.

Orchid Committee.

First-class Certificates.

To Messrs. F. Sander & Co., St. Albans, for Dendrobium nobile Ballianum.

To Messrs. F. Sander & Co., St. Albans, for Cœlogyne Sanderæ.

To Messrs. F. Sander & Co., St. Albans, for Lælia × vitellina.

Awards of Merit.

To Messrs. Fred. Horsman & Co., Colchester, for Lycaste Skinneri var. "Hette."

To Sir T. Lawrence, for Odontoglossum Ruckerianum splendens.

To Sir Trevor Lawrence, for Maxillaria sanguinea.

Cultural Commendation.

To F. Wigan, Esq., Clare Lawn, East Sheen, for Cœlogyne pandurata.

To T. Statter, Esq., Stand Hall, Manchester, for Lycaste Skinneri alba.

Botanical Certificate.

To Sir Trevor Lawrence, for Tryphia orthoceras.

Silver Flora Medal.

To W. Furze, Esq., The Roselands, Teddington, for a Group of Orchids.

Silver Banksian.

To Messrs. F. Sander & Co., St. Albans, for a Group of Orchids.

To Sir Trevor Lawrence, for a Group of Orchids.

To Messrs. B. S. Williams & Son, Upper Holloway, for a Group of Orchids.

FRUIT COMMITTEE.

Bronze Knightian Medal.

To Mr. S. Hardy, Ash House, Parson's Green, for Mushrooms packed for market.

Cultural Commendation.

To Mr. Smythe, The Gardens, Basing Park, for late-keeping Grapes.

Lecture.

ON SOME EFFECTS OF GROWING PLANTS UNDER GLASS OF VARIOUS COLOURS.

Rev. G. Henslow, M.A., F.R.S., &c., commenced with the observation that light is obviously necessary for ordinary plant life, as evidenced by the blanching of Celery and Seakale in darkness. The question, whether light was favourable or not for the first stage of germination or "sprouting," had not been answered uniformly by observers. Thus, Adrianowski found that the proportion of seeds which sprouted in twenty-four hours in light and darkness was as one to four; but Crislar could not find any advantage in darkness, while Panchon seemed to think it was a matter of indifference. In the latest experiments in 1889, conducted at the Agricultural Experiment Station of the Cornell University, it was found that of Papaver Rhæas seeds, 56 per cent. sprouted in light, while 74 per cent. did so in darkness; the former were also very much slower. Of Larkspur (dwarf Rocket), 0 per cent. sprouted in light, and from 20 to 30 per cent. in darkness. Of Adonis æstivalis, 4 per cent. sprouted in light, 68 per cent. in darkness. Lastly, of two lots of Radishes, 91 per cent. sprouted in light, 71 per cent. in darkness, in one case; 82 per cent. in light and 92 per cent. in darkness, in the other. M. Panchon found that the influence of light varied with the species; badly nourished and oily seeds, as well as those with dark skins, being favoured by it. The question, however, does not seem to have much practical importance, unless any conclusion can be drawn from the case of the Larkspur mentioned above.

With regard to green plants, Mr. Henslow described the nature of the solar, and showed how certain bands of light are absorbed when passed through a solution of chlorophyll. The rays of light thus taken up by the green colouring matter of plants are believed to be the active agents in promoting the great functions of transpiration, or the giving off vapour of water, and assimilation, or the absorption of carbonic acid gas and the giving off of oxygen into the air, while the obscure heat rays favoured respiration, or the absorption of oxygen and the expiration of carbon dioxide. After describing these processes and their importance in plant-life, Mr. Henslow referred to his experiments of growing plants under coloured glasses. The general conclusions derived from them were that transpiration was most active under red and violet, and slightly so under green, while assimilation was most effective under yellow, blue and clear glasses. This result was somewhat unexpected, as M. Dehérain thought that the same light, i.e., as absorbed by the chlorophyll bands, was effective for both processes. Looked at from a practical point of view, every coloured glass, as well as ordinary clear glass, is injurious for plants of a temperate climate, though yellow and blue are the least so for assimilative purposes. Green is pre-eminently bad. Dr. Lindley, in his *Theory of Horticulture* pointed out the uselessness of making the Palm-house at Kew of green-tinted glass, as was done at the suggestion of Mr. Hunt, and the experiment of glazing the Fern-houses with green glass has proved the inefficiency, or rather injury resulting from it. Several experimenters have thought that a violet light was useful for forcing, and that seeds germinate quicker; but from Adrianowski's experiments, it appears that total darkness is best. Again, a certain florist is accustomed to hasten crowns of Lily of the Valley by growing them in a violet-glazed house with a due arrangement of the heating apparatus; by this means, I am informed, they blossom fourteen days in advance of others. More experiments are required in this direction; but for all plants with green foliage, no other than the free light and air of the open ground is to be preferred. Plants are naturally attuned to receive all the rays of the spectrum, and if any one or more be wanting, the plant will suffer proportionately. Hence, all kinds of artificial lights can never be equal to that of the sun.

MANCHESTER BOTANICAL AND HORTICULTURAL.

March 14.—The first of the spring flower shows promoted by the Botanical and Horticultural Society for the current season was opened on the above date at the Town Hall, and remained open till 4 o'clock on Wednesday. The wealth of gay blossom displayed was such as could not fail to astonish, and the variety of kind in the plants left nothing to be desired. We have seen larger and more imposing examples of Orchids, but never, that we remember, any that better satisfied the requirements of a cultivated taste. Mr. Hardy's lot was exceptionally meritorious in regard to the diversity of the forms.

Mr. E. Wrigley's was a beautiful exhibit. Mr. G. B. Ball, Bowdon, limited his exhibit to Dendrobiums of much excellence. Mrs. J. M. Bennett showed Cœlogynes, and Mr. W. R. Lee, Audenshaw, Dendrobiums. Messrs. Charlesworth, Shuttleworth & Co., Clapham and Bradford, contributed a select and brilliant lot of Orchids.

It would be difficult to imagine anything that could surpass Messrs. R. P. Ker & Sons' Hippeastrums (Gold Medal), crosses or varieties raised by themselves at Aigburth. In contrast to the scarlet of the Hippeastrums, and confronting them, stood what it is always a treat to see, Messrs. Dickson's Daffodils and other Narcissi from Chester, arranged, as heretofore, fanwise. Messrs. Dickson, Brown, & Tait show their skill in Hyacinths.

Of groups of miscellaneous plants, there were two. Messrs. Clibran, of Altrincham, sent one, consisting of all the greenhouse gems of the season, including also some Echinocacti. The other group, occupying the entire space below the organ, was from the gardens at Old Trafford, a splendid display of Cliveias conferring emphasis. Mr. Samuel Barlow sent an astonishing series of seedling varieties of the Chinese Primula, illustrating his belief that by perseverance with cross-fertilising he will succeed at last in obtaining that great desideratum with florists, a pure sky-blue, though never yet seen in P. sinensis.

Lastly, Mr. R. P. Gill, Ashton-upon-Mersey, sent a beautiful set of the Primula marginata; Mr. Samuel Allan, of Sale, Orchids and Ferns; Mr. Brownhill, of Sale, a white Carnation, very pretty; and Mr. Joseph Broome, some forty posies of hardy flowers from Llandudno, a miracle of vernal beauty. Cultural Certificates were awarded by the committee to Messrs. Ker and Messrs. Dickson.

TRADE NOTICE.

Mr. A. Cole, for eleven years head gardener to Joseph Broome, Esq., Sunny Hill, Llandudno, has gone into business in company with his son at Pantyffynon Nurseries, Llandudno.

ENQUIRIES.

"He that questioneth much shall learn much."—Bacon.

Hollow Potatos.—What is known as to the mode of production of the cavity occasionally met with in the centre of Potato tubers? *Alnwick.*

Evac would like to know if the following is a fact:—"I have heard it stated many times lately, that the land of Palestine, once so fertile, has for centuries been unproductive, owing to the absence of the rain necessary for the maturation of the crops (termed the 'latter rain'). Further, that for the last few years, the rain has fallen with increasing copiousness, thereby ensuring a repetition of the ancient productiveness. Is this so? And is there a prospect of that country becoming a field for western enterprise and capital in the immediate future?"

Kirkstall Abbey Grounds.—At a meeting of the Corporate Property Committee of the Leeds Corporation, it was resolved to pay the first premium of £20 to Messrs. J. Cheal & Sons, landscape gardeners, of Crawley, Sussex. The design submitted by this firm has many fine features, and when carried out, will render the Abbey and its grounds an attractive resort. The carrying out of this design will involve an estimated expenditure of £3000. The second premium of £10 was awarded to Mr. T. H. Mawson, of Windermere.

Obituary.

Rev. Dr. Woolls.—A Dalziel special telegram, dated Sydney, March 14, says:—The death is announced of the Rev. Dr. Woolls, one of the most respected of old colonists. He left England for Sydney in 1831, and was the author of *A Contribution to the Flora of Australia*, and numerous other works. In 1873 he took orders in the Church of England."

THE WEATHER.

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees — a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (−) the Mean for the week ending March 11.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1893.	Below 42°, difference from Mean since January 1, 1893.	Rainfall. More (+) or less (−) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1893.	Total Fall since Jan. 1, 1893.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1893.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	6 +	27	7	+ 9	+ 21	4 +	55	11·2	18	16
1	8 +	37	5	− 10	+ 22	4 −	46	5·7	35	21
2	6 +	36	4	+ 11	− 18	4 −	40	4·5	29	20
3	5 +	46	14	+ 38	+ 7	4 −	46	5·0	39	22
4	5 +	46	13	+ 38	− 13	4 −	44	4·8	36	22
5	4 +	43	11	+ 28	+ 7	4 −	45	5·9	44	21
6	6 +	28	1	+ 17	− 16	6 −	50	9·1	26	21
7	4 +	25	3	+ 28	− 24	4 −	45	6·1	26	17
8	3 +	37	8	+ 30	− 13	6 −	44	8·5	38	26
9	5 +	32	0	+ 17	− 39	5 −	50	7·2	16	19
10	4 +	39	0	+ 22	− 34	7 −	46	8·4	27	22
*	3 +	41	0	+ 57	− 23	4 −	51	7·2	52	27

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; (* Channel Islands.)

THE PAST WEEK.

The following summary record of the weather for the week ending March 11, is furnished from the Meteorological Office:—

"The *weather* during this period was fine, mild, and spring-like, in nearly all parts of our Islands. In the north and north-west of Scotland, however, it continued unsettled, and some heavy rain was experienced.

"The *temperature* was decidedly above the mean, the excess ranging from 3° in the 'Channel Islands' and 'England, S.W.,' to as much as 5° or 6° in most other districts; and to 8° in 'Scotland, E.' The highest of the maxima were registered on the 8th, when the thermometer rose to 66° in 'England, E.,' and the 'Midland Counties,' and to 63° in 'England, S.,' while in other districts the maxima ranged from 60° in 'Scotland, E.' and 'England, S.W.,' to 56° in 'England, N.W.,' and the 'Channel Islands.' The lowest of the minima were recorded towards the end of the week, and ranged from 37° in 'Scotland, W.

and 35° in 'England, N.E.,' and the 'Channel Islands,' to 28° in 'England, S.,' 27° in 'England, S.W.,' and 26° in the 'Midland Counties.' The diurnal range of temperature was large generally, especially during the latter half of the week.

"The *rainfall* exceeded the mean in 'Scotland, N.,' but showed a great deficit in all other districts. Over the greater part of England and Ireland, the fall was less than five-hundredths of an inch.

"The *bright sunshine* was more prevalent over the Kingdom generally than it has been for many weeks past, and exceeded the mean in nearly all districts. The percentage of the possible duration ranged from 16 in 'Ireland, N.,' and 18 in 'Scotland, N.,' to 39 in 'England, E.,' 44 in 'England, S.,' and 52 in the 'Channel Islands.'"

Answers to Correspondents

Address Wanted: The editor of *Gardeners' Chronicle* would be glad of the present address of Mr. C. Young, formerly of Wilton Terrace, Middleton, Manchester.

Carnations Diseased: *T. C.* The Carnation leaf disease, Helminthosporium echinulatum, figured in *Gardeners' Chronicle*, August 21, 1886. Pick off and burn every affected leaf.—*Das.* The plants are affected with the Carnation disease, and the best thing to do with them is to burn all so affected. Spores of fungus may be present in the sand, but not necessarily. Move the cuttings as soon as they have formed roots; and do not put in Verbena cuttings too deep, say, at the most 1 inch. We are sorry your last communication went astray.

Central Garden and Allotment Holders' Association: *W. A. B.* We are not acquainted with it.

Correction: Apple Atalanta. We are informed by Messrs. Cheal & Sons that this variety received an Award of Merit on the occasion of its being first shown, at one of the meetings of the Royal Horticultural Society, and not a First-class Certificate, as was stated in our note in last week's issue.

Hyacinth: *A. S.* The production of five spikes from one bulb is not very uncommon. It arises from the development of axillary bulbs.

Impoverished Lawn: *S., Clapham Common.* The best dressing for the lawn at this season is finely-sifted loam, rotted manure, and wood-ashes or burnt garden refuse. The whole should be put through a sieve with a half-inch mesh. Two dressings would be best, the second being put on when the first has been washed down to the roots; neither should be sufficient to hide the grass from view, and the roller should be industriously plied in dry weather after the dressings are applied. Nitrate of soda dressings (two or three) in the course of the summer would do good if afforded at the rate of 2 lb. per square rod; also fish manure—a little heavier dressing; but this last has an evil smell for some time after its application. Where there are bare places on the lawn, shovel the old soil away to a depth of 2 inches; add some heavy loam, tread it firmly, and sow a mixture of lawn grasses, not forgetting some Italian Rye-grass and Trifolium minus or T. repens. Having sown the seed, rake it into the loam, or sprinkle soil lightly over it, and roll, or pat the surface with a piece of board or the spade. Clover is best sown thinly before the grass seed.

Insect: *An Anxious One.* The large "scale" is Lecanium persicæ, peculiarto the Peach, out of doors and under glass. One or two may have remained undetected when the plants were acquired. The treatment adopted is good; but attention should be especially directed to the very young small scales as well as to those which are large and conspicuous. *R. McL.*

Names of Fruits: *C. K.* Your Apples are so much discoloured, that any attempt at naming them would be merely hap-hazard. You should have sent earlier.

Names of Plants: *R. C. T.* The Cattleya is, as you suggest, C. guttata Prinzii (C. amethystoglossa).—*J. J. W.* You have greatly exceeded the limit of six at a time, but we will do the best we can for you. The species are correct, but the varieties are so numerous that we cannot be sure about them. 1, N. Telamonius plenus; 2, N. Telamonius plenus; 3, N. Pseudo-Narcissus; 4, N. incomparabilis; 5, N. odorus; 6, N. bicolor; 7, N. papyraceus; 8, incomparabilis (Butter and Eggs); 9, N. incomparabilis, double; 10, N. maximus; 11, N. cernuus; 12, N. Pseudo-Narcissus; 13, N. bicolor; 14, N. Macleaii; 15, N. major, double; 16, N. Pseudo-Narcissus; 18, incomparabilis var.; 19, hybrid from incomparabilis; 20, hybrid from incomparabilis; 21, hybrid from incomparabilis; 22, N. incomparabilis; 23, N. odorus; 25, Sisyrynchium bermudianum.—*T. C. J. R.* 1, Saxifraga oppositifolia; 2, Scilla bifolia; 3, Primula marginata; 4, 5, not found; 6, Chionodoxa Luciliæ; 7, Iris reticulata.—*G. McA.* Stenotaphrum mexicanum variegatum; Chlorophytum Sternbergianum, the green-leaved one.—*W. A.* 1, Dendrobium Cambridgeanum; 2, Oncidium divaricatum.—*A. C.* The Cattleya is very distinct, we may refer to it again. The Dendrobium is a very fine form of D. Wardianum.—*C. B. L. S.* Oncidium received; many thanks. Will refer to it again.—*T. H.* 1, a form of O. Andersonianum; the other Odontoglossums are all forms of O. crispum; the others, Vanda suavis and Dendrobium Wardianum.—*W. A. Lancaster.* 1, Dendrobium nobile near to D. n. Ballianium, described at p. 322; 2, Odontoglossum Corradinei.—*H. G. B.* 1, Dendrobium Pierardi; 2, Passiflora racemosa, 3, Aponogeton distachyon; 4, Hottonia palustris (Water Violet); 5, Davallia bullata; 6, Marattia alata.—*C. W. D.* Next week.—*D.* We found no Ferns, but only the bulbs of what we take to be Alopecurus bulbosus.

Plants for a Plot on a Lawn where Grass will not Grow:—*S., Clapham Common.* Vinca major and V. minor, Periwinkles, height 8 to 12 inches; plant about 15 inches apart for the first-named, and 10 inches for the latter. Hypericum calycinum, St. John's Wort, less than 1 foot high—may be cut over each spring, and this constant cutting helps to render the plant dwarfer than its natural stature; plant as for Vinca major. Sedum elegans, S. ibericum, S. pulchellum, if planted in patches, would do well in the sandy soil, and give an interesting feature; and you could plant Lilies, Iris, Gladiolus, and other bulbs amongst them. Gentiana verna, in big patches, would be green all the year round, besides affording masses of lovely blue flowers. Whatever is planted, the soil should have a heavy dressing of rich loam forked into and intimately mixed with the staple.

Preserving Specimens: *Sy.* Spread the leaves, stems, flowers, &c., in their natural positions between sheets of blotting-paper, under considerable pressure, changing these sheets once a week, or oftener, in the case of thick, sappy subjects, until dry; then fasten them on to sheets of herbarium-paper by means of narrow strips of paper and gum arabic. If numerous specimens are being dried, it is better to make several piles, they will then dry quicker.

Raisins: *W. S. E.* Grow the seedlings on in vinery warmth till the wood shows signs of maturing, i.e., becoming slightly brown in colour towards the base of the stem, when the plants might be placed out-of-doors against a sunny hedge or wall. Whilst growing, the plants should be trained on rods, or pieces of wire, within 15 inches of the roof of the glasshouse. Probably the Grapes will turn out to be of very ordinary quality.

Communications Received.—A. Hope.—Baron Von St. Paul, Palermo.—J. J. W.—H. W. W.—Mayall & Co.—F. W. O.—R. D.—Max Leichtlin.—J. W.—M. T.—Prof. Macoun, Ottawa.—Dr. F., Los Angeles.—Dr. Kränzlin, Berlin.—W. G., Alnwick.—W. J. M.—Van de P., Ghent.—W. & J., Birkenhead, many thanks.—W. B. G.—W. B.—G. H.—D. T. F.—Ch. de B., Lierre.—C. S. S., Boston, U.S.—A. M. K.—W. O.—T.—M. C. C.—*Revue Horticole.*—Mayall & Co.—J. J. W.—J. C.—J. B.—W. A. C.—A. P.—J. G. B.—W. C. & Son, Whitehaven.—J. A. R.—J. H. V.—An Englishman.—O.—B. W.—J. W.—W. K.—C. W. D.—Ch. de B.—W. Roberts.—W. J. B.—Toogood & Sons.

Specimen Received.—De Crawshay.

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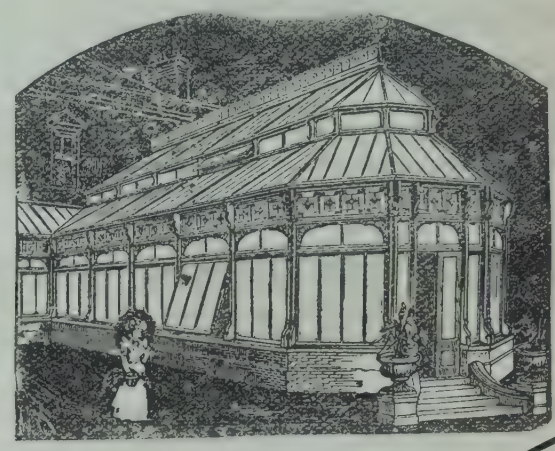

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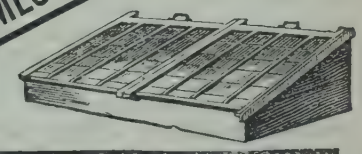

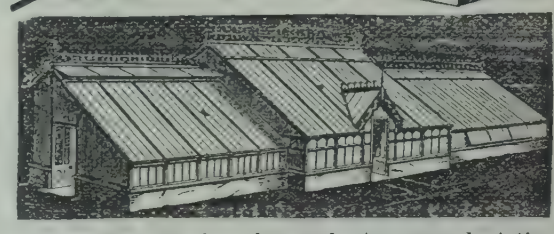

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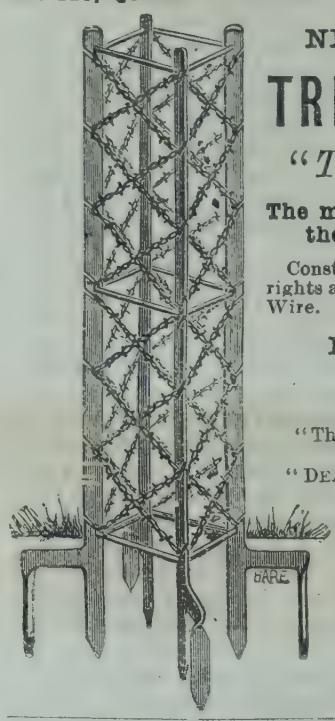

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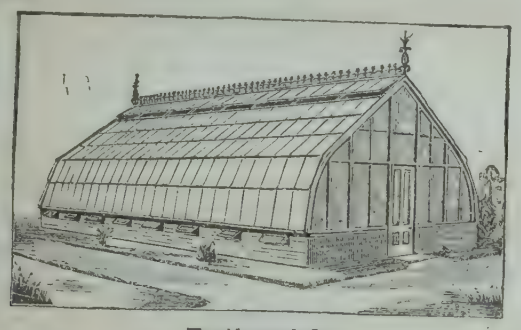
HEATING OF  ALL KINDS.

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"Hornby Castle, Lancaster, February, 1890.

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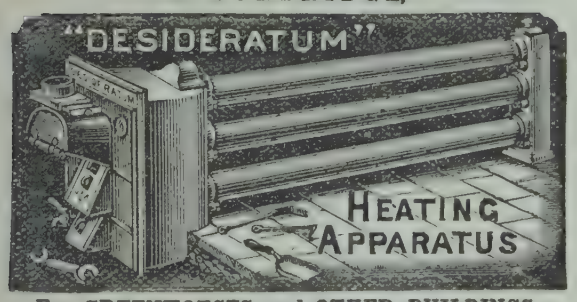

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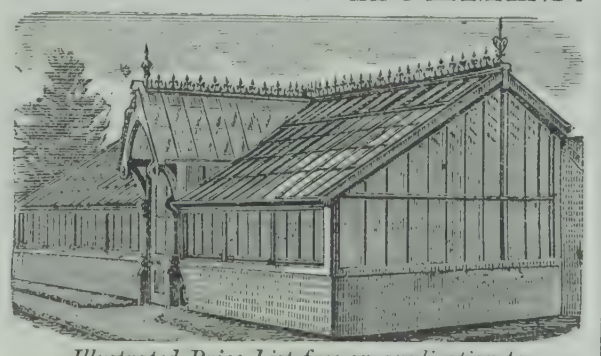

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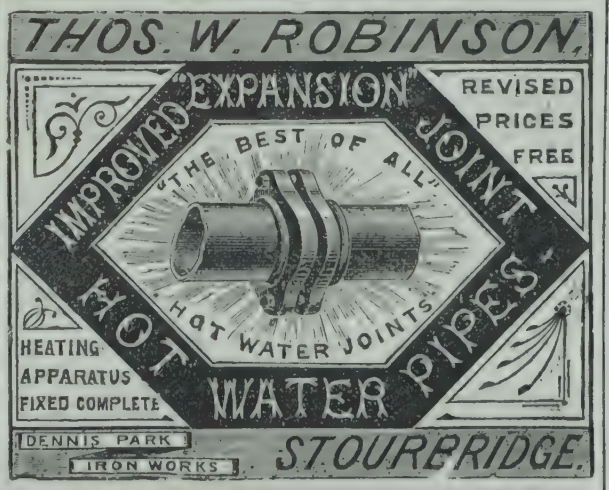

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All Subscriptions payable in advance. The United Kingdom, 12 *months,* 15*s.*; 6 *months,* 7*s.* 6*d.*; 3 *months,* 3*s.* 9*d. All Foreign Subscriptions, including Postage,* 17*s.* 6*d. for* 12 *months. Post-office Orders to be made payable at the Post-office,* 42, *Drury Lane, W.C., to* A. G. MARTIN.

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THE FRUIT GARDEN of the UNIVERSE.—THE AUSTRALIAN IRRIGATION COLONIES (Chaffey Brothers), established and regulated by Government, OFFER an enjoyable life and OCCUPATION, a sunny and salubrious climate, and most highly remunerative returns to Cultivators with small or large capital; pamphlet free.

CHAFFEY BROTHERS, Limited, 35, Queen Victoria Street, London, E.C. J. E. M. Vincent, Chief Commissioner.

MARKETS.

COVENT GARDEN, March 16.

[We cannot accept any editorial responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. ED.]

THE supply of Grapes becoming shorter, and values enhanced; samples not keeping well. Trade still quiet. *James Webber, Wholesale Apple Market.*

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum, per doz. bl. ...	1 0	3 0	Narcissus, various,		
Azalea, dozen sprays	0 6	0 9	French, doz. bun.	2 0	6 0
Bouvardias, per bun.	0 6	1 0	Orchids:—		
Carnations, 12 blms.	2 0	4 0	Cattleya, 12 blms.	6 0	12 0
Chrysanthemums, p. doz. bunches ...	4 0	9 0	Odontoglossum crispum, 12 blms.	2 0	6 0
Cyclamen, doz. blms.	0 6	0 9	Pelargoniums, scarlet, p. 12 bun.	6 0	9 0
Daffodils, dble., doz. bunches ...	1 6	3 0	12 sprays ...	0 9	1 6
— single do. ...	2 0	9 0	Primroses, doz. bun.	1 0	2 0
Eucharis, per dozen	2 6	4 0	Primulas, double ...	0 6	1 0
Gardenias, per dozen	6 0	12 0	Roses, Tea, per dozen	2 0	4 0
Heliotropes, per doz. sprays	0 6	0 9	— coloured, dozen	3 0	6 0
Hyacinths, Roman, doz. sprays	0 6	1 0	— yellow (Maréchals), per doz.	4 0	9 0
— dozen spikes ...	3 0	6 0	— red, per dozen...	3 0	6 0
— French, 12 bun.	0 6	1 0	— (French) p. doz.	1 6	4 0
Lilac, French, per bunch	3 0	5 0	Snowdrops, doz. bun.	0 9	1 6
Lilium Harrisii, doz.	6 0	9 0	Tuberoses, 12 blms.	1 0	1 6
Lily of the Valley, doz. sprays	0 6	1 0	Tulips, red, doz. bm.	0 6	0 9
Maiden Hair Fern, 12 bunches ...	6 0	9 0	— white, doz. blm.	1 6	2 0
Marguerites, p. doz. bunches	2 0	4 0	— yellow, doz. blm.	1 0	1 6
Mignonette, 12 bun.	3 0	6 0	Violets, Parme French per bunch	2 6	3 6
Mimosa, French, bun.	1 0	1 6	— Czar, French, per bunch	1 6	2 0
			— small French, p. doz. bunches	1 0	1 6

ORCHID-BLOOM in variety not in quantity.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arums, dozen pots ...	12 0	18 0	Ficus elastica, each	1 6	7 6
Azalea, per doz. ...	24 0	42 0	Genista, per doz. ...	9 0	15 0
Adiantum, per doz.	6 0	12 0	Hyacinth, doz. pots	8 0	12 0
Aspidistra, per doz.	15 0	30 0	Lilium Harrisii ...	24 0	36 0
— specimen, each	7 6	21 0	Lily of the Valley, 12 pots	12	18 0
Cineraria, per doz.,...	8 0	12 0	Marguerite, per doz.	6 0	12 0
Cyclamen, doz. ...	9 0	18 0	Mignonette, doz. pots	6 0	12 0
Cyperus, per dozen	4 0	10 0	Palms, various, each	2 0	10 0
Dracæna, each ...	1 0	5 0	— specimens, each	10 6	84 0
Erica, various, doz.	9 0	18 0	Solanum, per doz.	9 0	12 0
Ferns, various, doz.	4 0	9 0	Tulip, per doz. pots	6 0	9 0
Ferns, small, per 100	5 0	8 0			

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples, p. half-sieve	2 0	3 6	Pine-apples, St. Michael	4 0	8 0
— Nova Scotia, per barrel	10 0	17 6	Oranges, Florida, per case...	10 0	16 0
Cobs, per 100 lb.			Strawberries, per lb.	6 0	12 0
Grapes, per lb. ...	1 0	5 0			
Lemons, per case ...	12 0	20 0			

VEGETABLES. — AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Beans, French, lb. ...	1 6	2 0	Mushrooms, punnet	2 0	
Beet, red, per dozen	2 0	3 0	Mustard and Cress, punnet	0 4	...
Carrots, per bunch...	0 4	0 6	Parsley per bunch...	0 3	0 6
Cauliflowers, each ...	0 3	0 6	Sealkale, per basket...	2 0	2 6
Cucumbers, each ...	0 9	1 0	Shallots, per lb. ...	0 6	...
Endive, per dozen ...	2 0	3 0	Tomatos, per lb. ...	1 0	1 6
Herbs, per bunch ...	0 9	1 0	Turnips, per bunch...	0 4	0 6
Lettuces, per doz. ...	1 6	2 0			

POTATOS.

Trade remains very quiet, although stocks on hand are being lowered.

NEW POTATOS.—Arrivals this week very light, and best samples commanding higher prices. *J. B. Thomas.*

SEEDS.

LONDON: *March* 15.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write, that as might be expected, there is now a good sowing demand for farm seeds. Cow-grass and Red Clover seed keep steady. White Clover seed has become scarce and is dearer. There is no change this week in either Alsyke or Trefoil. Rye-grasses are firm. For spring Tares there is an active request. Brunswick Gore Vetches are obtainable on moderate terms. Canary seed is dull just now. Some arrivals of Hempseed, released from the ice, are shortly expected. For Haricot Beans there is a better sale. Blue Peas are still neglected. Mustard and Rapeseed keep steady.

FRUITS AND VEGETABLES.

SPITALFIELDS: *March* 14.—Quotations:—Sprouting Broccoli, 1*s.* 6*d.* to 2*s.* 6*d.*; Turnip-tops, 1*s.* 6*d.* to 2*s.*; Swede-tops, 1*s.* 6*d.* per sack; Sprouts, 1*s.* to 1*s.* 3*d.* per half-sieve; Curly Kale, 1*s.* 6*d.* per bushel; Cauliflowers, 4*s.* to 7*s.* 6*d.*; Savoys, 2*s* to 3*s.* 6*d.* per tally; Greens, 1*s.* to 1*s.* 6*d.*; Turnips, 2*s.* to 2*s.* 6*d.*; Carrots, 2*s.* to 3*s.* per dozen bunches; forced Rhubarb, 1*s.* 3*d.* to 1*s.* 6*d.* per dozen bundles; Horseradish, 2*s.* to 2*s.* 6*d.*; Celery, 1*s.* 3*d.* to 1*s.* 6*d.* per bundle; English Onions, 9*s.* to 10*s.* per cwt.; Spanish do., 9*s* to 10*s.* per case; Mustard and Cress, 2*s.* per dozen baskets; fruit unaltered in value.

BOROUGH: *March* 14.—Quotations:—Savoys, 3*s.* to 6*s.* per tally; Sprouts, 1*s.* 3*d.* to 1*s.* 6*d.* per half-sieve; Turnip-tops, 1*s.* 6*d.* to 3*s.*; Broccoli, 1*s.* 9*d.* to 2*s.* 6*d.* per bag; Greens, 1*s.* 6*d.*; Parsley, 3*s.*; Carrots, 2*s.* 6*d.* to 3*s.* 6*d.*; Turnips, 1*s.* 6*d.* per dozen bunches; English Onions, 10*s.* to 12*s.* per cwt.; Dutch do., 6*s.* per bag; Horseradish, 2*s.* 3*d.* to 2*s.* 6*d.* per bundle; Apples, 4*s.* 6*d.* to 8*s.* per bushel.

STRATFORD: *March* 15.—There has been a good supply of all kinds of produce at this market during the past week, and a brisk trade has been done at the undermentioned quotations:—Savoys, 2*s.* to 4*s.* per tally; Greens, 1*s.* to 1*s.* 6*d.* per bag; do., 1*s.* 6*d.* to 2*s.* 6*d.* per dozen bunches; Cauliflowers, 1*s.* to 2*s.* per dozen; do., 4*s.* to 7*s.* 6*d.* per tally; Turnips, 40*s.* to 50*s.* per ton; Carrots, household, 40*s.* to 50*s.* do.; do., cattle, 24*s.* to 36*s.* do.; Parsnips, 6*d.* to 9*d.* per score; Mangels, 16*s.* to 20*s.* per ton; Swedes, 12*s.* to 22*s.* do.; Onions, English, 200*s.* to 220*s.* do.; do., Dutch, 7*s.* to 8*s.* per bag; do., Bordeaux, 5*s.* to 8*s.* per case; Apples, English, 2*s.* to 6*s.* per bushel; do., American, 12*s.* to 20*s.* per barrel; Brussels Sprouts, 9*d.* to 1*s.* 3*d.* per half-sieve; do., 1*s.* to 1*s.* 9*d.* per flat; Sprouting Broccoli, 2*s.* to 2*s.* 6*d.* per bag; Turnip Tops, 2*s.* to 2*s.* 6*d.* per bag.

FARRINGDON: *March* 16.—Quotations:—English Onions, 10*s.* to 10*s.* 6*d.* per cwt.; Carrots, 50*s.* to 60*s.* per ton; Parsnips, 50*s.* do.; Turnips, 45*s.* to 50*s.* do.; Sprouting Broccoli, 2*s.* to 2*s.* 6*d.* per bag; Sprouts, 1*s.* to 1*s.* 3*d.* per half-sieve; Turnip Tops, 2*s.* to 3*s.* per bag; Apples, American, Baldwins, 17*s.* 6*d.*; Golden Russets, 21*s.* per barrel; Cape Grapes, 9*s.* per box.

POTATOS.

SPITALFIELDS: *March* 14.—Quotations:—Imperators, 55*s.* to 70*s.*; Champions, 50*s.* to 60*s.*; Magnums, 50*s.* to 70*s.* per ton.

BOROUGH: *March* 14.—English Magnums, 45*s.* to 60*s.* per ton. Others unaltered.

STRATFORD: *March* 15.—Quotations:—Magnums, 45*s.* to 60*s.*; Bruces, 50*s.* to 65*s.*; Imperators, 45*s.* to 60*s.*; Scotch Magnums, 60*s.* to 65*s.*; Scotch Bruces, 60*s.* to 80*s.* per ton.

LONDON AVERAGES: *March* 15.—Magnums, 45*s.* to 65*s.*; Hebrons, 60*s.* to 80*s.*; Imperators, 50*s.* to 70*s.*; Regents, 60*s*; to 80*s.*; Belgians, 50*s.* to 60*s.* per ton. New:—Jerseys, 6*d.* to 9*d.* per pound.

FARRINGDON: *March* 16.—Quotations:—Main Crop, 80*s.* to 90*s.*; Sutton's Abundance, 75*s.* to 80*s.*; Imperators, 55*s.* to 60*s.*; Bruce's, 60*s.* to 70*s.*; Magnums, 55*s.* to 60*s.*; Snowdrops, 70*s.* to 80*s.* per ton.

CORN.

Averages.—Official statement of the average prices of British corn, imperial measure (quarter) for the week ending March 11, and for the corresponding period last year:—1893: Wheat, 25*s.*; Barley, 25*s.* 2*d.*; Oats, 18*s.* 1*d.* 1892: Wheat, 32*s.* 11*d.*; Barley, 27*s.* 11*d.*; Oats, 20*s.* 2*d.*

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 80*s.* to 112*s.*; do., inferior, 70*s.* to 75*s.*; hay, best, 75*s.* to 112*s.*; do., inferior, 65*s.* to 75*s.*; and straw, 26*s.* to 44*s.* per load.

CATALOGUES RECEIVED.

JAS. BACKHOUSE & SON, York—Alpine Plants, Hardy Perennials, and Florists' Flowers.

TOOGOOD & SONS, Southampton—Farm Seeds.

DAVID W. THOMPSON, 24, Frederick Street, Edinburgh—Agricultural Seeds.

WM. CLIBRAN & SON, Market Street, Manchester—Agricultural Seeds.

REID & BORNEMANN, Trewsbury Road, Sydenham, London, S.E.—Chrysanthemums, and other Florists' Flowers.

GARDENING APPOINTMENTS.

MR. H. BRADLEY, as Head Gardener to Mrs. GWYN, The Dyffryn Neath, Glamorganshire, where he had been two years as Foreman.

Mr. W. DOLLING, until lately Head Gardener at Whitehill, Newton Abbot, as Head Gardener to E. F. TREEBY, Esq., Manor House, Ashton, Chudleigh, Devon.

Mr. H. RUSSELL, late Head Gardener to Lord HINDLIP, at Doveridge Hall, Derby, has been appointed by his lordship to the charge of the gardens at Hindlip Hall, near Worcester.

Mr. CHARLES WEAVER as Gardener to the W. R. MITCHELL Esq., Down Grange, Basingstoke.

PARTNER WANTED, to join a thorough Practical Man, with First-class Connection in the NURSERY BUSINESS. Capital required about £200.—Apply, WM. CREELEY, North Street Nursery, Annan, N.B.

A FRUIT-GROWER and MARKET GARDENER has a VACANCY for a PUPIL, to learn the business of Growing Fruit for the London Market. Comfortable home. References given. — For terms, apply to F. CALLENDER, Kingwood Vineries, Henley-on-Thames.

WANTED, a good GARDENER; Wife for the Laundry. No family.—Apply, by letter, to W. T., Messrs. Deacon's, Leadenhall Street, London, E.C.

WANTED, a GARDENER, must have had good experience in Growing Orchids. Wages 25s.—Apply, Cumberland Park Nursery, Willesden Junction, London.

WANTED, a married Man as GARDENER, at St. Mark's College, Chelsea.—Apply, by letter only, to THE PRINCIPAL.

Gardener and Laundress.

WANTED, a HEAD WORKING GARDENER. Wife as Laundress. No children, but daughter who could assist in laundry an advantage. Thirty miles from London. Abstainers preferred. Good characters indispensable.—Address, A., Norton Lodge, Yarmouth, Isle of Wight.

WANTED, a HEAD WORKING GARDENER, principally Surface, who can also act as WORKING BAILIFF, and would probably be required to take charge of the House in winter (40 miles from London). Personal character indispensable.—Apply by letter to H. S. FENNING, St. Paul's Square, Bedford.

WANTED, a SINGLE-HANDED GARDENER, at Streatham.—Married, no children; must understand Glass, &c. Wages 20s. per week and rooms. Write with particulars to A. B., 4, Raymond Buildings, Gray's Inn, W.C.

WANTED, a SECOND GARDENER, where three are kept, with a good knowledge of Flower and Vegetable Growing.—Age from 23 to 28, must be unmarried; to live in bothy. Good personal character.—Write first to Mrs. RAYMOND LLEWELLYN, 21, Cadogan Place, S.W.

WANTED, a good all-round MAN as GARDENER.—Must understand the management of Vines, Stove, and Hard-wooded Plants. Age 25 to 40. Good references.—Apply, at Fernside, 87, Stamford Hill, N., G. E. R., on Saturday after 6, or Monday before 12, or by letter.

WANTED, as FOREMAN, a sharp, active MAN, with a good knowledge of Fruit and Plant Culture, and capable of keeping up a good supply of Cut Bloom. Wages, 20s. per week; bothy, milk, and vegetables.—State age and experience, to T. NUTTING, Childwickbury, St. Albans.

WANTED, a GENERAL FOREMAN, not under 26. Well up in Fruit, Plants, and Chrysanthemums. Wages, £1 per week and Bothy.—W. LANE, King's Ride, Ascot.

WANTED, FOREMAN in a Private Place, under a Head Gardener, near London. Age about 26. Total abstainer; non-smoker; must be experienced in Carnations, Stove Plants, Vines, Chrysanthemums, &c. Two Foremen kept and an Improver, 19 years of age, in the Houses. Good wages and rooms; cooking and cleaning done. Apply by letter to S. C. F., Mr. Triniman, Stationer, Streatham.

WANTED, AT ONCE, a good GROWER of Tomatos, Cut Ferns and Flowers; 10 miles from Swanley. Good wages.—K., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a good CUCUMBER GROWER, with knowledge of Grape and Tomato Growing — Apply, Stating wages, &c., J. FRAMPTON, East Worthing.

WANTED, TWO or THREE young, active MEN, used to Palms and Ferns, in a Market Nursery. —J. ROCHFORD, Page Green Nursery, South Tottenham.

WANTED, an experienced young Man, for the Plant-houses. Must be smart, strong, active, and willing. Wages 18s. per week, with pay for Sunday duty; no bothy.—Apply, in own handwriting, to W. G. BAKER, Botanic Gardens, Oxford.

WANTED, a YOUNG MAN, for a Market Nursery, well up in Plant Growing, &c.—Apply, G. PRICKETT AND SONS, Floral Nursery, Enfield Highway.

WANTED, a strong active willing young MAN, for Kitchen Garden, used to Machine, and able to take turn with Fires. Wages 16s. per week and bothy.—R. SHARPE, Low Hill, Wolverhampton.

WANTED, for March 20, TWO young MEN, one for Inside and Out, and the other for Outside. Both to live in Bothy, and take turn with Stoking, &c. C. TRODD, Grove Park Gardens, Kingsbury, Middlesex.

WANTED, a JOURNEYMAN for the Houses.—Wages, 15s. per week, bothy, milk, and vegetables. All Englishmen in bothy.—Apply, sending copy of testimonials, to W. LAPHAM, Besborough, Cork.

WANTED, AT ONCE, a young man, accustomed to Inside and Out, to take Charge of small Suburban Nursery.—Apply, with full particulars, to C. HARWOOD, Balham Nursery, Balham, S.W.

WANTED, a single MAN, age 25, for Pleasure Grounds and Kitchen Garden. Good Mower (with scythe). Wages 16s. per week.—W. TOLLEY, The Gardens, Cowley Manor, near Cheltenham.

WANTED, a young MAN, used to working amongst Outdoor Roses; industrious, and quick Budder. —Wages, &c., to S. G. RUMSEY, Rose Grower, Wretham, Kent.

WANTED, a young MAN, with a knowledge of Outdoor Fruit Growing for Market, and to Assist in the Houses when required, and make himself generally useful. Preference given to total abstainer. Wages, 18s. per week.—Apply, THE NURSERY, Sutton-on-Trent, near Newark.

WANTED, TWO active 'young MEN, who have had several years' experience in a Market Nursery. Character and full particulars to R. W. PROCTOR, Nurseryman, Chesterfield.

WANTED, AT ONCE, a MAN, well up in Carnations, for situation where these plants are grown largely. None need apply who have not recent experience.—Apply, by letter, stating where last employed, and wages expected, to T. J., 41, Wellington Street, Covent Garden, W.C.

WANTED, AT ONCE.—Young active willing MAN, for Market Nursery Work. One used to Cucumbers and Tomatos.—Apply, F. WRIGHT, Nurseries, Wheathampstead, Herts.

WANTED, a KNIFEMAN. — Must have first-class references.—Apply, stating wages required, to SYDNEY S. MARSHALL, Barnham Nursery, Sussex.

WANTED, a HANDY-MAN. — Able to Paint and Repair Glasshouses.—Apply, by letter only, stating wages required, to GARDENER, Coppel Hall, Totteridge, Herts.

WANTED, in a Market Nursery, a young MAN, as IMPROVER, must be energetic, and thoroughly trustworthy. Abstainer preferred. Wages to commence 15s. per week, overtime, and Sunday work paid. Good character indispensable.—Apply, R., 41, Wellington Street, Strand, W.C.

WANTED, an IMPROVER, to work principally in the Houses, under a Foreman.—One with two or three years' experience. Must be strong, active, and obliging.—Apply, giving particulars to W. ROWE, Squerryes Court Gardens, Westerham, Kent.

WANTED, a young MAN, of good address and experience, as CLERK or SHOPMAN, and to Travel. —Write, stating age, experience, and salary required, to WATKINS AND SIMPSON, Seed Merchants, Exeter Street, Strand, London, W.C.

Clerk.

WANTED a CLERK, used to the Nursery Business.—State age, experience, and wages required. —THOMAS ROCHFORD, Turnford, Broxbourne, Herts.

WANTED, a JUNIOR CLERK; must be a good writer, and quick at figures. Apply, stating experience and salary required, to B. S. WILLIAMS AND SONS, Victoria and Paradise Nurseries, Upper Holloway, N.

WANTED, MANAGERESS (RETAIL FLOWERS).—An educated Gentleman, intending to enter the Retail Flower Trade, invites applications from MANAGERESSES of real experience, with a view to conference. He would probably give an interest to one selected. Detailed answers preferred.—W. L., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a young LADY, for Florist's Shop. One used to Making-up Button-holes, &c.—Apply to A. BARKER, Finney Gardens, Hanley, Staffordshire.

FLORIST.—WANTED, a young LADY of good appearance and address, to take charge of Cut Flower Department. Well up in all Floral Designs.—Apply, stating age, experience, and salary required to J. HENDERSON AND SONS, 3, Lincoln Place, Dublin.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. *on Wednesday will, in all probability, be held over to the next week.*

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

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DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. All particulars on application.
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F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character, and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—
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GARDENER (HEAD).—W. FISHER, Gardener to the Earl of Cawdor, Stackpole Court, Pembroke, would be pleased to recommend his Foreman, Charles Davis, to any Lady or Gentleman who is in want of a first-class man.

GARDENER (HEAD).—Age 35, one child; has had thorough experience, and can be highly recommended.—J. CHEAL AND SONS, The Nurseries, Crawley.

GARDENER (HEAD), or where help is given. Age 29, married when suited. Life experience in all branches. Can be well recommended. — W. HAMMOND, The Gardens, Denham, Totteridge, Herts.

GARDENER (HEAD).—Age 41, one child; has had large experience, and can be very highly recommended. Leaving through death. — J. CHEAL AND SONS, The Nurseries, Crawley.

GARDENER (HEAD); age 30; abstainer.—EDWARD YOUNG, last three and a-half years General Foreman at Longford Hall, Stretford (Mrs. Rylands); previously Foreman at Fulwell Park and Hardwicke House (Oxon), offers his services to any Lady or Gentleman requiring a thorough practical man; excellent testimonials.—Dorset, Stretford, Manchester.

GARDENER (HEAD); age 30.—J. DUMBLE, Gardener to Sir Charles Philipps, Bart., Picton Castle, Haverfordwest, is desirous of recommending his General Foreman, H. Butcher, to any Lady or Gentleman requiring a thoroughly competent man. He has a good knowledge of the different branches of Gardening, is well acquainted with the Cultivation of Fruit (Indoor and Out), Flowers and Vegetables, is also a most successful Grower of Chrysanthemums for Exhibition.

GARDENER (HEAD), where one other is kept, or assistance given.—Age 28; twelve years' good all-round experience; abstainer; good references. — C. T., 9, Belvernie Grove, Wandsworth, S.W.

GARDENER (HEAD); middle-aged, married. —A GENTLEMAN wishes to recommend his Head Gardener, who has been with him six years. Understands Vines, Melons, Stove and Greenhouse Plants, Flower and Kitchen Gardening. Fourteen years' previous good character. —GEO. TURNER, Cranmore Lodge, Elmstead, Chislehurst.

GARDENER (HEAD); single at present.—E. W. BUNNEY, Gardener to Lord Monk Bretton, can recommend his Foreman as a good practical man. — W. JENNER, The Gardens, Conyboro' Park, Lewes, Sussex.

GARDENER (HEAD WORKING), where two or three are kept; near London.—Age 26, single; twelve years' good experience; well up in all branches; three and a half years' good character from last situation.—F. B., Orleans House, Twickenham, S.W.

GARDENER (HEAD WORKING).—Age 36, married, one child; twenty years' experience in all branches of Gardening. Four years in present situation. Good reference.—GEO. MCLEOD, The Gardens, Observatory House, Honor Oak Park, S.E.

GARDENER (HEAD WORKING).—Age 31; sixteen years' practical experience in all branches; well up in Forcing all kinds of Fruit, Flowers, &c.; also good Chrysanthemum Grower. Excellent references; disengaged. —A. CAMPIN, 58, Perry Hill, Catford, S.E.

GARDENER (HEAD WORKING), man or lad kept.—Middle age, married, no children; twenty-five years' experience. Ten years' good character in present place. Vines, Melons, Cucumbers, Tomatos, Flower and Kitchen Garden; Stock if required.—G. CHILTON, Heacham Lodge, King's Lynn, Norfolk.

GARDENER (HEAD WORKING), where two or three are kept —Age 30; understands the whole routine of gardening; fourteen years' experience in all branches.—THRUSH, Cottage, Cranham, Romford.

GARDENER (HEAD WORKING); age 27.—The BISHOP OF LONDON, Fulham Palace, S.W., wishes to highly recommend E. Newitt to any Lady or Gentleman as above. He has been employed here as General Foreman for the past three years; also highly recommended by A. J. Ballhatchet, F.R.H.S., as Head Gardener and Bailiff, twelve years' experience.

GARDENER (HEAD WORKING), where three or more are kept.—Age 30; married when suited. Sixteen years' experience in all branches. Good character from previous and present situations.—W. H., 41, Wellington Street, Strand, W.C.

GARDENER (Head Working).—Age 33, married; one child, 7 years; thoroughly experienced in all branches; Early and Late Forcing; Vines, Cucumbers, Melons, and Stove and Greenhouse Plants; good Chrysanthemum Grower; Flower and Kitchen Garden. Leaving through establishment being given up. Excellent character, seven years previous; life experience.—J. PULLEN, The Gardens, St. Leonard's Forest, Horsham, Sussex.

GARDENER (Head Working); age 30; sixteen years' good practical experience. Eleven and a half years' excellent reference.—C. HARRISON, Hampton Lane Farm, Solihull, Birmingham.

GARDENER (Head Working).—Age 34, widower, one child; life experience in all branches of Gardening. Excellent testimonials.—GARDENER, Mr. Harrison, Builder, Gresham Road, Staines, Middlesex.

GARDENER (Head Working).—Age 35, married (Scotch); has had large experience, and can be very highly recommended. Leaving through breaking up of establishment.—J. ALLAN, The Gardens, Pipewell Hall, Kettering.

GARDENER (Head Working), where others are kept.—Age 37, married; good practical all-round man. Sixteen and a half years' good character.—H., 48, Bedford Road, Ealing Dean, W.

GARDENER (Head Working).—Married; thoroughly experienced.—A Gentleman highly recommends the above, who has been in his service over fourteen years.—B., Tollerton Hall, Notts.

GARDENER (Head Working), where three or more are kept.—Age 32; married, two children. Land and Stock if required. Thorough practical and energetic man. Head six years in present situation.—A. B., Mr. J. Hill, Florist, New Malden, Surrey.

GARDENER (Head Working).—Age 40, married; thoroughly good, practical, and competent Gardener. Twenty-five years' experience in Growing Grapes, Peaches, Figs, Melons, Cucumbers, Tomatos, Mushrooms, Stove and Greenhouse Plants, Orchids, and Flower and Kitchen Gardening, Early and Late Forcing. Abstainer. Highest references.—GARDENER, Elcombes, Romsey, Hants.

GARDENER (Head Working).—Age 43, married; thoroughly experienced in Vines, Pines, Cucumbers, Melons, Stove, Greenhouse, Flower and Kitchen Gardens. Eighteen years with the late Col. Long, of Hurts Hall; left through a death.—T. COOPER, Saxmundham.

GARDENER (Head Working).—W. Kelland, late Foreman, Ashton Court, Bristol, seeks situation. Mr. Bethell will strongly recommend the above to any Lady or Gentleman wanting a trustworthy, experienced man. Abstainer.—B., 52, Great King Street, Hockley, Birmingham.

GARDENER (Head Working), where three are kept.—Age 29, no family; good Plantsman. Orchids, Table Decorations, and Flower and Kitchen Garden. Good characters.—J. W., 66, Arthur St., Fulham Road, S.W.

GARDENER (Head Working).—Age 31, married, two in family; eighteen years' thorough experience. Early and Late Forcing. Three years and ten months' good character. Leaving through family giving up.—T. LUPTON, Elstree, Herts.

GARDENER (Head Working), where one or more are kept.—Age 32; nineteen years' excellent character from present employer. Highest testimonials for practical experience. Stove and Greenhouse Plants, Vines, Peaches, &c.—R. POULTON, Newby Bridge, Ulverston.

GARDENER (Head Working).—Vineries, Kitchen and Flower Gardens, and to act as Care-taker of Empty Mansion. Family must be small. State wages, experience, and give reference. A Second, single man, also required.—BOX 14, Newcastle, Staffordshire.

GARDENER (Head Working).—Age 35, married; twenty years' experience in Stove and Greenhouse Plants, Vines, Peaches, Melons, Cucumbers, Flower and Kitchen Garden. Good character.—GARDENER, Abbotsfield, Plymouth.

GARDENER (Head, or Single-handed).—Age 38, married; steady, respectable. Life experience with Glass, Fruit, Flowers, Vegetables, &c. Good character.—GARDENER, Wickham Place, near Witham, Essex.

GARDENER (Head, or Single-handed).—No family; Wife could assist in House, Caretaker, or Poultry. Both trustworthy; good characters.—A. B., 4, Grove Road, Chertsey, Surrey.

GARDENER (Single-handed, or otherwise). Age 35, married, one child, age 9 years; thoroughly practical in Vines, Cucumbers, Fruits, Stove and Greenhouse Plants, Flower and Kitchen Garden. Character will bear the strictest investigation from present and previous employers.—W. G. WILLIAMS, Highland Place, Aberdare.

GARDENER (Single-handed, or Second).—Age 25; life experience in Greenhouse Plants, Fruit, Flower and Kitchen Garden. Highest reference.—T. SHOW, Chester House, Wellingborough.

GARDENER (Single-handed, or Second). Good references, and three and a half years' good character from present situation.—F. J., Lower Camden, Chislehurst, Kent.

GARDENER (good Single-handed, or with help).—Age 23; six years' experience. Excellent references.—T. BRADLEY, Wenvoe, near Cardiff.

GARDENER (Single-handed, or with assistance).—Age 24; ten years' experience in good private places. In the suburbs preferred. Good recommendations.—GARDENER, 20, King Street, Chelsea, S.W.

GARDENER (Single-handed, or with help).—Married; good reference.—J. KILHAMS, Portslade Village, near Brighton.

GARDENER (Single-handed, or where help is given).—Age 26, single; understands Greenhouse, Flower and Kitchen Garden. Good experience; good character.—BLUNDELL, Archbishop's Lodge, Addington Park, Croydon, Surrey.

GARDENER (Single-handed), or where help is given.—Age 28, single; twelve years' experience. Excellent character from last and previous employers.—H. ELLIOTT, The Field, Edwalton, Notts.

GARDENER (Single-handed).—Age 27, married when suited; Stove and Greenhouse Plants, Flower and Kitchen Garden. Good reference; abstainer. Suburbs preferred.—H. WAYLING, 2, Canterbury Terrace, Maida Vale, W.

GARDENER (good Single-handed, or where help is given).—Age 28, single; twelve years' experience in all branches; can be well recommended; excellent character.—J. HOLMAN, The Gardens, Weston Park, Stevenage, Herts.

GARDENER (Single-handed).—Age 30, single. Understands Vines, Peaches, Melons, Cucumbers, Strawberries, Plants, Kitchen Garden, &c. Good character.—A. NICHOLS, Hemsby, Great Yarmouth, Norfolk.

GARDENER (Kitchen, or Single-handed).—Age 30, married, one child; 12 years' good character from present employer.—W. BASS, Great Gearies, Ilford, Essex.

GARDENER (good Single-handed).—Age 28, single; eleven years' experience; steady, willing, and industrious. Four and a half years last place. Excellent references.—UNWIN, 18, Selwyn Terrace, Barton Road, Cambridge.

GARDENER, where another is kept.—Eight years' experience in all branches; good references from previous employers.—A. SNELLING, 26, Stamford Terrace, Stamford Hill, London, N.

GARDENER, where assistance is given.—Age 25, single; thoroughly practical experience in Growing Fruit, Flowers, and Vegetables. Good character and references.—A. D., Prospect, Pewsey, Wilts.

GARDENER.—Age 30, married. Thoroughly practical in all branches. Two years in present situation; five and a half previous.—W. ANDREWS, 6, Topsfield Cottages, New Road, Crouch End, N.

GARDENER, where help is given.—Age 26, single. Experienced in all branches. Can be highly recommended.—A. WARREN, The Gardens, Orchardleigh Park, Frome, Somerset.

GARDENER (Second), in a good Establishment.—Age 25, single; ten years' good practical experience Inside and Out. Good references.—T. HERBERT, The Gardens, Kirby Frith Hall, Leicester.

GARDENER (Second), where four or five are kept.—Age 23, single; well experienced in general routine of Garden Work. Eight and a half years' good character from present situation.—H. HAWKINS, The Square, Burwash, Sussex.

GARDENER (Second); age 24; nine years' experience Inside and Out.—Mr. J. Atkinson, Matfen Hall Gardens, Corbridge, R.S.O., Northumberland, wishes to recommend T. Haggitt as above.

GARDENER (Second).—Age 23, single. Ten years' good experience in all branches. Seven years' in present situation.—J. C., Gardens, New Hall, Balderton, Newark.

GARDENER (Second).—Age 25, single; eleven years' experience Inside and Out. Vines, Peaches, Flowers, Vegetables, &c. Good references.—A. CARTER, Brettenham, Thetford, Norfolk.

GARDENER (Second).—Age 26, married; thoroughly experienced in the Culture of Vines, Peaches, Melons, Cucumbers, Tomatos, &c., and the general routine of Flower Garden. Can be highly recommended. Two years' good character from present situation.—J. KEEN, The Gardens, Eywood, Titley, Herefordshire.

GARDENER (Second), in the Houses.—Age 23; nine years' experience, three in present situation, where three are kept Inside. Good character and testimonials; well recommended. Abstainer.—F. T., The Gardens, The Chestnuts, Denmark Hill, S.E.

GARDENER (Second).—Mr. Hibbert, Gardener to Madame Patti, will be pleased to recommend a married man that has been with him three years.—Craig-y-nos Castle, Swansea Valley.

GARDENER (Second), where four or more are kept.—Age 25; ten years' experience. Good character from present and previous employer.—W. WARE, The Gardens, Ashley Park, Walton-on-Thames.

GARDENER (Second).—A young Man, age 23, single. No objection to Pleasure Grounds or Kitchen Garden. Good character from last place.—T. R., Albion Cottages, West Hill, Epsom.

GARDENER (Second).—Six years' experience Inside and Out. Good character. Bothy preferred. Disengaged.—F. SIMPSON, 68, West Street, Farnham.

GARDENER (Under).—Age 25, single; three years Glass, five years General Gardening; seven months present situation as Foreman in the Houses; leaving through alteration. Disengaged March 25. Good character.—W. BREWSTER, Hagley Hall Gardens, Stourbridge.

GARDENER (Under, or Single-handed).—Age 26, single. Has been used to Nursery Work and Private Places. Two years in present place; six years' experience. Good character.—J. KIRBY 18, Park Road, Chislehurst, Kent.

GARDENER (Under), Inside and Out.—Age 21; seven years' experience. Highest references from last and previous places.—G. CAPSTICK, Southend Lodge, Catford, Kent.

GARDENER (Under), Inside, or Inside and Out.—Age 19; two years in present situation, and four years in former. Good character; bothy preferred.—W. THURSTON, Harleyford Gardens, Gt. Marlow, Bucks.

GARDENER (Under), in a private establishment.—Age 22; Inside or Inside and Out. Good references. Near London preferred.—G. WHITEMAN, The Gardens, Grimsthorpe Castle, Bourne, Lincolnshire.

GARDENER (Under), where three or four are kept; age 22.—Mr. Cook, Ashley Park Gardens, Walton-on-Thames, can recommend J. Martin as above. Two years' good character.

GROWER.—Age 26; twelve years' practical experience in Growing Grapes, Tomatos, Roses, Ferns, Mushrooms, choice Pot and Cut Stuff. Good character.—T. FRY, Malt House, Lancing.

GARDENER (Under), Inside and Out.—Age 22; good character.—C. ALLEN, Mr. Neighbour, Bickley Hall Gardens, Lower Camden, Chislehurst, Kent.

GARDENER (Under), Inside and Out, or otherwise.—Age 20; four years' experience. Good references.—J. PIKE, The Lodge, Whitestaunton, Chard.

GARDENER (Under).—Age 21; two years' good reference.—J. H., Spring Cottage, Limpsfield, Surrey.

FOREMAN, or good SECOND.—Age 25; twelve years' experience in good places. Both Fruit and Plant Houses, also House Decorations. Good testimonials.—J. G., Moor Park Gardens, Rickmansworth, Herts.

FOREMAN; age 26.—J. Street, The Gardens, Cannon Hill, Maidenhead, will be pleased to recommend his late Foreman, who has served him two and a half years as a thorough practical man.—HENRY STOWE, 121, Melford Road, Leytonstone, E.

FOREMAN.—Married; twenty years' experience in producing large quantities of Cut Flowers and Plants for Market, such as Chrysanthemums, Bouvardias, Double Primulas, Pelargoniums, Roses, Palms, Ferns, Eucharis, &c. Excellent references.—FOREMAN, 14, Hartfield Crescent, Wimbledon.

FOREMAN, in the Houses.—Age 24. Nine years' experience in Stove and Greenhouse Plants, Cucumbers, Fruit, &c. Nearly five years in present place. Good hand at Wreath and Bouquet Making.—A. HIGGS, The Gardens, Cooper's Hill, Staines.

FOREMAN; age 27.—Mr. Hunter, Lambton Castle Gardens, Fence Houses, co. Durham, would be pleased to recommend William Dryden as above.

FOREMAN, or SECOND, in the Houses.—Understands all kinds of Fruits and Stove and Greenhouse Plants; also Early and Late Forcing. Good character and testimonials.—R. HASTED, Church Farm, Privett, Alton, Hants.

FOREMAN, in the Houses, or GENERAL.—Age 28. Thirteen years' thorough practical experience in good private Establishments. Highest references.—J. ALLERSTON, Sand Cottage, Bridlington Quay, Yorkshire.

FOREMAN, under Glass.—Age 29. Experienced in Fruit and Plant Growing. Good references. E. DAVIS, Clevedon Hall Gardens, Somerset.

FOREMAN.—Three and a half years in present situation; five years in previous; good character. Used to Table Decoration.—F. EVASON, Down House Gardens, near Blandford, Dorsetshire.

FOREMAN.—Age 24. Experience gained at Carlton House, Byram Hall, Middleton Park, and present place.—B. Ashton, Glossop Hall, can highly recommend S. Johnson as above.

FOREMAN, in the Houses, or GENERAL; age 26.—Mr. Lawrence, The Gardens, Betteshanger, Dover, can with confidence recommend his Foreman, John Hayes, who is an excellent Plant and Fruit Grower; leaving through the death of Lord Northbourne. Excellent testimonials from good establishments. Apply as above, or of Mr. BIRCH, Gardener to the Marquess of Northampton, Castle Ashby, Northampton.

FOREMAN; age 27.—Jno. Masterson, Gardener to the Countess of Camperdown, Weston House, Shipston-on-Stour, can with confidence recommend his present Foreman (Harry Martin). Excellent testimonials. Good Fruit Establishment preferred.

FOREMAN, or JOURNEYMAN (First).—Age 24; ten years' experience. Excellent references from good places. Life abstainer.—EDWARD GRISTWOOD, Stanstead Farm, King's Langley, Herts.

To Nurserymen, &c.

FOREMAN, or PROPAGATOR and GROWER.—Well up in choice Cut and Flowering Market Stuff in general; Palms, Ferns, Draceenas, Crotons, Ampelopsis, Bulbs, Roots, Cucumbers, Tomatos, and Mushrooms, &c.—E. B., 6, Halton Crescent, Hastings.

FOREMAN, in the Houses.—Age 27; ten years' experience in good Gardens.—GEO. THOMPSON, Park Gatehouse, Westwell, Ashford, Kent.

FOREMAN, or JOURNEYMAN (First), in a good establishment.—Age 25; eleven years' experience in good places. Can produce highest testimonials.—C. HARRISON, The Newlands, Leamington.

FOREMAN.—Age 26; twelve years' experience in Plant and Fruit Culture in first-class private establishments; also used to Table Decoration. First-class references.—A. KEMBER, Avenue House, Finchley, N.

FOREMAN, in a good establishment.—Age 27; twelve years' experience in all branches. Twelve months in present situation. Can be well recommended.—J. CRANE, Hall Place, Bexley, Kent.

FOREMAN, or JOURNEYMAN, in a good establishment; age 25.—R. MIDDLETON, The Gardens, Exbury, Southampton, will be pleased to recommend a young man as above; eight years' experience.

FOREMAN, or FOREMAN and SALESMAN, Market Nursery near London. Over twenty years' experience growing choice Cut Flowers and Plants, Tomatos, Cucumbers, &c. First-class reference.—Apply, G. N., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand.

FOREMAN, (General, Department), or ORCHID GROWER.—Age 27; thirteen years' experience in leading places, including Mote Park, Welbeck Abbey, and Blenheim Palace Gardens. Testimonials, references, &c., on application to F. JONES, 25, Stamford Road, Fulham, S.W.

FOREMAN (General), of five or six; or JOURNEYMAN (First) in the Houses, under Foreman. A Lady thoroughly recommends young Man (age 26). Good experience Indoors and Out. Five years' excellent character with her as Second of Four; and five previous.—Mrs. GILSTRAP, Winthorpe, near Newark-on-Trent.

To Nurserymen.

PROPAGATOR and GROWER of Hard and Soft-wooded Plants for Market.—Age 29; well up in general Nursery Work, including Grapes, Cucumbers, Tomatos, Mushrooms, &c.—H. B., 2, Plaistow Park Road, Plaistow, E.

PROPAGATOR and GROWER.—Age 26; eleven years' experience in Ferns, Stove, Softwood, and General Market first-class Pot Stuff. Good references.—F. S., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

PROPAGATOR.—Vines, Tea Roses, Clematis, Ericas, Hard and Softwooded Plants. Well up in Wreaths, &c. Recommended by Messrs. W. Cutbush & Son, Barnet.—T. H., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FRUIT or FLOWER GROWER in Market Nursery.—Young man, age 24, wants situation as above. Six years' experience; good character.—GARDENER, Mr. Formans, Alexandra Villa, Belle Vue, Worthing.

To Nurserymen, Seedsmen, &c.

MANAGER, or FOREMAN.—Has had a good all-round experience. Quite competent to either. Travel or attend Markets. Excellent references.—F. S. H., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

MANAGER or SHOPMAN.—Disengaged shortly. Several years' experience at Wreath, Cross, Buttonhole, and Bouquet Work; also understands Seeds, Plants, Bulbs, &c. Good references.—ALPHA, Mr. Chas. Turner, The Royal Nurseries, Slough.

JOURNEYMAN, Inside, or Inside and Out.—Age 19; good references. Five years' experience.—H. WEST, Copt Hall Green, Waltham Abbey, Essex.

JOURNEYMAN (First), Inside under Foreman.—Age 22; eighteen months' good character from last situation.—F. O., Mitcham House, Mitcham, Surrey.

JOURNEYMAN, in the Houses, under a Foreman.—Age 24. Ten years' experience; good character; bothy preferred.—T. R., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

JOURNEYMAN, in the Houses.—Age 20; two years in last place. Excellent character.—A. H. TUCKER, The Gardens, Wyke House, Trowbridge, Wilts.

JOURNEYMAN (Third), or good IMPROVER, Inside. Age 20. Six years' experience; good character.—R. ECKERSLEY, Water Gate Gardens, Middle Hulton, Bolton, Lancs.

JOURNEYMAN, in the Houses, in good Establishment. Age 19. Six years' experience; two and a half years in last situation. Disengaged.—R. BYE, Northwood Hall Gardens, Rickmansworth, Herts.

JOURNEYMAN, Inside, or Inside and Out.—Mr. ARGYLE, The Gardens, Woodlands, Doncaster, can with confidence recommend Robert Crook, who has been with him two years, as above. Age 23; life experience.

JOURNEYMAN (First), Inside; age 24; nine years' experience, two in present.—Mr. CLARKE, Gardener, can with confidence recommend J. Daynes as above. Bothy preferred.—The Gardens, Cannon Hall, Barnsley.

JOURNEYMAN.—To Gardeners and others. A young Man (age 21) seeks a situation as Journeyman. Experienced in Vines and Pot Plants. Good reference.—H. Parker, Elvetham, Winchfield.

JOURNEYMAN (First), in the Houses.—Age 23. Nine years' experience; five years in Plant and Fruit Houses in present place.—E. DELL, The Gardens, Denbies, Dorking.

JOURNEYMAN, Inside, under a Foreman.—Age 23. Eight years' experience; can be well recommended. Bothy preferred.—W. BRIDGEMAN, Lynn Road, Ely, Cambs.

JOURNEYMAN, Inside and Out.—Age 20; good character; abstainer; bothy preferred.—F. BIDNELL, The Folly, Wheathampstead, Herts.

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JOURNEYMAN, in the Houses; age 24.—WILLIAM GODDARD, Blyth Hall, Rotherham, can with confidence recommend a strong, active, industrious young man as above.

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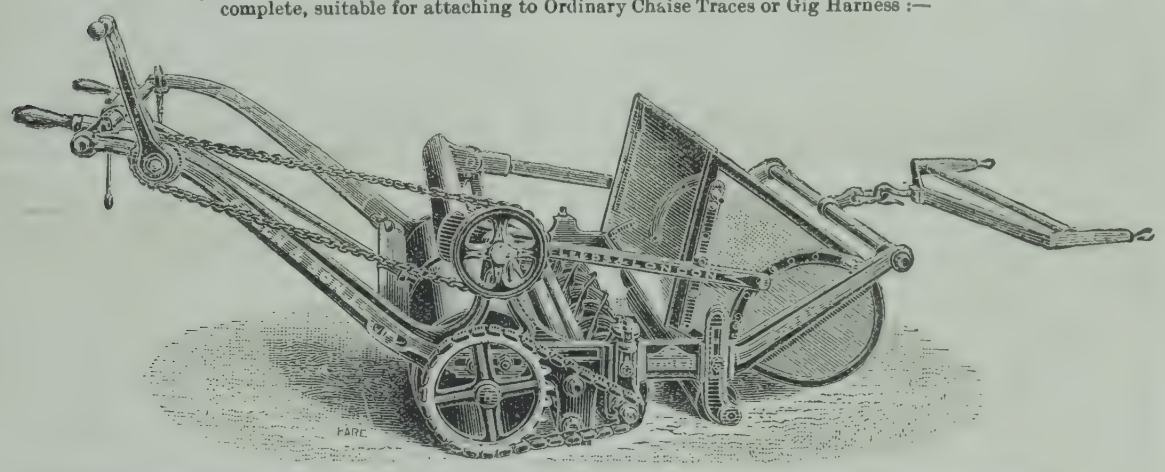

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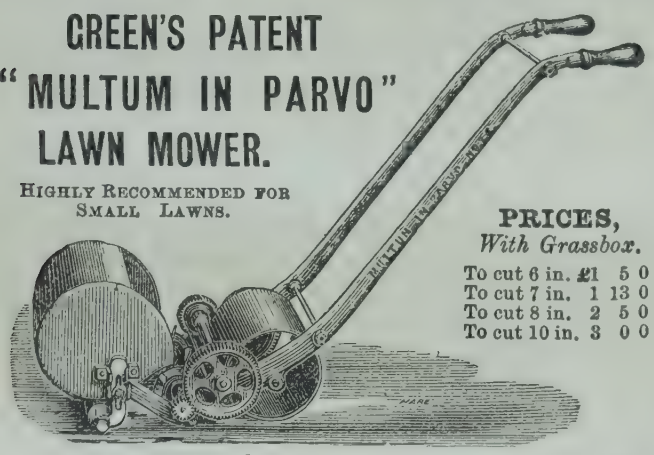

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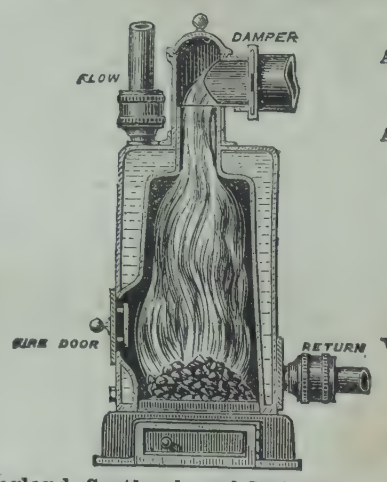

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NOTICE TO ADVERTISERS.

FRIDAY NEXT, *March* 31, *being* GOOD FRIDAY, *the* "GARDENERS' CHRONICLE" *will be published on* THURSDAY, *March* 30.

ADVERTISEMENTS *for* NEXT WEEK *must therefore reach the Office not* LATER *than* WEDNESDAY MORNING, *March* 29.

CONTENTS.

Allotment Gardening ...	361	Œceoclades maculata ...	355
Anthurium Scherzerianum	358	Orchid notes	357
Apple Beauty of Stoke ...	368	Petroleum as an insecticide	364
,, Cockle's Pippin ...	368	Plants, new or noteworthy—	
,, Royal Somerset ...	368	Dendrobium	354
Apples, Tasmanian, for England...	361	Galanthus maximus ...	354
Belgian notes	356	Odontoglossum Blandum var. albo-cupreum	355
Benevolent Institution, Gardeners' Royal ...	361	Senecio sagittifolius ...	355
Books, notices of:—		Poisoning by Aconite ...	362
Johnson's Gardeners' Dictionary	368	Rhododendron Nobleanum	363
Kew Bulletin	362	Rhododendrons at Kew .	356
Broccoli and the frost ...	363	Rhododendrons, Himalayan, in flower ...	363
Chrysanthemum variations	363	Rosery, the	366
Chrysanthemums, single	364	Royal Horticultural Society's meetings	345
Cœlogyne Sanderæ ...	360	Scientific Committee	366
Coffee cultivation in Natal	364	Societies—	
Crickets, remedy against	363	Bath Chrysanthemum	361
Florists' flowers—		Brussels Orchidéenne .	362
Dahlias, new	367	Edinburgh Botanical...	367
Holly growing through an Oak	344	Linnean...	360
Hybrids, the anatomy of	360	Royal Botanic	367
Isopyrum thalictroides...	364	Royal Horticultural, 360,	366
Kew notes...	362	Squirrels, a plea for ...	363
Lælia vitellina	365	Technical education ...	362
Market gardening under glass	353	Tomatos, winter ...	344
Narcissus in the Isles of Scilly	363	Weeds on lawns	364
Nursery notes—		Week's work, the—	
Amaryllis at Messrs. Jas. Veitch & Sons .	363	Apiary, the	359
		Flower garden, the ...	359
		Hardy fruit garden ...	359
		Kitchen garden, the ...	359
		Orchid houses, the ...	358

ILLUSTRATIONS

Cœlogyne Sanderæ	361
Lælia × vitellina	365
Senecio sagittifolius	355
Senecio sagittifolius in Uruguay	357
Sirex gigas	370

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MR. J. C. STEVENS will SELL the above by AUCTION at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, March 29, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

Easter Holidays.

MESSRS. PROTHEROE AND MORRIS beg to announce that their Sale Rooms and Offices will be CLOSED from THURSDAY EVENING NEXT to TUESDAY MORNING, April 4.

Monday Next.

PLANTS AND HARDY BULBS.

Ornamental STOVE and GREENHOUSE PLANTS, choice home-grown LILIUMS in variety, TUBEROSES, GLOXINIAS, and BEGONIAS, CALCEOLARIAS, and other hardy spring-flowering plants, CALLA NANA, HELLEBORUS, CARNATIONS in choice assortment, GLADIOLI, HYPERICUM, MOSERIANUM, PANCRATIUMS, CYPRIPEDIUMS SPECTABILE, new and rare ANEMONES, MONTBRETIAS, IRIS, RANUNCULUS, choice PERENNIALS, CACTUS DAHLIAS, CLEMATIS, RUBUS, and GOOSEBERRIES.

MESSRS. PROTHEROE and MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, March 27, at 12 o'clock.

On view morning of Sale, and Catalogues had.

Tuesday Next.

A choice selection of Home-grown LILIES, named DELPHINIUMS, HELLEBORUS, BEGONIAS, and GLADIOLI in great variety, RANUNCULUS, IRIS, choice Double and Single PYRETHRUMS, POTENTILLAS, CACTUS and Single DAHLIAS, ANEMONES, CALLA NANA COMPACTA, HYPERICUM MOSERIANUM, imported TIGRIDIAS, PINKS, CLEMATIS, PASSIFLORAS, MONTBRETIAS, MILLA BIFLORA, BESSERA ELEGANS, New and Other CARNATIONS, &c.

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From Messrs. Fred. Horsman & Co., Colchester.

Three Splendid Importations just to hand, and mostly Without Reserve.

Brazilian, Columbian, and Mexican ORCHIDS, all in superb condition, comprising

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Superb Carderian Strain.

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ODONTOGLOSSUM DONNIANUM, O. CORDATUM, PILUMNA NOBILIS, &c., in large masses, rude health. ORCHIDS in flower, &c. Also

470 Plants CYPRIPEDIUM SUPERBIENS?
710 ,, ,, Species.
85 DENDROBIUM FORMOSUM GIGANTEUM.
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13 THUNIAS. (Another Property.)

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Wednesday Next.

JAPANESE LILIES, including 2000 LILIUM AURATUM, 300 L. RUBRUM, 300 L. ALBUM, L. RUBRO-VITTATUM, L. PLATYPHYLLUM, L. SPECIOSUM MELPOMENE, L. THUNBERGIANUM, L. BROWNI, GERMAN IRIS, 300 AZALEA MOLLIS, 150 A. INDICA, 200 ROSES, 3000 GLADIOLUS GANDAVENSIS HYBRIDS from a well-known strain, DAHLIAS in choice-named and mixed varieties, HERBACEOUS PLANTS, CALCEOLARIAS, &c.

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LOUGHBOROUGH.

Also the COLLECTION of PITCHER PLANTS, probably the finest in Europe.

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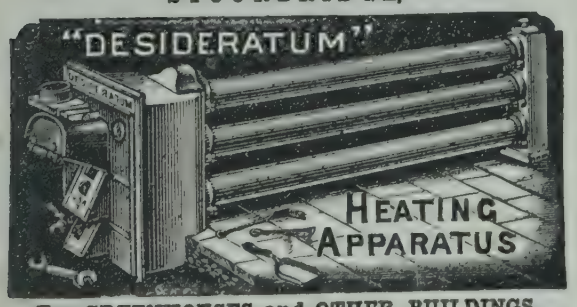

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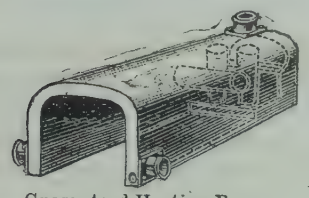

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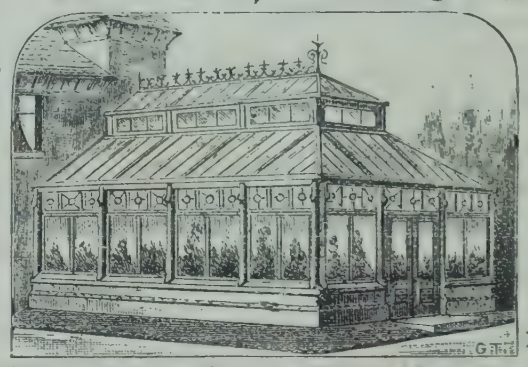

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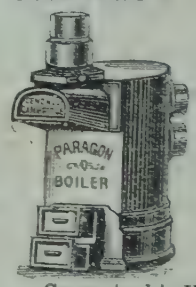

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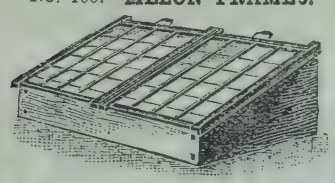
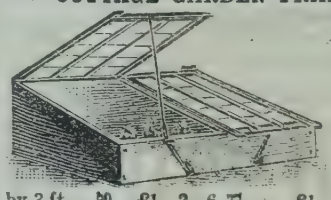


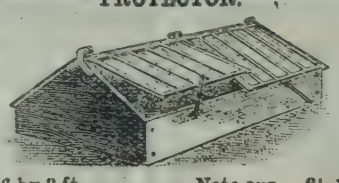
6 ft. by 4 ft., with 2 lights	All sizes carriage paid.	£2 0 0
8 ft. by 5 ft. ,, 2 ,,		2 15 0
8 ft. by 6 ft. ,, 2 ,,		3 0 0
12 ft. by 6 ft. ,, 3 ,,		4 2 6
16 ft. by 6 ft. ,, 4 ,,		5 5 0

No. 101.—**COTTAGE GARDEN FRAME.**



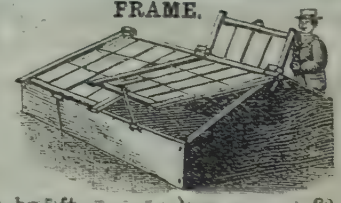
4 ft. by 3 ft.	With sliding lights.	£1 2 6	With hinged lights, as shown. £1 5 0
6 ft. by 4 ft.		1 15 0	2 0 0
9 ft. by 4 ft.		2 7 6	2 15 0
4 ft. by 4 ft.		1 7 6	1 10 0
8 ft. by 4 ft.		2 2 6	2 7 6
12 ft. by 4 ft.		2 17 6	3 5 0

No. 102.—**SPAN-ROOF FRAME or PLANT PROTECTOR.**



4 ft. 6 by 3 ft.	Note our useful sizes. Larger ones made.	£1 10 0
4 ft. 6 by 4 ft.		1 15 0
6 ft. by 3 ft.		1 17 6
6 ft. by 4 ft.		2 5 0
9 ft. by 3 ft.		2 10 0
9 ft. by 4 ft.		3 0 0

No. 105.—**THREE-QUARTER SPAN FRAME.**



5 ft. by 5 ft.	All sizes Carriage Paid.	£2 10 0
10 ft. by 5 ft.		4 5 0
8 ft. by 6 ft.		4 5 0
12 ft. by 6 ft.		5 12 6
16 ft. by 6 ft.		7 5 0

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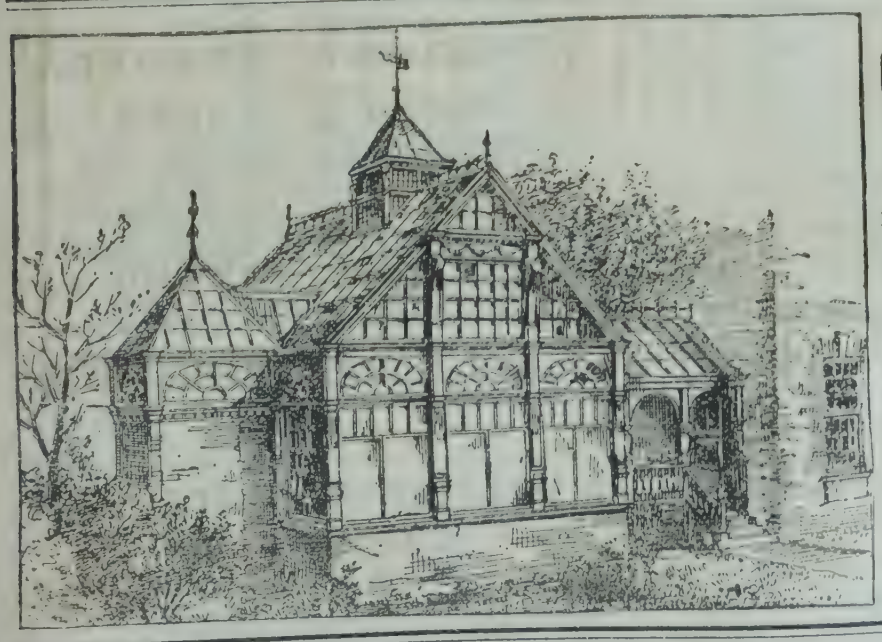

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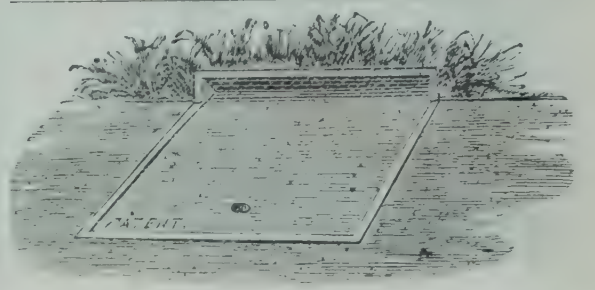

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THE

Gardeners' Chronicle.

SATURDAY, MARCH 25, 1893.

MARKET GARDENING UNDER GLASS.

WHEN the deputation of fruit salesmen and others waited upon the President of the Board of Trade in respect of the revised railway rates, as reported in our columns, p. 269, the members were able to cite figures dealing with the amount of fruit and flowers produced under glass in this country. We were, of course, prepared to hear that there had been a very great increase in the supply of late years; nevertheless, the figures given were astounding. This circumstance has led us to make a visit to some of the principal growers in the vicinity of London, to inspect the establishments where a large proportion of the immense quantities of choice fruits and flowers are produced. Everywhere we met with a courteous reception, and the reason was not far to seek, for the general character of the gardens which we were able to inspect was decidedly satisfactory, and the proprietors in such cases have nothing to fear in showing their plants to the visitor. Anyone may have noticed, and none more so than gardeners, that the plants and the fruits which are sent to Covent Garden and elsewhere are for the most part of really good quality, and many wonder that market growers are able to supply such products, and to sell them at a profit at such prices as generally obtain. There can be little doubt but that this can be best explained after a visit to the establishments, and a conversation with the growers. In the first place, we noticed that in most places—especially those of medium size—only a very limited variety of plants or fruits is grown, and are chiefly those of which the particular proprietor was naturally most fond prior to his taking up the business. Thus in one place we found Gardenias, Carnations, and Roses, to the exclusion of almost everything else, and consequently the entire force and skill available are concentrated upon the requirements of three genera, and perhaps in each genus only two varieties are permitted. Gardeners who have to contend against the necessary evil of cultivating a variety of plants in the same house will easily appreciate the economy of labour, &c., in such a system. Then, again, the plants and houses are kept, in many instances, entirely free from such pests as mealy-bug, scale, &c., so that no time is expended "keeping under" these insects. It must also be remarked, that the majority of the market growers are hard-working men, and throw the whole of their energy into the business. Another point we learned, and that touching the new railway rates, was that most growers within a radius of 20 miles from St. Paul's, send their products to the London markets in their own vans, and are

*

affected only by the "revision" in sending to other markets, such as Newcastle, Manchester, and Liverpool. In these cases it has made much difference, and yet more in the fuel and other necessaries for carrying on the establishment. In some cases the rates have been re-adjusted, and are now as low as they were before the revision, but with this difference, that whereas they were then carried at the Company's risk, they are now accepted only at the risk of owner. Whether there will actually be more accidents occur owing to this change of responsibility, remains to be seen.

Before noticing a few of the places at which our information was gleaned, perhaps it may be instructive to some if we state, that although this kind of market gardening is undoubtedly profitable to the small capitalist with thorough practical experience and plenty of energy, it is also quite plain that competition is keen enough to prevent persons who have not these qualifications from meeting with any degree of success. In a limited area, within 14 miles from Charing Cross, we were told of thirty who started this business on a small scale during the last three years. Some have already failed, and others have succeeded, and many are fast succeeding in establishing a good, profitable, and interesting business.

Mr. W. Milne.

On a pleasant spot upon Hampton Hill we found Mr. Milne, who devotes his time almost exclusively to the growth of Carnations, Roses, and Gardenias. The ground which he bought some twelve years ago is about 4 acres in area, but it is only a small portion that is yet covered with glass. No private garden could be kept better than are the plants at this establishment; and notwithstanding the wonderful stock of Gardenias, it is believed that a mealy-bug does not exist upon the place. Of Carnations, old and young, there are about 20,000, and in the season (which will now soon commence) an average of 200 dozen blooms are sent to market at one time, reaching in some cases to 300 dozen in a single day. Madame Carle, Alegatière, Miss Joliffe, and two others are the only varieties grown.

Gardenias are cultivated both in pots and planted out, the better and larger collection being in the three borders of a span-roofed house about 180 feet long. A wide bed in the centre and two rather narrower ones at each side, with a path on either side of centre bed. Some of them are about 5 feet high, and as many feet through, and are in the very best of health, perfectly clean, and set with myriads of buds almost ready to burst. These continue to bloom from April until October, with a slight break about midway, when they receive all the pruning they get during the year. In the mid-season as many as 300 dozen have been sent away in a day; and this is not considered exceptional. The seedlings were planted in ordinary soil from the field upon which the houses stand, and have been several times top-dressed with old soil from Carnation pots, to which is added a little fertilising manure. Those in pots are accommodated in another house, but from the glance we were able to take, the planting-out system is at once the cheapest and the most successful method.

Roses are forced in three or four of the large houses containing some thousands of plants. They are seven or eight years old, and produce about half-a-dozen blooms on each, are kept dwarf, and receive a little liquid manure during their flowering season. Although blooms are ready for cutting before Christmas, not a trace of mildew has disfigured the foliage. General Jacqueminot, Baroness Rothschild, and a few Teas, are the only varieties.

Chrysanthemums are planted out in the field, and upon the appearance of frost are lifted and planted again in the house—about 5000 are thus grown. In the houses devoted to the later batches of Roses, a crop of Cucumbers is secured as soon as the Roses are turned outside for the summer, and in these houses the Chrysanthemums are also planted, the later Roses not requiring protection until Christmas time.

Mr. Milne has also given much attention to boilers, and from his plans have been brought out several by the Thames Bank Iron Co., the latest, which appears to us of considerable merit, being not yet upon the market. Mr. Milne's is a thoroughly well-kept establishment.

Mr. George May.

Not far from the place just noticed is that of Mr. Geo. May at Upper Teddington. Large in extent, having about 6 or 7 acres covered by glass, more than half of this has been erected during the last five years. It is noteworthy more especially from the almost unequalled stock of Eucharis plants possessed. These are cultivated in seven or eight large span-roofed houses, which are filled to overflowing with the most vigorous and healthy plants it would be possible to see. Mr. May himself could give no idea of the number of plants that are here, but they exist in thousands, and the idea is, we believe, to get a few more houses full, until there are as many as there are months in the year. In the whole stock there is supposed to be no bug, and consequently there is no time spent upon sponging, for the foliage is kept clean with the hose. This place is, no doubt, responsible for a very large proportion of the Eucharis blooms that are seen at Covent Garden, and some others. Mr. May seems not to dread the mite in the least, and thinks they cannot successfully attack bulbs so healthy and robust. The plants are accorded ordinary treatment, and are potted every third or fourth year. They are always kept growing, and a constant supply rather than quantities at certain periods is the aim.

Another great feature is the Roses. Large house after house are devoted to them, and as at the last place, Baroness Rothschild and General Jacqueminot figure largely. But here we find a greater quantity of Teas, including Niphetos, Belle de Jardin, Catherine Mermet, &c. In the earliest house, and there only, did we see any sign of mildew, and amongst these was being distributed flowers-of-sulphur, which the grower, Mr. Forsyth, relies upon to move every trace without any injury whatever to the foliage.

Carnations are grown in perhaps greater quantity than are the Roses, and the output from these when in season must be enormous. The greater part of the stock consists of a variety known as Uriah Pike and Miss Joliffe. The former is a very lovely crimson self, and clove scented, but is said to be of very good constitution, and will produce a dozen blooms where Old Clove would only produce one. The entire stock of these looked well, and are producing a good show of buds; but the Malmaison group have dwindled from a healthy lot, possessed last year, to a miserable few, that are fast succumbing to the attack of the Carnation fungus, which has been figured so often in our columns. The only thing which appears to be practicable when they are badly infested is to throw them away, and commence again. The fleshy-leaved varieties are peculiarly liable to attack, and the Malmaisons, perhaps, most of all.

A very considerable stock of Ferns is kept for cutting purposes; and among some Tuberoses which were in bloom, Mr. May pointed out many which were from tubers that did not flower last year, and for that reason had been kept until this.

Cyclamens at Hanwell.

For several years past Cyclamens have been a *specialité* at the establishment of the St. George's Nursery Co., and a few days since, when we had the pleasure of a visit there, the stock plants were in full bloom. Large and thick flowers in beautiful colours, numerously produced from each corm, at once convince you of the excellence of the strain, and the greater part of the plants kept for seed purposes have gained awards for their distinct merits. The objection might easily be raised that there can be no need for naming particular varieties of Cyclamen, but for the purposes of propagation the growers find that it is essential, and when an extra good form or colour is obtained, a name is given, and the seed from that plant will produce many of the characteristics—sometimes all—of the parent. It is these stock plants, all acknowledged good varieties, that are now blooming at Hanwell, and they are well worth a visit from any desirous of seeing a fine strain. We were informed that they would be exhibited at the Crystal Palace on Saturday. Taking the whites first, Dame Blanche is a very decorative flower, not quite perfect in the florist's eye, but having a curiously-twisted appearance about the petals; these are very broad, and not long. Mont Blanc has longer petals, and is a less compact-looking flower. A smaller but more perfect bloom is Baroness Burdett Coutts, and gains much favour. The Duke of Fife is a dark rose flower, with purple base. Excelsior is a very pretty one, being of pure white, excepting the base, which is coloured. Picturatum has a purple base, with the upper part of tinted white. Sunray is one of the tinted Persicums; the flower is rose, with very dark purple base—this bloom is much lighter in colour when first opening, and there are consequently many differently-coloured blossoms upon the plant at one time. Brilliant is the darkest of all, is a small compact bloom, and of very exceptional merit. Princess May is a chaste flesh colour with rose base, and Prince of Wales a dark purple. There are several seedlings also, which will rank among the first of these mentioned. About 20,000 seedlings will be raised, and most of them are for market trade, but a little business with the trade is done with seeds. One very large new house contains a magnificent stock of Asparagus tenuissimus and A. plumosus, all kept for cutting purposes, as are also a batch of Eulalias. Calla æthiopica is here to the extent of 5000.

(To be continued.)

New or Noteworthy Plants.

Galanthus maximus, *Baker, n. sp., or hybrid?**

This new Snowdrop is remarkable for its very robust habit, large leaves, spathe and flower, and long pedicel. The leaves have a distinctly recurved edge, as in G. plicatus, and are very glaucous beneath. The flowers resemble those of the large forms of G. nivalis. The anthers are distinctly mucronate, and there is only present an apical green blotch on the back of the inner segments of the perianth, but this extends nearly half-way down. I have received a good supply of the plant in a living state from Mrs. Backhouse, of Sutton Court, near Hereford. It flowers in the first fortnight in March, and the bulbs are so large that Mrs. Backhouse tells me they have been planted in mistake for those of a Narcissus. If not a true species, it is, no doubt, as Mrs. Backhouse suggests, a hybrid between G. plicatus and one of the large varieties of nivalis, such as Imperati, Melvillei or Redontei.

Bulb globose, fully an inch in diameter; sheath 4 inches long, oblique or truncate at the throat. Leaves reaching a length of 8 to 9 inches above the sheath at the flowering time, ½ to ¾ inch broad, slightly glaucous above, very glaucous below, with a concave tip and distinctly recurved edges. Peduncle as long as the leaves or a little longer, in all above a foot. Spathe 2 inches long, linear, with very revolute edges. Pedicel rather shorter than the spathe. Ovary ¼ to ⅓ inch long. Outer segments of the perianth oblong-spatulate, an inch long, ⅓ to ½ inch broad, convex on the back. Inner segments obovate-

* *Galanthus maximus*, Baker, n. sp., or hybrid?—Bulbo globoso maximo; foliis magnis dorso glaucescentibus margine recurvatis; scapo elato foliis æquilongo; spathâ bi-pollicari; perianthii segmentis exterioribus oblongo-spathulatis pollicaribus dorso convexis, interioribus exterioribus duplo brevioribus obovato-cuneatis emarginatis lobis orbicularibus planis macula viridi dorsali unica magna; antheris apiculatis.

cuneate, ⅛ inch long, with round uncrisped erect apical lobes, and a large blotch of green round the sinus. Anthers apiculate, ¼ inch long. *J. G. Baker.*

Dendrobium × Benita (D. aureum ♀, D. Falconeri ♂). *New gard. hyb.*

This beautiful novelty, raised in the gardens of W. E. Brymer, Esq., M.P., Ilsington, Puddletown, Dorchester, while bearing in its flowers some resemblance to those of D. Ainsworthii, yet gives sufficient indication of the influence of D. Falconeri, and (heterocarpum), although the pseudobulbs are more thickened at the nodes than are those of that species or D. nobile. There is one very distinct plant in the batch, having a more branching habit, and thinner linear leaves."

It is a very handsome Dendrobium, and it bears the name D. × Benita at Mr. Brymer's request, in complement to his niece. *J. O'Brien.*

Odontoglossum blandum var albo-cupreum, *new var.*

Under the provisional name O. albo-cupreum,

Fig. 50.—Senecio sagittifolius: flowers creamy-white; centre, dull yellow

especially in the longer and more acuminate form of the labellum. The flowers, which are borne in pairs, are 3½ inches across; the sepals white, tinged with pale lilac hue on both surfaces; the petals white, tinged with amethystine purple on the outer halves. The labellum is white, with radiating lines of purple at the base, which expand into a rich purplish blotch, which fills the larger proportion of the area of the lip. The purple blotch has a pale primrose band in front, and the tip of the labellum is coloured like the tips of the petals. Of the growth of the plants, Mr. John Powell, the gardener at Ilsington, gives the following particulars:—"The plants vary in their habit of growth. The two which have flowered partake most of D. aureum Mr. Chas. Vuylsteke, the noted Odontoglossum grower, of Loochristi, Ghent, exhibited at the Royal Horticultural Society, on March 14, a strange and beautiful little Odontoglossum, which anyone might be excused for considering a distinct species. Since that I have had the inflorescence forwarded to me, and after having compared it with several forms of O. blandum, I find that there is little beyond colour-difference to separate it from that species, even although that is sufficient to cause it to be regarded as an extraordinary variation.

The segments of O. blandum are usually white, or nearly white, spotted with red or brown, those of the variety albo-cupreum are pale primrose barred and banded (not spotted), with copper-coloured markings except the tips, which are pale primrose. The labellum instead of exhibiting the violet markings seen in more or less quantity in the type, is entirely pure white, except at the base, which is yellow as in typical O. blandum. It is a very pretty variety. *James O'Brien.*

Senecio sagittifolius, *Baker.**

We owe to our friends of the *Revue Horticole* the opportunity of figuring this fine perennial, originally described by Mr. Baker, but introduced into cultivation by M. Ed. André, who met with it in Uruguay. It is now in bloom in No. 5 house at Kew, where it bears out all that has been said of its interest and attractiveness. It is a stately perennial, with bold tufted and lobed leaves covered with white down. From the centre of the tuft uprises a tall flower-stem (in the Kew plant about 3 feet high) bearing scattered sessile, lanceolate leaves at intervals, and terminating in a loose corymb of creamy-white Aster-like flower-heads, each about an inch across. The lower leaves have a broadly-winged stalk, and a lanceolate blade, deeply sagittate at the base and sometimes lobed at the margin also, whilst from the midrib on the upper surface springs a curious wavy, leafy crest, consisting of two plates an inch or two in depth, and extending from the base more than half-way to the apex of the leaf.

M. André narrates how he was riding in Uruguay over a turfy prairie, when his attention was directed to a number of small mounds like molehills, on which these noble plants were growing by hundreds, with scarcely any other plant, so that a distinct aspect was given to the landscape (see fig. 51). M. André gives a full description of the plant in the *Revue Horticole*, which need not be repeated here; but we may add that the plant is offered for sale by M. Bruant, of Poitiers, in whose establishment the lower leaves attained a length of about a yard whilst the flower-stalk rose to a height of 6 to 7 feet, with 140 flowers. In the south it migh, possibly prove hardy, but it would be safer for the present to treat it as a conservatory plant. It would make a magnificent subtropical plant.

A coloured figure is in preparation for the *Botanical Magazine*. *M. T. M.*

Œceoclades maculata.

I see with pleasure that Mr. Rolfe is continuing his useful list of garden Orchids, and has reached Eulophia, a very unpopular genus with gardeners. In such a list as this, one does not look for critical study and revision of genera, but still one is glad to see old errors eliminated, and heterogeneous genera broken up in any list. In dealing with Eulophia he has kept distinct Lissochilus and Cyrtopera. That the former of these passes into Eulophia, all who know the two genera will admit; but taking the broadened petals as a distinguishing mark, I would agree that for convenience sake Lissochilus may be kept apart as a distinct genus. Cyrtopera is, however, a much weaker genus; the prolonged column-foot varies so much, that one can attribute but little value to it. Still, it makes a good section. But why is Œceoclades maculata, Lindl., still retained in this genus? Dr. Pfitzer long ago showed that it had relations rather with the Maxillarias than with Eulophia; and of the other critical students of Orchids who have written of it, Lindley, Link and Otto, Sprengel, Achille, Richard, Prillieux, and Rivière; none but Reichenbach have thought of referring it to Eulophia, though Bentham, from "specimina manca," thought he was probably right in so referring it. Spencer le M. Moore follows Reichenbach too (*Flora of Mauritius*), but gives no reasons.

Certainly, to look at it growing wild, one would not think of its being an Eulophia at all. Its stiff leathery leaf at once repels the suggestion; and when one adds to this the distinctive vegetative characters

* *Senecio sagittifolius*, Baker, in *Flor. Brasiliens*, vi., part iii., 1882—1884; André, in *Revue Horticole*, 1892, p.53.

pointed out by Pfitzer, the form of the pollinia, and the fact that no other Eulophia is known from the New World, one wonders why it found its way into this genus at all. In a paper on its cleistogamy (*Journ. Linn. Soc.*, xxiv., 389), I used Lindley's old name Œceoclades for the genus. This genus as described was very heterogeneous. It included species of Sarcochilus, Saccolabium, Angræcum, Dendrophylax, and Cleisostoma, all of which have now been referred to their right places, and Œceoclades as a genus has disappeared, unless we keep the sole remaining species as a type of it. Should the lovers of the study of nomenclature, however, object that it has nothing in common with the other supposed species, and that Lindley himself was doubtful as to its position, there is still Pfitzer's Eulophidium, to which there can be no objection.

In any case let us not continue to call it an Eulophia, to which genus it certainly does not belong. To the neighbourhood of this plant Mr. Rolfe refers Eulophia Ledienii, Stein, E. monophylla, Moore, and E. Mackenii, Rolfe. Of the first, I have only seen N. E. Brown's descriptions in the *Kew Bulletin*. Mr. Brown says he considers it distinct from the Brazilian species, but his condensed description would very well fit the latter, and he gives no distinguishing character of any value. I suppose a plant in Welwitsch's collection in the British Museum belongs to this species. I could not distinguish it from the specimens and notes from the Brazilian one.

E. monophylla, Moore, appears to be distinguished by its "few-flowered corymbose raceme." I see no other difference of any value in the description. The compactness of the raceme, however, probably depends on the strength and age of the plant, and can hardly, unless it is very much more marked than in Richard's figure, be even of varietal value.

E. Mackenii, Rolfe, from the short diagnosis given in the *Gardeners' Chronicle*, I gather, differs in the form of the leaf, broader lobes of lip, and the median lobe being sessile and with no claw. This looks like a dryer country variety. The dimensions of the claw of the mid-lobe in widely distributed plants which possess it, e.g., Calanthe veratrifolia, vary so much, that one cannot safely use it alone as a distinctive character.

I have omitted characters drawn from the colour-tints of the leaf. They are absolutely worthless in tropical vegetation. Leaves of jungle plants vary much in colour and markings. Here exposure to hot sun gives very often a brilliant pink or red colouring, which will keep true for often a long time; but after a few months in damp-shade will disappear. There is here a Dendrobium (§ aporum), D. serra, of which the leaves grown for a long time in the sun, become bright red, and the fruit even, but not the flowers. Take it into the shade, and eventually the red colour goes, and the plant becomes of the ordinary dull dark green. We use a quantity of Alternanthera versicolor and Iresine Herbstii here for bedding, and the difference in the appearance of the gardens after a few dull days, from the otherwise brilliant red leaves being replaced by shabby-looking purplish-green, is very striking. Further, there are striking variations in colour in jungle leaves for no apparent reason. I have just been collecting in the Mountains of Johore a very pretty species of Rhynchopyle, which I hope to send, with several other pretty novelties, to England in the spring. It was very abundant in rocky streams in the hills. The leaves are either plain dark green, or more or less mottled with light green spots, like some kind of Dieffenbachia. All the forms grew mixed up together, and there was no reason at all visible why some should be thickly spotted and others quite plain. The seedlings had their leaves plain or spotted, according to what adult leaves they were going to develop. When the first spotted-leaved forms were brought me, I did not recognise the plant at all as the plain green-leaved thing I knew so well in Perak and Pahang; specifically, however, it is identical.

This is rather a digression from Œceoclades, but I should like to impress upon some of our describers of "New Garden Plants" the fact that making new species from leaf-colouring, and even from leaf-form only, in many instances is merely adding to synonomy. No two plants have been worse treated in this respect than Hæmaria discolor and Labisia pothoina, both exceedingly variable in form and colouring of leaf. I am now far away from the home of Œceoclades maculata, and can no longer make observations on it, but I think, when it comes to be studied in its native haunts, not merely from scanty dried specimens, or from isolated, often sickly, living ones, under quite abnormal conditions, we shall find that there is at present known but one solitary species of this curious aberrant genus, widely scattered over South America. *H. N. Ridley, Singapore.*

BELGIUM.

March Horticultural Meeting at Ghent.—Some very fine Orchids obtained a Certificate of Merit:—Dendrobium nobile Cooksoni, Rchb., of which the side petals resemble the lip, and are further remarkable for the large deep reddish-purple spot on their base; the general colouring is very noticeable. Cypripedium hyb. Boxalli ♀ × Chantini ♂, won a Certificate *par acclamation;* the dorsal sepal is very long, the base clear green, the whole surface marked with large blackish-purple dots, a broad white border, slightly spotted; petals with undulated borders, spreading at the extremity, well-formed, the general character of Boxalli, with the narrow petals of Chantini. Cypripedium hyb., Boxalli ♀ × Spicerianum ♂, dorsal sepal like that of Spicerianum, but more spreading: bright dark chestnut, gradually losing in intensity, and changing to purplish-rose, and finally to white; the extremity a pretty shade of green. It has the colouring of Boxalli mingled with the rose of Spicerianum, the rest of the flower resembles both parents, the fresh green foliage is very fine. These three beautiful Orchids were from MM. Ed. Vervaet et Cie.; Brassavola glauca from M. A. Van Imshoot; Odontoglossum Rossi majus purpureum, with the sepals and base of the petals very dark, from the same orchidist; Cattleya Trianæ var. Orion from M. Jules Hye, translucent bluish-pink petals, the midrib very plainly marked, the lip dark. A species of Odontoglossum from the same exhibitor, the lip of O. Alexandræ, sepals spotted, petals like those of O. Hunewallianum; Cattleya Trianæ white var., the petals very broad, the flowers variable; O. triumphans (*par acclamation*), also, like the former from M. Hye; the diameter of the flower nearly 4 inches, the width of the petals about 1 inch, colouring quite unusual.

Certificates of Merit were allotted for Azalea Jean de Kneef (a fixed sport of A. Archiduchesse Stephanie), a pretty flower of good form, clear flesh pink, edged with pure white, staged by M. Jean de Kneef; Aglaonema costatum to M. L. Desmet-Duvivier, leaves blackish-green, midrib wide, ivory-white, blotches irregularly distributed; Chorizema Lowi to the same nurseryman, flowers larger than those of the type, the colouring brighter and clearer, very floriferous; Vriesia brachystachys major, very pretty, raised from seed in 1884, from fruits obtained from Morrenia by Barillet. The same seeds gave Vriesia Leodiensis, Closoniana, &c. Brachystachys major differs from Leodiensis in its shorter spikes, and the curved bracts; it was sent by M. R. Grenier. Chrysanthemum Reine d'Hiver from M. L. Schmitz.

M. R. Grenier obtained a Certificate for cultivation and free flowering for a fine Tillandsia Van Volxemi; M. Jules Hye a Certificate of Merit, for a collection of Odontoglossum in flower, containing a very fine O. Andersoni superbum, O. excellens var. Hyeanum, O. Ruckeri var. Albertianum, and O. Wilckeanum.

The Ghent Quinquennial Exhibition.

The competitions for the best systems of heating will be of unusual importance, thanks to the energetic measures taken by the Administrative Council of the Société Royale d'Agriculture et de Botanique. The competitions will be so managed that the awards which are allotted will be substantial, and serve as a considerable inducement.

The annexe, which already rises in front of the old building, is on a large scale. A heating apparatus has been inserted which consists of a large boiler with about 8125 feet of pipes. The trial of the apparatus has already been made. Around the annexe many glass-houses are built, or in process of construction. In fact the industrial section of the exhibition bids fair to be a great success.

Orchids at Bruges.

We have seen in the houses of M. G. Vincke-Dujardin a very fine Lycaste found among an importation. The petals are cream-coloured, shaded with bronze; the interior of the sepals is of the same shade, terminating in reddish-brown; the exterior is cream-coloured. The dorsal sepal is gracefully recurved in front; the extreme tip is turned up and curved back outside. The lip is burnt-madder-coloured, the edges much fringed, and hairy. The bulbs are about 3¾ inches in height; the leaves 27 inches long by 3¾ inches wide, resembling those of L. Skinneri, clear green, the sides very conspicuous, being very pale green. Flower-stalk 27 inches long. The texture of all the parts of the flower is very similar to that of Lycaste Skinneri.

A very fine example of the beautiful Cypripedium Lathamianum, with eight flowers, remarkable for the brilliancy of its colouring, attracted my attention, as it was much more yellow than the type. So also did a great quantity of Lycaste Skinneri in bloom. One L. Skinneri bore a flower at least 6½ inches across, with a pure white lip; the petals bluish-purple, with a white border; the sepals white, veined with rose, and about 2¼ inches wide. Among the many Odontoglossums in flower, we must mention O. guttatum, of a wonderfully pure white, with large spots about ¾ inch from the extremities of the divisions; O. crispum, with rosy-lilac sepals, spotted with blood-red; very wide petals, waved, pure white, the lip white, with well-defined spots. A hybrid Odontoglossum, like Andersoni, profusely spotted with very dark spots; the base of the petals for about half their length bears dark spots, all run together, forming a hieroglyphic design. We must also record a fine O. Ruckeri, and two specimens of Cœlogyne cristata more than 3 feet across, and literally covered with flowers.

M. A. A. Peeters of Brussels has now in bloom the rare Lycaste Pœlmani, Cattleya Trianæ virginalis, which keeps its beautiful white colouring to the end, and the very rare Pleurothalis Roezli. *Ch. de B.*

RHODODENDRONS IN MARCH AT KEW.

The exceptionally open weather of the past few weeks has greatly favoured the development of our early spring-flowering shrubs, and there is at Kew just now (March 11) one of the finest displays of Rhododendron blossom that has been seen out-of-doors for some years. There are three species, and about as many hybrids in flower. First amongst them, by reason of its brilliant colour and generally striking character, is R. fulgens, a species introduced from the Sikkim Himalayas in 1851. The flowers are borne in compact, rounded trusses, about 4 inches across, almost every branch on the two shrubs now in bloom bearing a truss. Individually the flowers are 1½ inch across, and their colour is a deep and rich yet bright blood-red. This species is one of several in the Himalayan group, whose leaves are coated underneath with a reddish-felt. Sir Joseph Hooker, who figures and describes the species in his *Himalayan Rhododendrons*, says it is met with at altitudes of from 12,000 to 14,000 feet, and describes it as "one of the richest ornaments of these inhospitable regions, the flowers glowing like fire in the short hours of morning sunlight." It is not until June that it flowers on its native mountains, which is somewhat curious, seeing the little

encouragement it requires to burst into flower in this country. The two specimens in flower at Kew are planted in the Rhododendron walk near the Bamboo garden, and receive no protection of any kind, except that of surrounding trees.

R. Thomsoni is another Himalayan species, but comes into bloom a week or two later than R. fulgens. A plant, however, in the canvas frame near the conservatory (No. 4) has several corymbs already expanded. They are larger and more loosely arranged in the corymb than those of R. fulgens; they are also of a rich blood-red colour, but of scarcely so intense a shade as in that species. The leaves are elliptical in outline, glabrous, dark green above, and semi-glaucous beneath, and the plant altogether has a compact and shapely habit. It occurs at elevations of 11,000 to 13,000 feet. At Kew it is quite hardy.

R. dahuricum (spelt also dauricum and davuricum).—Loudon records the date of the introduction of this species as 1780, and Andrews gave a coloured picture of it in his *Botanical Repository* as far back as 1797. It is a native of Siberia, and exists in gardens under two forms—deciduous and evergreen; the latter, which is known as var. atrovirens, is flowering at Kew. It is a shrub of somewhat sparse habit, growing to a height of 4 to 6 feet. The leaves are small, oblong, and of a very deep green, whilst the flowers are bright rosy-purple, and measure 1½ inch across. In the *Botanical Magazine*, under t. 636, it is stated to be so abundant in certain parts of Siberia as to "empurple the mountain sides" when in flower. From this species, and the dwarf Himalayan species R. ciliatum, Messrs. Davies, of Ormskirk, raised the beautiful hybrid R. præcox, two bushes of which have been very beautiful at Kew for the last three weeks. The plant is fairly well known for early forcing, but out-of-doors is not often seen. It is unfortunate that the flowers will not bear more than 3° or 4° of frost, comparing unfavourably in this matter with R. fulgens.

R. altaclerense, many large shrubs of which are in full flower, was raised at Highclere in 1826, the first flowers appearing five years later. It was obtained by forcing R. catawbiense into bloom, to coincide with the spring-flowering R. arboreum, with the pollen of which the former was fertilised. About 1800 plants were raised from the first cross. It bears large and handsome heads of flower, the bell-shaped corolla being of a clear, bright crimson-rose, marked with darker-coloured spots. R. Nobleanum is another hybrid greatly resembling altaclerense, with flowers however of a darker shade of rosy-crimson. I do not know any record of its origin, but it certainly possesses the blood of R. arboreum; the other parent was probably R. caucasicum. Lindley gives a coloured drawing of a single flower in the *Botanical Register* for 1835. R. Govenianum is another of the same group, but in the specimens with which I am acquainted is distinguished by a dwarf spreading style of growth. It is just coming into flower at Kew.

Considering the very great beauty of all these Rhododendrons, it is a matter for surprise that they are not more planted. No doubt, the fact that a sharp frost occurring when once they are fully or even partly open, will seriously damage, if not altogether destroy their beauty, has operated to their disfavour. R. præcox is the most susceptible, whereas R. fulgens appears to be the hardiest in this respect of all here mentioned. Something can be gained by planting them in a position facing west, and screened from the morning sun for a sufficient length of time to allow the flowers to thaw before the sun's rays directly strike them. In spite of this somewhat hazardous tenure, I think they are deserving of more extended culture. At this season of the year it has to be a very poor flower indeed that does not give pleasure, and when such gorgeous masses of colour as these Rhododendrons give are to be had, it is worth while to run the risk of an occasional collapse. *W. J. B.*

Fig. 51.—Growth of Senecio sagittifolius in Uruguay. (see p. 355.)

SCOTLAND.

THE WEATHER IN THE ABERDEENSHIRE HIGHLANDS DURING 1892.

Mr. James Aiken, banker, Braemar, who has the charge of the meteorological instruments and the Observatory at Castleton of Braemar, Aberdeenshire, has just completed his annual detailed statement of records of the weather during the past year, and from his carefully compiled document, the following few notes are taken:—The Observatory stands in latitude 57° north, longitude 3° 24′ west; and the elevation of the station above sea level is 1114 feet.

Beginning with the thermometer, which is placed in air and protected, June has the highest reading, 76°; July, 74°; August, 71°; and September 61°; while the lowest occurred in February, 2° below zero. The highest mean temperature of the year was 60°, in July; August had 59°; September, 54°; and June, 58°. In sun the maximum records were:—July, 136°; June, 135°; August, 133°; May, 121°; September, 118°; and October, 106°. The direction of the wind for the year was principally south-westerly and west, which may account largely for the continued wet and damp weather experienced during harvest time. From due north the wind blew for seventeen days, and from due south for fifteen days; while from south-west and west its course extended over 222 days, and from north-east and east, 112 days. The highest mean pressure per square foot, 1·32 inches, was realised in January. For the year, the total rainfall only reached 28 inches—during harvesting operations, however, being 6 inches below the previous year, and 11 inches under 1890; so that, taking it all over, it was a hard dry year. August showed a rainfall of 3 inches; July, 2; and September, 3; while October had 5. April and May had the highest total sunshine.

ORCHID NOTES AND GLEANINGS.

CATTLEYA TRIANÆ var. GRAVESIÆ.

With the beautiful varieties of this lovely species now in cultivation, we seldom find one distinct enough to add to the already long list of names. The specimen before me is, however, an exception, and the only one which has come under my notice among many thousands, both here and in its natural habitat. The structure of both leaf and bulb is narrower than the type, the flower is large, the sepals and petals very pale pink, the latter very broad. The principal difference is in the lip, which instead of bordering on magenta or purple is (truly) bright red, pale rose over the column, with a dash of yellow in the throat.

Cypripedium × Hebe, *n. hyb.*

The result of hybridising C. Spicerianum with C. Stonei, and the inverse cross of C. Alice. Foliage much as in C. Spicerianum, of deep shining green, narrowing towards apex. The flower-scape is erect, slightly pubescent, 10 inches long, and monoflorous. In general structure the flower resembles C. Spicerianum; it is, however, more slender, and the petals are longer, the dorsal sepal much reflexed, hirsute, white, with a purple mid-vein, and Apple-green base. The petals are tinted with brown, a deeper band of brown extending from base to apex. Lip yellow-green, changing to yellow, tinted with brown, the infolded lobes lavender. Staminode octagonal, lavender-purple, with a yellow disc.

Cypripedium Tacita, *n. hyb.*

C. Measuresianum ♀, tonsum ♂. Foliage about 8 inches long, 1½ inch broad, dark green, with darker reticulation, suffused with vinous-purple beneath, particularly the midrib and base. Flower-scape slender, hairy, and brown in colour, bearing a single large flower 5 inches across; the ground-colour is sepia-yellow. Dorsal sepal veined with dark brown, margined white. Petals spatulate, naked on the superior margin, as in tonsum, a median line of brown extending to apex; lip rather acute, the side lobes long, and bearded on margin, the infolded lobes faintly spotted. Staminode obcordate, pale brown. The above two beautiful hybrids are now in flower in the choice collection of H. Graves, Esq., Orange, N.J. *R. M. Grey, Orange, N.J.*

Phaius Gravesii, *n. hyb.*

The result of a cross between P. Wallichii ♀ ×, grandifolius ♂, and the inverse cross of hybridus. The

seed was sown July 6, 1889, germinated December 1, 1890, and bloomed February 12, 1893. The general habit of growth and flower is like unto P. Wallichii. The flower is 5 inches across. Sepals and petals cinnamon-brown, the reverse side white. Lip pink-rose on front, a white line extending to apex; the part enfolding the column is white, with a yellow keelson. Column pure white. The name is complimentary to H. Graves, Esq., Orange, N.J. *R. M. Grey, Orange, N.J.*

Odontoglossums from Rosefield.

From his gardens at Sevenoaks, Mr. De B. Crawshay, that clever cultivator of good showy Orchids, sends four very distinct Odontoglossums. The first, O. Andersonianum album, has flowers approaching in breath of petal O. crispum, and of a clear wax-like white. The halves of the segments nearest the column are spotted with red, the marking on the petals being disposed much in the same manner as in O. hebraicum. The lip, which is peculiar in form, is light yellow, passing to nearly white at the apex, and with five or six small red spots. The second, O. Wilckeanum, Rosefield var., is 4 inches across the extended segments. The flowers are bright light yellow, with three large brownish-red blotches on each petal, and still darker markings of the same hue on the sepals, the lip having one large and some smaller red blotches. The third is O. Hallii nigrum, a superb flower; and the fourth a good form of the O. triumphans section, which it is supposed may be another cross with O. excellens, as the crest is large, the lip flat, and without the apiculus seen in the type.

Cultural Memoranda.

ANTHURIUM SCHERZERIANUM.

These plants, and others similar, which we grow in our stoves for the quaintness of their spathes, should be merely surfaced at this season with lumpy peat, loam, dried cow-dung, charcoal broken into small pieces, with the dust, and a good proportion of sharp sand, first removing the upper crust of exhausted materials. Turn them out of their pots or pans, and put the drainage in good order, but without further disturbing the roots. Potting is best performed after flowering. As soon as the spathes appear, abundance of rain-water should be applied, and twice a week a dose of mild liquid manure, the plants being shaded from direct sunshine. To preserve the spathes for the longest time possible in good condition, they should be moistened slightly three or four times a day with tepid water. This kind of treatment is suitable for all the species which are grown for the sake of their brilliant or quaintly-formed spathes, as A. Scherzerianum and its varieties Dixoni, giganteum, Rothschildianum, Wardii, Williamsii, A. Patini (a dwarf species, with white spathe), A. Lindenianum, Andreanum, and others. *G. Parrant, Ashby Lodge, Rugby.*

The Week's Work.

PLANTS UNDER GLASS.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

PLANTS SUITABLE FOR GROWING IN PAIRS.—It is often necessary for decorative purposes to grow some varieties of plants in pairs. These should be selected while quite young, and afforded a uniform kind of treatment, and for this purpose the inmates of the greenhouse are those usually found the most suitable for being moved from one place to another with least risk. Some of the best are Araucaria excelsa, Aralia Sieboldi, Dracæna australis, D. indivisa, Bambusa arundinacea, Myrtus angustifolius, M. communis, M. flore plena, M. Jenny Reitenbach, Diosma gracilis, Phormium tenax, Chamærops excelsa. Of warm-house subjects for this purpose, I would mention Kentia Forsteriana, Musa ensete, for a pair of noble plants, Musa Cavendishii, and Cycas revoluta. Plants of Aralia Sieboldi needing to be repotted should be attended to forthwith, before new leaves form. A suitable soil for this plant is loamy-peat and leaf-mould, in about equal proportions, with plenty of sharp-sand. Seeds of this plant may be sown at this season in mild heat. I do not find the variegated-leaved variety of Aralia Sieboldi so useful or hardy as the plain-leaved.

PELARGONIUMS.—The present is a good time to increase the stock of the sweet-scented varieties. There are many good sorts worth growing. Among the best are Lady Scarborough, Citriodorum crispum, the old Oak-leaved varieties, Fair Rosamond, Fair Ellen, Little Gem, and Prince of Orange. Cuttings of these should be taken about 3 inches long, and put into sifted loam and leaf-mould in about equal parts, with a good portion of sea sand. The best pots for the purpose are 5 or 6 inch. Drain well, and fill the pots within 1 inch of the top with the prepared soil, and cover with a layer of sand. Place the cuttings round the sides of the pots, and put them into the Cucumber-house or propagating pit. Shade from bright sunshine. They will soon strike in a temperature of 70°. When struck, pot off into small pots, and keep them in heat till they have made a good start. The one most in demand is Lady Scarborough; it requires good attention to keep it in condition for cutting from during the winter months. If over-watered it will soon turn yellow, and it must not be cut too hard. The flowers of all the scented varieties should be picked off, with the exception of the variety Prince of Orange, some plants of which should be grown with the show Pelargoniums. The Citriodorum, lemon-scented, nutmeg-scented, peppermint-scented, rose, orange, clove, and the many other varieties, are easy to grow for cutting purposes. Plants that have been cut hard should now be pruned, and kept rather dry for a time, to get them to break well, then shook out of the old soil, and repotted into clean pots. Use plenty of drainage, and give them good loam, leaf-mould, and sand, with some dry cow-dung mixed with it. After potting, they may be kept warm for a time in house or pit, and when danger of frost is over, they can be turned out into the plant-yard for the summer months. Plants of any of the zonal varieties that have been flowering in pots during the winter, should be cut back, and kept dry for a time, then shook out and repotted into good loam and horse-dung, and grown on in pits or frames until they can be turned outside, when they may be plunged into ashes till wanted. Cuttings of these will strike well now in pots or boxes in a warm vinery or forcing house. Give careful attention to the show and fancy varieties, and where the pots are full of roots give good waterings of well-diluted manure, or clear soot water, twice a week. Train out well as they grow, and give abundance of air. Fumigate with tobacco cones, rolls, or sheets. No fire is needed to light any of these, and no attention is necessary after placing them where required.

THE ORCHID HOUSES.

By W. Holmes, *Gardener, Pickering Lodge, Timperley.*

ONCIDIUMS, ETC.—O. macranthum, O. lamelligerum, O. undulatum, O. serratum, O. cucullatum, and Odontoglossum ramosissimum are species which require to be cultivated at the cooler end of the Odontoglossum-house, and be so placed that fresh air in abundance will pass through and among them in weather favourable for ventilation, both bottom and top ventilators being open. There should also be plenty of moisture about, the syringe being plied amongst them as well as overhead. The temperature should range from 45° to 50°. In potting these plants, three-parts fill the pot with clean crocks, and finish off with a compost consisting of equal parts good Orchid peat and living sphagnum moss, slightly raising the mass above the rim. Sometimes yellow thrips will give trouble, but if previous recommendations are carried out, as for Odontoglossums, these insects will soon be got rid of. The flower-spikes are now making their appearance on these species, and snails and woodlice must be searched for at night when they are feeding. Lycaste Skinneri and L. S. alba are plants that do well with the Odontoglossums, but they require to be kept a few degrees warmer, that is, they must be placed at the warmest part of the house, and well shaded from strong sunshine. The foliage of these Lycastes is apt to become spotted, which I find is caused by too strong light. They are now in bloom, and are very useful for cutting, lasting quite one week, and re-potting should be done after the flowering is past. The best compost for them consists of peat, fibrous loam, sphagnum moss, and clean crocks, with which the pots should be half filled. When well-established and growing, plenty of water should be afforded them. Anguloa Clowesii, A. eburnea, A. Ruckerii, A. R. sanguinea, and A. uniflora are species best worth growing. These plants are about to start into growth, and along with the new growths the flower-spikes ascend together. Our Anguloas are placed in the plant stove till partly made up, when they are removed to a cooler and more shady house to mature their pseudobulbs. I find that they succeed more satisfactorily in a house heavily shaded during the period of growth, and we afford them a long rest afterwards. Ours were rested with the Dendrobiums, and are now removed to the north side of the stove. In potting, employ the same compost as for Lycastes.

DENDROBIUMS, ETC. — Dendrobium Bensoniæ swelling their flower-buds will now require a little extra moisture at the roots and in the atmosphere, but it is rather too early to place them in their growing quarters. We give them a higher temperature during the resting period than the D. nobile section by about 5°, and place them in the hottest position during growth. D. Dearei are now completing their growth, and the flower-buds are already swelling. This is a good variety for flowering in June, but it is one of the more difficult ones to grow. It will be found best not to give it any rest at all, excepting for a period after it has made its growth, when it may be kept rather drier, but not too much. We grow ours during winter in a temperature of 65° at night, and in summer 75°. If in a healthy state during growth, they will take abundance of water, both at the roots and overhead, with as little shading as possible. D. Phalænopsis, D. P. Schroderianum, D. bigibbum, and D. superbiens do well in the same house, and with the same treatment as D. Dearei. D. Phalænopsis and D. P. Schroderianum should be carefully watched now for the destructive weevil which was imported with them, for these will soon be making their appearance again if any were missed last year. The safest plan is to cut an affected pseudobulb clean away, as neither fumigating nor dipping will kill them. D. Chrysanthum, well advanced in growth, must not be neglected. Give plenty of water and a high temperature, and hang close up to the roof-glass. Epidendrum bicornutum should now have their flower-spikes well advanced, and they must be copiously supplied with water until the flowers are developed. This plant requires the hottest end of the Dendrobium-house to grow it successfully, and when well grown, it is a most beautiful Orchid. The roller-blinds may have to be used for a few hours during the brightest part of the day, but roll them up early in the afternoon.

FRUITS UNDER GLASS.

By M. Temple, *Gardener, Carron House, Stirlingshire.*

THE GRAPE-ROOM.—Where Grapes have to hang till May, let the temperature (if possible), not exceed 50°, and remember that a current of dry air will soon render the fruit useless; often examine the bunches, removing decayed berries, if any, before they injure others, and fill up the bottles with clean water when necessary. Grapes with us have never kept better than this season, the loss being nominal, and the fruit is as fresh-looking as in September.

PEACH FRUIT-BUDS DROPPING.—From the numerous cases met with of Peaches and Nectarine trees dropping their buds, it looks as if we have not found the cure for this matter. It is sound instruction to advise the lifting and replanting of Peach trees, and I well know its good effects in maintaining the health and fruitfulness of these trees. I may also add, that I have myself proved the beneficial effects of raising the roots of every kind of fruit tree known in British gardens, and seen canker and other evils cured again and again by it. I am not quite sure that Peach trees and Nectarines which drop their fruit-buds apparently as a matter of course can be induced to retain them, and think that some varieties, at least, are incurable. All our Peaches and Nectarines which set their fruit during the month of January retain every bud, and must be rigorously thinned. In the second Peach-house, however, there is on the front trellis a Hardwick Nectarine which retains no more buds than make a moderate crop of fruit, which is in company with Peaches and other Nectarines which never drop a bud. A Peach, Belle Beauce (in company with trees on a back wall) sets badly, while its fellows drop no buds. It would be interesting if cultivators would give the names of bud-droppers.

MELONS.—Those recently planted keep somewhat close till they are in active growth, then in-

crease air daily as weather permits, but shut up early to harvest sunheat, allowing the temperature to rise to 85°. Keep surfaces moist, and when they require water give sufficient to reach all the roots. Increase the air in earlier houses. Stop shoots when about 3 feet long; take off or stop laterals, allowing two to show fruit on each main-stem. Do not wet fruit bearing flowers, but impregnate them as they open; prevent crowding, and allow the heat to fall to 65° at night when weather is severe. Mats may be used to save the severe use of fire-heat. If manure supplies the necessary warmth, keep linings regularly made up. In Melon-houses one stem to a plant answers well, and all laterals near the base should be closely stopped. Add fresh soil to the roots before they are checked by exposure, for this induces red-spider. Those in pots will require abundance of water. If they are on shelves, a pan filled with good loam, bone-meal, and some well-broken charcoal, made thoroughly firm, may be placed under the fruiting pots, to allow fresh feeding space for the active roots. We get good crops from 9-inch pots placed in some of 12-inch; they root readily through the enlarged holes in the bottom. Canker at the collars rarely attacks such plants. Pot or plant-out into firm soil succession plants as soon as ready. Any check in the early stages of growth is injurious. Now is a good time to sow a main crop for summer.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maiden Erlegh, Reading.*

REPLENISHING SOIL-HEAPS.—If fruits of the finest description are desired from old gardens, it is occasionally necessary to replace some of the garden-soil with virgin-loam or other substitute, and it is also advisable to plant all young trees into something of this description. Where such can be obtained from park or other old pasture-land, all the better; but, failing this, in most districts permission can generally be obtained from the road-surveyor to take the turf-soil and scrapings from roadsides, and this is a good substitute for the loam from pasture-land. Now is the time to obtain this, that it may be ready for use in the autumn; also reserve a good supply of burnt garden-refuse, now being made from fruit-tree and shrub prunings, and other garden refuse.

FRUIT TREES IN BLOOM.—Apricots, Peaches, Plums, and Sweet Cherries on walls are a fortnight earlier than they have been for some years, so that the greatest care will be necessary in protecting the bloom. The borders were thoroughly moistened by the rains during February, which will render unnecessary any waterings for some time to come, and thus with the surface in a dry state, and the trees protected according to former directions, nothing less than 12° or 14° of frost should injure the bloom. Bush trees that are also in bloom are more difficult to protect. Bracken placed thinly and lightly among the branches is displaced by the first gale of wind. Covering over the quarters with two or three thicknesses of netting, strained over wires upon posts, is an excellent protection; but having had netting thus used spoiled by being broken with heavy snow, my aim has been to plant bush fruits where they receive shelter from the north and east by large standard fruit or other trees, and thus minimise the necessity for any further protection.

THE FRUIT ROOM.—To keep Apples plump and juicy till the end of May, reduce considerably the ventilation, leaving only sufficient to prevent damp impairing the flavour of the fruit. An ideal room to keep Apples in good preservation after March 1, should be sunk 2 or 3 feet below the ground level, with thatched roof running down to within 1 foot from the ground.

THE FLOWER GARDEN.

By T. H. Crasp, *Gardener, Canford Manor, Wimborne.*

ROSES.—Should mild weather occur during the next week, all Roses should be pruned, but under reverse circumstances it will be as well left a short time longer, for if this is done too early, the young shoots may get injured or killed by sharp frosts. The pruning should be such as to thin out the growths, and cut out all weak shoots, to admit air and light. The more vigorous ones should be cut back to four or five buds, but should the plant be at all weakly, cut back to one or two buds. These remarks apply chiefly to standards of the hybrid perpetual section. In the case of Tea Roses, it is advisable to give more encouragement to the strong shoots which form occasionally, of course by so doing the symmetry of the heads is lost; but at the same time, if fine blooms are desired, some of the most prominent and advanced buds on vigorous shoots must be left to produce them. Bush Roses should be allowed greater freedom. The weak useless branchlets should be cut out, and the more vigorous ones shortened to about half their length. Such varieties as Gloire de Dijon, Maréchal Niel, Devoniensis, Homer, and Blairii No. 2, flower grandly from the strong shoots if shortened back to well-ripened wood. Austrian, Persian, Yellow, York and Lancaster, Damask, and other varieties, should be pruned very sparingly. After the operation is finished, lightly fork over the beds, taking care not to injure any of the roots, and a good dressing of rich soil or short well-rotted manure would also be beneficial to them.

HERBACEOUS BORDERS.—These should be looked over again, and if the ground remains dry a good hoeing is very beneficial to the plants; and it will kill hundreds of weeds which are now coming up, and will save a lot of trouble later in the summer. Any seeds of hardy annuals, &c., required should now be sown, using a little fine light soil to cover the smaller seeds. Sweet Peas, Virginian Stocks, Candytuft, Godetias, Clarkias, Nemophilas, and a host of other equally beautifully flowers are useful for summer display. Beds containing spring-flowering plants, such as Silene, Arabis, Polyanthus, Aubrietias, &c., will be benefited by another careful hoeing. The same remarks apply to beds of Hyacinths, Tulips, &c. Any tubers of Ranunculus intended for a late display should now be planted; they look best if planted by themselves in a bed about 1½ inch deep and 4 inches apart. Seeds of half-hardy and tender annuals should be sown in boxes or pans, placing them in heat until the seeds germinate. No time should be lost in completing the potting-off of all autumn-struck Pelargoniums intended for bedding, keeping them in a little heat till root-action has commenced. The tops of old plants strike very readily now in sandy soil in a warm house or frame, if sufficient were not obtained in the autumn. Ivy-leaved varieties strike readily in a gentle heat, and some of the old plants if potted and trained to a globe-trellis, or three or four stakes in the form of a pyramid, are useful in the same way as specimen Fuchsias.

THE APIARY.

By Expert.

STIMULATING COLONIES.—It is full early to commence stimulating with syrup, although we have had weather warm enough lately to enable the bees to take food in this form. How long it may last, however, is another matter, and therefore candy, which the bees are able to consume without cessation, should be continued for the purpose of inducing increased rearing of brood. A simple and capital recipe for making candy lately appeared in the pages of the *British Bee Journal*, and may with advantage be repeated here. If the directions are closely followed, a most suitable soft candy with a fine grain will be the result. "Into a large copper-bottomed saucepan put three imperial pints of boiling-water, then add gradually 17 lb. of pure Demerara crystallised-sugar, into which one and a half teaspoonfuls of cream of tartar has been mixed; stir well till all the sugar is dissolved, then allow it to boil ten to fifteen minutes. Now stand the saucepan of syrup in a vessel of cold water, and stir briskly until it gets of a thick, creamy consistency. A little salt may be added, if desired, just before it is removed from the fire." Before the candy is ready to pour out, moulds should be got ready for it. Soup-plates containing brown paper answer very well, and the cakes thus made will weigh about 2 lb. each. It will also be advisable to stir in pea-flour when the candy is taken off the fire.

EXAMINING HIVES.—Any warm day should be taken advantage of to go carefully over all the frames in each stock, noting the extent of the stores, as a guide to future feeding, and weeding out irregular combs, and those containing drone cells. The operation should be done as expeditiously as possible, so that the hive is not kept open long enough for any brood to get chilled. The tops of the frames should be cleansed of any wax that may have been built on them, so that the quilt will then fit down tightly. A triangular scraper, such as is used by painters and glaziers, is an excellent little tool for this purpose.

THE WELLS SYSTEM.—In a conversation with Mr. Wells a few days back, he stated that his stocks in double hives were in good order this spring. Some must be exceptionally so, for he said that he had been obliged already, in some cases, to give additional breeding space to hives containing fourteen standard frames, as the bees were so crowded that they had not room enough to subsist. He expressed an opinion that a hive made to carry out his system properly should consist of three chambers, each to contain twenty standard frames. The bottom one would be devoted entirely to the two queens for breeding purposes, divided in the middle by the perforated board, the two upper ones being used for storing the honey. The holes in the perforated division-board he makes half an inch apart, and nearly an eighth of an inch in diameter.

THE KITCHEN GARDEN.

By H. C. Prinsep, *Gardener, Buxted Park, Uckfield.*

CARROTS.—This is often a troublesome crop, especially in old or neglected gardens, where probably the Carrot-maggot (Psila rosæ) is prevalent; and as these little creatures work their destruction underground, it is difficult for the cultivator to see the extent of the mischief until too late. There is seldom any difficulty in growing early varieties, which are drawn as soon as ready for use. It is the main crop that so often suffers; and where this is so, it is preferable to sow only quickly-growing kinds. Sowings should be made at intervals from now to August, according to requirements; only sufficient should be sown each time to keep up the necessary supply. It is not a good plan to use fresh manure for this crop; artificial manure may be used either when sowing or thinning, but we prefer using it on the soil before it has been raked down for sowing. Kainit, at the rate of 3 lb. to the rod, will be found beneficial, and if a further dressing of soot or wood-ashes can be given, this will be of further assistance.

CELERY should be pricked off into a gentle hot-bed as the plants get forward enough to handle, they will then be far more robust. If allowed to be over-crowded, they seldom give satisfaction. Celeriac must also be attended to, and not allowed to remain too long in the seed-pans.

VEGETABLE MARROWS.—Where these are required early, a sowing may now be made. See that the plants are kept near to the glass.

TOMATOS.—Pot-on and keep near the light, admitting air on all favourable occasions to keep the plants stocky. Those fruiting should have a warm dry atmosphere to assist the flowers to set. Give the plants a gentle tap in the middle of the day, when the flowers are dry, to scatter the pollen. Remove all lateral growths as they are formed, so that flowers and fruit may have all the light and air possible.

CAULIFLOWER.—Plants which have been protected in cold frames may now be planted out in warm sheltered situations in the south. But in exposed places it will be better to wait another week or ten days; for if these plants receive a check, they often bolt. The ground should be heavily manured to obtain satisfactory results. Attend to those on hot-beds, and see that they do not become over-crowded, or suffer from want of water. If the soil used for these was obtained from a refuse heap or old potting material, care must be taken, for such soil is often infested with the larvæ of the crane-fly.

PEAS.—Those that have been raised in frames, to be planted out eventually, may now be transferred to their open quarters. Take the precaution to choose a mild dry day for the work, so that they may not suffer any injury from exposure to drying winds. After planting, sticks should be put to them at once, and Spruce or other evergreen boughs placed alongside for shelter. See that the plants are well moistened before turning them out of the pots.

HERBS.—There should be a supply of all such kinds as Chervil, Basil, Savory, and Borage, for these are often in great demand, especially the former, and as they soon go to seed, frequent sowings are necessary.

SALSAFY.—Make a sowing in shallow drills 15 ins. apart. The ground should be treated as recommended for Carrots, or the roots will not grow straight.

SCORZONERA may now be sown, the ground having been deeply dug, as advised for Salsafy. Sow in drills, taking care not to cover too deeply.

SMALL SEEDS.—Do not fail to make requisite sowings of Mustard, Cress, Radishes, Lettuce, Turnips, and Spinach. Dust with newly-slaked lime those that are appearing above the soil, except the two former. This will ward off birds and snails.

EDITORIAL NOTICES.

Letters for Publication.—*All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* written on one side only of the paper, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to return unused communications, or illustrations, unless by special arrangement.*

Plants, &c., to be Named.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be carefully packed and numbered, and not more than six should be sent at one time.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Illustrations.—*Photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c., are particularly solicited; but the Editor cannot be responsible for loss or injury.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Advertisements should be sent to the PUBLISHER.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETING.

TUESDAY, Mar. 28 — Royal Horticultural Society, Drill Hall, James Street, Westminster. Lecture at 3 p.m., by M. H. Vilmorin on "The Flowers of the Riviera."

SALES.

MONDAY, Mar. 27 — Calceolarias, Gladioli, Pancratiums, Dahlias, &c., at Protheroe & Morris' Rooms.

TUESDAY, Mar. 28 — Home-grown Lilies, Begonias, Anemones, Carnations, and Orchids, from Messrs. F. Horsman & Co., and others, at Protheroe & Morris' Rooms.

WEDNESDAY, Mar. 29 — Japanese Lilies, Azaleas, Roses, Gladioli, Herbaceous Plants, &c., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—44°.8.

The Anatomy of Hybrids.*

A most important contribution to science has lately been made by Dr. Macfarlane; for, though others have investigated some special cases of hybrids, the author has done it in a more thorough manner, and furnished a model for future investigators. He has described a large number, and taken Philageria ×, and its parents, Lapageria (female), and Philesia (male), as a typical case for an exhaustive treatment. From this and others it appears that two results may follow. Special characteristics of one or both parents, e.g., of hairs, glands, &c., may appear unaltered in form, but reduced in the hybrid offspring; this he calls uni- or bi-sexual hybridity while other structures, common to both, may be more or less intermediate, e.g., the thickness of the cortex, number of stomata, &c. This agrees with the observations of M. Vesque in his study on anatomical characters in the classification of plants (*Bull. de la Soc. Bot. de Fr.*, 1889, p. xli.), in which he groups the characters as "qualitative" and "quantitative."

A most important point to be observed for any organs to be exactly comparable on each of the three forms, is that they must be in identically the same stage of development, otherwise grave errors may creep in, as, e.g., the number of cells and of stomata on a leaf-surface decreases with age over the same area, while the thickness of the cuticle increases.

Dr. Macfarlane has described Philageria very minutely, comparing it with its parents in about thirty points; but it would have been preferable to have tabulated the results, as it is more impressive to the eye to see them at a glance. So far as we have seen, in no case is the absolute mean exactly hit by Philageria, and the excess or deficiency above or below the mean varies considerably. Thus, it is seven times in excess, and six times below it, between 1 and 5 per cent. It is twice between 6 and 10 per cent. above, and thrice below it. Lastly, it is about seven times in excess and thrice below it, above 10 per cent.

Again, by tabulation, other results become more apparent. Thus, e.g., the thickness of the epidermal cells and of the endodermal cells in the root, and the lamellæ of the cortical cells of the stem, and the indurated cells of the fibro-vascular cords of the leaf, are all attributable to the male parent Philesia, thereby showing its prepotency in this particular feature.

Again, of all the details of the roots (taking means where the author has given ranges), seven incline to the female, three to the male parent; of the stems, the proportion is four to five; and of the leaf, four to six. All together, the hybrid has fifteen in favour of Lapageria and fourteen, of Philesia.

In order to show the exact position of the hybrid at a glance, the true mean should be added (obtained by multiplying the numbers corresponding to the parents, and extracting the square root), as well as the percentage above or below the mean. The following examples will show this advantage, + or — indicating excess or deficiency per cent.; and the arrows point to the stronger parent:—

Root.	Lapageria.	Philageria.	[*True Mean.*	*P C.*]	Philesia.
No. of thick layers of cort.	9	←4·5	[4.2	—0·7]	2
Scl. elements (div. micr.)	20	←33·5	[34·6	—3·1]	60
Stem.					
Out. layers of cortex.	22·5	←16	[14·6	+9·5]	9·5
Diam. of f.v.b. (div. micr.)	400	250→	[275	—9·1]	190
Leaf.					
Pet. f.v.c. (no. div. micr.)	7	←5	[4·5	+11	3
Up. meso. pal. layer.	3·5	2→	[2·6	—23]	2

The importance of adding the true means will be seen readily in such cases, as when the hybrid and its parents are represented as follows:—♀ 5; hyb. 4; ♂ 3 (as in the cells of the innermost layer of the cortex of the two species of Dianthus and its hybrid D. Grievei (p. 222); for it is impossible to say from these numbers towards which parent the hybrid inclines. If, however, we read it thus, 5; 4; [true mean 3·87] 3: we see that it slightly inclines towards the female parentage. As another example, the author gives the sizes of the pitted vessels of the stems of Ericas, as (♀) 12 to 15 div. micr., (♂) 20 to 22 div. micr., and of the hybrid as 16 to 20 div. micr. These do not show at a glance to which parent the offspring inclines. Taking the averages, the figures stand thus, 13·5; 21; 18; the square root of 13·5 × 18 is 15·5. Hence, the hybrid is considerably nearer the male parent than the female.

The author gives a critical examination of Cytisus Adami, which shows well the importance of this method of investigation in its aid towards solving doubtful cases; for he comes to the conclusion that it is "a graft hybrid of pronounced type."

Space will not permit of further allusion to the interesting problems discussed by the author in connection with hybrids; but he finally raises the important question as to whether a study of anatomy may not be able to decide between a supposed hybrid and an intermediate variety. Admitting the impossibility of arriving at absolute certainty, he says:—"In any case, we consider it as undoubted that recognition of hybrids from careful microscopic study should now be possible in the great majority of cases."

Mr. Henslow, we believe, is engaged in similar investigations into the anatomy of the composite hybrid Rhododendrons raised by Mr. Veitch, and finds precisely the same features, in that one or the other parent often impresses some special peculiarity upon the offspring (sexual hybridity), or else common characters are more or less intermediate. An original parent may be subsequently more or less eliminated altogether, or ancestral characters may re-appear, and so on. Further details must be reserved for a future occasion.

* *A Comparison of the Minute Structure of Hybrids*, by Dr. J. M. Macfarlane.

Cœlogyne Sanderæ.—This beautiful species, which was exhibited at the Royal Horticultural Society on March 14, when it was awarded a First-class Certificate, seems to be the best of that section of Cœlogyne to which the old, but still rare C. Cumingii and C. trinervis, and the newer C. Fœrstermanni belong. Moreover, it is very free-flowering, and produces its flowers on much smaller plants than either of the species named. The pseudobulbs are ovate-conical, often compressed so as to exhibit four angles, and the bright green leaves are ovate-lanceolate. The flowers, which are produced in elegant sprays, are pure white, the labellum fringed, and white at the edge; the centre orange, with three intense maroon-coloured fringes running from the base. (See fig. 52). *J. O'B.*

Linnean Society.—At the meeting held on Thursday, March 16, Professor Stewart, President, in the chair, the Rev. J. Bafton, Messrs. R. T. Baker, J. Taylor, and W. H. Wilkinson, were elected Fellows; Mr. F. W. Moore was elected an associate; Mr. W. G. Ridewood was admitted. A curious freshwater Alga, growing in a perfectly spherical mass, without any visible point of attachment, and described as an "ægagropilous" condition of Cladophora, was exhibited by Mr. A. W. Bennett, who stated that specimens had been found in English and Welsh lakes, as well as in Sweden, and that the peculiar spherical form of growth was difficult to explain. Mr. G. R. Murray suggested that it might be due to the action of a current which would cause a continuous revolution of the mass. Mr. G. F. Scott Elliott gave an interesting account of the botanical results of the Sierra Leone Boundary Commission, and of the collections made by him during five months' travelling. His remarks were criticised by Messrs. J. G. Baker, C. B. Clarke, W. Carruthers, and Dr. Stap, who was present as a visitor. Messrs. G. R. Murray and Horace Monckton offered some remarks on the similarity in certain respects of the fauna and flora of the West Coast of Africa and the East Coast of South America, with reference to the statements made by Mr. Pocock and Mr. Scott Elliott. The meeting adjourned to April 6.

Royal Horticultural Society.—The next display of fruits, flowers, and vegetables will take place in the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday, March 28, when the various committees will meet at 12 o'Clock as usual. At 3 p.m., Mons. Henry de Vilmorin, of Paris, will deliver a lecture on "The Flowers of the Riviera," which is sure to be interesting.

Fig. 52.—Cœlogyne sanderiana: flowers white, with a deep purple lip. (see p. 360.)

Gardeners' Royal Benevolent Institution.—We have great pleasure in publishing the following letter from a gentleman who has long been a subscriber to the Institution:—"Sincerely sympathising with the cases of John Butler and Jane E. Nichols, who have been unsuccessful candidates for the pension of the Institution at the last five annual elections, it is my intention to place at the disposal of the committee—and I hand you a cheque for £36 herewith—the amounts necessary to provide for the present year the allowances to which they would respectively have been entitled had they been elected in January last; at the same time I earnestly hope that special efforts will be made to secure their election on the next occasion." Another gentleman, who desires his name to be withheld, has handed the Secretary £5 5s. for an exceptional case of suffering and distress which was recently brought to the notice of the committee. *O, si sic omnes!*

Tasmanian Apples for England.—Reports as to the quality and extent of the Tasmanian Apple crop, and of that in New South Wales, &c., have for some few months past been somewhat contradictory, and this lack of exact knowledge extends even to the office of the Agents-General here. Failing his ability to give trustworthy information as to quality, Sir E. Madden, K.C.M.G., the Agent-General, gives the following figures relating to the quantity to be shipped from Hobart this season: the first column of the appended table gives the date of shipment in the vessels named in the second column, the third column gives the quantities, as follows:—

February	20,	per s.s.	Britannia ...	...	9,000 cases.
,,	27	,,	Ophir ...	...	14,250 ,,
March	6	,,	Himalaya ...	...	8,700 ,,
,,	13	,,	Orizaba ...	...	13,750 ,,
,,	20	,,	Massilia ...	...	22,150 ,,
,,	27	,,	Oroya ...	...	13,750 ,,
April	3	,,	Oceana ...	...	9,750 ,,
,,	10	,,	Orient ...	...	15,500 ,,
,,	17	,,	Arcadia ...	...	9,800 ,,
,,	24	,,	Ormuz ...	...	11,000 ,,
				Total	127,650 cases.

Of course, it does not follow that these figures will be adhered to. Last year, it may be remembered, there was a disparity on the minus side, with which the officials at Westminster had nothing to do.

Amateur Gardeners' Association.—The fourth ordinary meeting of this association was held recently at the Temperance Institute, Birmingham. A paper on "Roses" was read by Mr. W. Dean. As indicating the development of the Rose, he produced a catalogue of 1820 giving 119 kinds of Roses for summer blooming, all, with the exception of a very few in old cottage gardens and the older gardens of noblemen and gentlemen throughout the country, now out of cultivation. In 1834, 278 varieties were named. In 1856 a few autumnal Roses had been introduced. In 1863 seventy new sorts were brought in, but only a few, including John Hopper and Lord Macaulay, were still in public favour. In that year there were in twenty-seven sections 1000 varieties. For out-of-door growing in large towns like Birmingham, he argued that the selection should be made only of such sorts as were of a free-growing character and free-blooming. He recommended for such culture Alfred Colomb, Baroness Rothschild, A. K. Williams, Charles Lefebvre, Camille Bernardin, Countess of Rosebery, Duke of Teck, Dr. Andry, Duke of Edinburgh, Dupuy Jamain, Earl of Dufferin, Ferdinand de Lesseps, Fisher Holmes, François Michelon, Louis Van Houtte, Madame Marie Verdier, Madame Victor Verdier, Marie Baumann, Mrs. John Laing, and Pride of Waltham. A good loamy soil was the Rose-grower's aim. He recommended planting as early as November, gave illustrations of pruning different varieties, and described the different stocks upon which Roses are worked.

Bath Chrysanthemum Society.—The exhibition for the present year has been arranged for November 8 and 9.

Allotment Gardening in Nottingham.—At the invitation of the Nottingham Garden-Holders Association, Mr. Richard Dean, of Ealing, delivered, on the evening of the 17th inst., a lecture on "Fruit Culture for Cottage and Allotment Gardens," illustrated by diagrams, the sorts of fruit recommended for the district having been selected by Mr. William Ingram, Belvoir Castle Gardens, Messrs. J. Cheal & Sons, Crawley, kindly supplying samples of most of the Apples named by Mr. Ingram. The chair was taken by W. Wagstaff, Esq. Mr. Dean's address was well received, a number of questions were put and answered. We regret to learn that a serious accident happened to Mr. Dean, on being driven the following day from Belvoir Castle to Redmill Station, the

horse attached to the conveyance bolting, and throwing Mr. Dean and the driver heavily into the roadway, severely cutting their faces and injuring their limbs. Both are incapacitated from active work for a time.

Frost at Belvoir.—Mr. William Ingram reports that severe frost prevailed in the Belvoir district for four days—viz., March 18th, minimum, 31°; on the grass, 26°. 19th, minimum, 21°; on the grass, 14°. 20th, minimum, 25°; on the grass, 18°. 21st, minimum, 28°; on the grass, 19°. Such Rhododendron blooms as were expanded are quite blackened.

The Insect Friends and Foes of the Garden.—Such was the title of a lecture to the members of the Birmingham Gardeners' Association, on the 13th inst., by Mr. C. E. Pearson, of the Chilwell Nurseries, and the subject attracted a large attendance of members. Mr. Pearson went thoroughly into a description of them, illustrating with lantern slides the appearance of each, and giving its history from the egg, or larvæ state, up to its full development, and describing the food requisite for its subsistence. Advice was given as to the habits of each, and modes of extermination, but exempting some few, which he described as preying upon each other. He strongly urged a study of entomology, as being so useful to gardeners, and the lecture throughout teemed with useful information. At the same meeting Mr. Deans, a young member, exhibited specimens of Anastatica Hierochuntina, or the Rose of Jericho, and dried specimens of Resurrection Mosses, or Selaginellas.

Aconite and Celery.—A curious case of poisoning by Aconite, says the *Pharmaceutical Journal*, occurred at Martham, Norfolk, lately through a farm labourer eating some Aconite-root, which he had taken home under the impression that it was Celery. According to the report, the deceased spat out the root directly after biting it, yet death supervened in a few hours. A specimen of the plant has been sent to our contemporary by Mr. Nuthall, of Norwich, and, at first glance, possesses a striking resemblance to the small heads of Celery at present to be seen in the London market; but, on closer inspection, the characteristically-shaped leaves and root leave no doubt as to its identity. A singular confusion was indicated in the evidence of the local doctor, who spoke of the deadly Nightshade and Aconite as one and the same plant! As a result, the verdict of the jury incorrectly stated that "deceased died through having eaten deadly Nightshade through misadventure"!!

"Kew Bulletin."—As an appendix to the volume for 1893, a list of the new garden plants of the year 1892 is given. There is a difference of procedure in the use of capital initial letters in the case of personal names which is rather confusing, thus, "Cymbidium winnianum" and "Chionodoxa Luciliæ," "Calanthe sanderiana" and "Cattleya Alexandræ." As this is so throughout, it would seem as if there were some underlying principle. Critical notes are occasionally given, which will be so useful that we can but wish there were more of them, thus, under the head of Rhododendron racemosum, recently figured in our columns, as well as in some of our contemporaries, we are told that the plant exhibited does not agree with Franchet's description, nor with the specimen in the Kew herbarium.

Meeting of the Brussels Orchidéenne on March 12.—First-class Diplomas of Honour (distinctions reserved for novelties) were awarded for:—Lycaste Skinneri var. purpurea (*à l'unanimité et par acclamation*), to M. Pourbaix; flowers very large, sepals pale rose, petals brilliant purplish-rose, lip cream-white, faintly spotted with dark red on the edges of the lateral lobes. M. Du Trieu de Terdonck showed a cut flower of the same variety, but even larger than the former specimen; the same award was made. Cypripedium × Spicerio-villosum, to M. A. Bleu, with four well-coloured flowers, the dorsal sepal analogous with that of Leeanum, but shaded with brighter red for half its height, and relieved with a purplish-red stripe along the midrib. C. × Lathamianum inversum, to M. Linden, of very fine form, and great size. Mormodes Rolfeanum var. nigrum, to M. Linden; a well-named variety, owing to its unusually dark colouring. A Botanical Certificate was also awarded to M. Linden for Nanodes Mantini and Oncidium inops. A First-class Certificate for Scientific Merit was awarded (*par acclamation*) for a collection of eighteen varieties cut bloooms of Vanda tricolor shown by M. A. de la Devansaye. First-class Certificates of Merit were allotted for the following:—Odontoglossum crispum × sceptrum to M. le Comte de Bousies (*à l'unanimité et par acclamation*); flower very large, well rounded, divisions broad, greenish-white, much marked with brownish-red spots. A hybrid Odontoglossum from the same orchidist attained an equal distinction, the form that of crispum; it was specially noticeable for the rich colouring of the markings. O. Rossi var., to M. A. Van Imshoot, with unusually dark sepals; O. stellatum, to M. Linden, two fine spikes of beautiful flowers; O. crispum, to M. le Dr. Capart and to M. Van Wambeke; and for Dendrobium nobile nobilius to M. Linden, a very handsome variety. First-class Cultural Certificates were awarded to M. Van Wambeke (*à l'unanimité et par acclamation*), for four Lycaste Skinneri, large specimens, very well bloomed, and for Odontoglossum Pescatorei, a pretty plant with three fine spikes of bloom and one in bud. *Ch. de B.*

Bournemouth and District Gardeners' Mutual Improvement Association.—At the last meeting of the above on Wednesday, March 15, Mr. John Carruthers, F.L.S., of Downton College, lectured on "Some Diseases of Plants." The chair was occupied by the President of the Association, — Hitchcock, Esq., M.D., J.P. The lecturer said that the disorders to which plants were subject might conveniently be classed under three heads, namely, (1), Those caused by unsuitable conditions, such as too much moisture, cold winds, frosts, and the like; (2), Those due to the attacks of animal parasites; and (3), Those resulting from the action of vegetable parasites—fungoid diseases. He proposed on the present occasion to confine his remarks to the latter important class of disorders. Mr. Carruthers proceeded to give a description of several typical parasitic fungi—such, for instance, as the Potato disease (Phytophthora infestans), Wheat rust (Uredo-rubigo-vera and Puccinia rubigo-vera), ergot of Rye (Claviceps purpurea), &c., and indicated methods of prevention and cure. At the conclusion of the lecture many questions were asked, all of which were very ably and fully answerd by Mr. Carruthers, who in addition to a thorough knowledge of his subject, possesses the by no means common faculty of rendering a somewhat technical subject interesting and easily understood. A hearty vote of thanks, proposed by Mr. C. W. H. Greaves and seconded by Mr. Skinner, was unanimously accorded the lecturer by an audience of about seventy. Votes of thanks were awarded to Mr. J. Spong (gr. to the Dowager-Countess Cairns) for a magnificent specimen exhibited of Dendrobium nobile, bearing upwards of 500 blooms; and to Mr. Barrett, for a very fine Azalea and a plate of Mushrooms. A vote of thanks to the chair terminated the proceedings. The committee of the Association intend applying to the Technical Education Committee of the County Council for a course of lectures during the coming financial year, and they venture to hope that, in view of the interest manifested by large audiences during the last session, the Council will see their way to arrange a longer course next year.

Technical Education in Cambridgeshire.—Plum culture, as expounded by Mr. Fish, excited almost as much interest as that of the Apple throughout the Burwell district. Early in the month an attentive audience of 120 persons assembled at Burwell under the presidency of Mr. Stephenson (Vice-chairman of the Cambs. County Council), and an audience of 100 at Horningsea, under the presidency of Mr. Saunders of Girton, to hear about the modern methods of growing the most and best Plums in the least time, and on the most limited areas; also how to clothe vacant walls of houses, cottages, outbuildings, hoardings, barns, stables, and warehouse, with luscious Plums. Much additional interest was given to the Horningsea meeting by the exhibition of two fine samples of Apples by the local growers, Messrs. Ansell and Briggs; the former placed before the lecturer two specially fine high-coloured Blenheim Orange Apples, and the latter two fine Wellingtons. The Pear has since been the subject of the lectures, and the lecturer through precept and examples of fine fruits grown by Mr. Arthur Sperling of Lattenbury Hall, St. Ives (Chairman of the Cambs. County Council), through the telling object-lessons of young Pear trees already showing fruit-buds, through being worked on the Quince stock, root-pruning, and by his citations of good local examples of fine Pear trees either in the county or the parish, has more than sustained the interest and attendance of his audiences. Questions of all sorts and in all forms are also freely put, and immediately answered, and gardens and orchards are visited, and the most valuable practical information given on the spot. The result of the latter promises to be fruitful in the renovation of many old trees, and the planting of many acres of young ones. Here is a typical question, put in many forms, the answers to which should prove valuable to the public—"We can grow Pear trees well enough, but we fail to make them fruit freely?" Mr. Fish answers—"Root-pruning, or cut the tap or fangy roots. If top-growth is too strong, lift the roots higher if the trees are not too large, or the roots planted too deep, so as to have buried the collar of the Pear tree in planting, and cut out the small useless wood, and feed the roots through top-dressings of bone-dust, soot, rich compost or loam or well-decomposed farmyard-manure in cases of exhaustion, where the trees have become too weak to bear." At Swaffham Bulbeck, which is fairly typical of other districts, the audiences have advanced by leaps and bounds; thus fifty to seventy, and over 100 at the last lecture, under the efficient presidency of Mr. Manley, the schoolmaster.

KEW NOTES.

Erythronium dens canis vars.—E. dens canis, the Dog's-tooth Violet, is one of the most interesting hardy plants in bloom at Kew. Several very charming varieties are planted together on the rockery, and in various parts of the grounds this species and its forms are approaching full beauty. The species is well known to all who care about hardy plants, but the varieties of it are rarer, although distinct and beautiful. Even when out of bloom, E. dens canis is attractive, the leaves oval, and marked with a brownish colour. The white variety is very pure, and is planted at the foot of the standard Rhododendrons, facing the Palm-house; but a good selection of distinct forms may be chosen, the flowers varying from white to quite a purple shade of colour. Rubens, rose, and Vandyke, similar in colour, but with broader segments, are at present in flower at Kew, but in a few days a number of others will be in perfection. A mass of the many varieties, &c., at Kew, is of the greatest interest, and shows what is lost to gardens by not growing the finer-coloured forms of the species. A peaty soil suits the plant best, and moisture is essential, also some amount of shade, although they will grow and flower satisfactorily in the full sun, if the soil is not dry or too poor. For edging beds filled with other spring flowers, or carpeting the surface of the soil as under standard Rhododendrons, are suitable positions. It is very easy to increase the plants by division.

NURSERY NOTES.

AMARYLLIS AT MESSRS. JAMES VEITCH AND SONS.

The Amaryllis have their champions as well as most other classes of showy flowers, and the annual exhibition of the grand collection which has been brought to such a pitch of perfection by the careful hybridisation pursued at the Royal Exotic Nursery, King's Road, Chelsea, is an event looked forward to by a large number of gardeners and amateurs, many of whom come long distances in order to enjoy this great floral display, and to endeavour to get some new ideas as to the best means of cultivating these gorgeous flowers.

At present the large span-roofed house devoted to the Amaryllis (Hippeastrum) is literally a mass of bloom from end to end, the vivid and varied colours having a most dazzling effect. Year by year the flowers are increased in size, and brought nearer to what is considered excellence in form; but although there is uniformity in these matters, the endless variety of colouring prevents sameness even in such a large quantity as that now in flower at Messrs. Jas. Veitch & Sons, and some select one type and some another, so that the whole come in for their share of favour. Among the most marked improvements are the new brilliant scarlet and crimsons, which are flowering for the first time this year, and five of which received Awards of Merit at the last meeting of the Royal Horticultural Society. Of these, Nimrod is a noble flower of a rich orange-scarlet, and one of the largest and best striped yet seen; Socrates is clear scarlet, with scarcely any eye, and the eight large flowers borne by the single bulb is a marvellous display; Excellent has orange-coloured flowers, tinged with rose, and with a white centre; Eldorado is crimson-scarlet, with a white band and freckling at the base of the segment; and Corinna, a rich dark scarlet, with maroon-crimson centre. It will be seen by this honoured set that the tendency is to favour selfs and brilliant colours, but visitors, and especially ladies, are much pleased with the lighter coloured flowers; Carlina is a fine white flower, delicately veined with purple, especially on the upper halves of the segments; and Perle, a somewhat older kind in the same way, is equally effective; Fovia is of the Johnsonii class, white, with light scarlet veining and tinge to the edges of the petals; Ivanhoe is a great beauty white, with a slight crimson feather in the petal; Paripa, white, with scarlet veining; Idomeneus, a noble flower 9 inches across, white and scarlet, with green eye; and Dorothy, Sidoni, Her Majesty, and Crown Princess of Germany are all superb flowers of the light-coloured section.

Returning to the darker and richer-coloured kinds, the most striking is Meridea, which resembles the brilliant Nimrod, but is slightly larger, the flower being over 9 inches across, and the segments 4½ inches wide. Then comes Hippocrates, an immense scarlet with green eye, and white band half-way down each segment. Tallyrand is a large purple-tinted scarlet; Petrina scarlet, veined crimson, and though duller in colour than some, still very distinct; and Orion, Vandyke, and the Champion are superb, and dazzling in the brilliance of their tints. Of the standard sorts, better known than those we have enumerated, Dr. Masters, bright carmine-scarlet; Star of India, reddish-scarlet, with broad white stripe; Fairy Queen, white, striped with scarlet, and Meteor, white, striped with crimson, are good, and will be so regarded for years to come.

But not alone in the production of novelty and excellence in the flowers of the Hippeastrum have the efforts of Messrs. Jas. Veitch & Son been exerted, but throughout the whole of their operation the attaining of a good sound constitution in the bulbs, and of a firm and sound texture in the flowers, have been considered of equal importance, as the free-growing bulbs can be grown with little trouble, and caused to produce many flowers, which if of stout firm substance last in bloom twice as long as the thin petalled varieties of the older strain, and in their endeavours they have been eminently successful. Among the whole brilliant display, however, we missed Hippeastrum Leopoldii and the improvements on it, the best of which is John Heal, but probably they flower later. Let us hope that these fine crimson Hippeastrums, whose white-tipped flowers are so conspicuous and so attractive, will not be "improved away," but will be rather worked up as a class, for their remarkable and showy flowers give a feature unlike any of the others.

HOME CORRESPONDENCE.

HIMALAYAN RHODODENDRONS IN FLOWER.—The following species are now in bloom here in the open air:—Rhododendron eximium (Nuttall), R. cinnamomeum, R. campanulatum, and R. altaclarense. Of these the most interesting is the first, which I find is considered at Kew to be a variety of R. Falconeri. I have both forms, but have never flowered the type, which differs from R. eximium in having the whorls of leaves much more closely set, and the leaves longer and more decumbent. Those of R. eximium are, when young, and till the end of the summer, covered with red tomentum, on the upper as well as the under-side. But the most striking difference (though not the most important from a botanical point of view) is the colour of the flower, which in my specimen is a beautiful pale rose. The colour of R. Falconeri, as was stated in vol. xii., 1892, pp. 19, 74, 136, 190, is dead white or pale primrose, with a dark blotch, of which there is no trace in mine. Mr. C. Noble (xii., 1892, p. 190) suggests that a specimen with lilac flowers may have been R. Hodgsoni. I have this species, which has once produced a truss of deep rose flowers, but it cannot be mistaken for R. Falconeri, as its immense leaves are but thinly coated with tomentum below, and are smooth above, and not rugged, as in R. Falconeri and R. eximium. The flower-buds in the last-named were very large, as described by Nuttall (as "large as small Apples"), and covered with bright buff tomentum. I have to thank Mr. J. G. Baker, F.R.S., for his kindness in looking up the description and synonymy of R. eximium. *A. O. Walker, Nant-y-Glyn.*

CHRYSANTHEMUM VARIATIONS.—We have had a very extraordinary development of flowers on a plant of Chrysanthemum Fair Maid of Guernsey, which has produced two distinct crops of bloom, one at the usual time, November, 1892, another one at the present time. It has sixty blooms and undeveloped buds, and one dozen medium-sized blooms were cut from it ten days ago. It was shortened back about 12 inches after it had flowered, and the miniature buds were showing all over the plant. In all my experience I have never seen anything like it; in fact, I have never seen a Chrysanthemum in bloom in March from the undeveloped buds on the side shoots. I see no reason why it should not continue to produce useful flowers for cutting until April. If any of your correspondents have had a similar experience of this peculiarity, I trust they will communicate through the *Gardeners' Chronicle*. *W. Cragg, nurseryman, Carkickle Gardens, Whitehaven, Cumberland.*

SQUIRRELS.—I am sorry to see that your old and valued correspondent, Mr. J. G. Webster, repeats (p. 325) what I believe to be the slanderous accusation against the prettiest of all our wild animals, the squirrel, viz., that it gnaws and peels the leaders of our coniferous trees. No doubt Mr. Webster knows far more of forestry than I do, but I should like to ask him if he ever personally saw a squirrel engaged on the leader of a Conifer, and then satisfied himself by actual observation at the time that damage had been freshly done to it. Let me say a word on the other side. My garden and adjoining plantation of 3 acres, contain a considerable number of Conifers of various kinds. They also contain, I should think, a number of squirrels not much inferior to that of the Conifers. Anyhow, I do not hesitate to say that if each squirrel destroyed one leader each year, I should not have a decent-looking specimen in the grounds. Whereas the fact is, that it takes a careful search to find one with a defective leader, and we all know that other causes than squirrels at times cause Conifers to go wrong at that point. Further, if they attack the leader, why do not they attack the much more accessible leading-shoot of the laterals? yet I have never heard of their being accused of this. No! Rob me of my nuts they do, and much too freely, but I firmly believe the other crime is a pure invention of the gamekeeper, who is always glad of an excuse to blow the life out of some poor beast. I fear that Mr. Webster, like many other good men, has accepted an evil tradition without satisfying himself of its truth. *A. O. Walker.*

NARCISSUS IN THE ISLES OF SCILLY.—Those who wish to see Narcissus in bloom in masses should visit the Isles of Scilly and its flower farms, where they may see scores of acres of Narcissus, especially Scilly White (Tazetta variety) in bloom. The season has been unprecedented for early blooming, cutting commenced (outdoors) the week before Christmas, and has continued up to the present time. For the last three or four weeks the quantity sent off weekly has been about 50 tons. The quality, as well as the quantity, of the flowers has exceeded that of previous years, and although prices, on the whole, have not ruled high, they have been remunerative. The quantity of land under Narcissus cultivation is between 200 and 300 acres, and great additions are made yearly. The main industry of Scilly at the present time is flower-farming, which would prove a source of great wealth could we but keep the French out of the market. The quality of bulbs for the next planting season is very promising, and already large purchases have been made for the American markets. *J. C. Tonkin.*

REMEDY AGAINST CRICKETS.—Too often, gardeners have to lament the destruction of seedling plants, &c., by insects, but anyone who may be troubled with crickets in fruit and plant-houses will find the following receipt a safe and easy way of quickly getting rid of these devouring insects. If several small marmalade jars are stood on the stages or beds in the houses, and a large table-spoonful of treacle be poured into the jar, with sufficient warm water to make the syrup of the thickness of thin cream, it will be found that the crickets enter the jars, and the liquid being sticky, they cannot escape. I recently caught over one hundred in one night by this means, and I believe I have now cleared the houses of crickets, beetles, &c. This plan is much safer thn he use of phosphorus paste. The jars need not be moved in the day-time, but it is a good plan to take the dead crickets away every morning. *John Chinnery.*

FORSYTHIAS IN BATTERSEA PARK.—The Forsythias are very beautiful in this park in the early spring. F. suspensa is the species planted, and the shoots are not pruned. When pruned the gracefulness of the shrub is destroyed. Large specimens smothered with the golden yellow flowers give colour to the park, and those responsible for the newer open spaces should take note of such hardy, easily grown, and showy shrubs, which fortunately are not averse to London smoke. From now onwards this well-planted park is of much interest, bulbous plants, and hardy flowers of many kinds being used to advantage in the arrangements. Still more will be done in the future by the superintendent, Mr. Coppin, who believes in less formal planting than was the fashion not many years ago. We should like to see in all the London parks greater interest shown in good hardy flowering shrubs. *V.*

BROCCOLI AND THE FROST.—I have never seen the Broccoli cut down by frost so badly as in the present season. Out of about a thousand plants, we have only a couple of dozen left. All varieties suffered about the same. I attribute the fact to sudden severe frost and absence of snow. I did not sow so soon as usual by a month last year; therefore the plants were quite sturdy and strong, and up to a week before the frost we had been cutting Autumn Giant and Osborne's Winter White. While the frost lasted, the mercury was down lower day and night together than it had been for many years. It seems strange that the Savoys suffered not nearly so severely, neither the Chou de Burghley, which is always considered more delicate; while Cabbage suffered to the extent of 90 per cent. Fortunately, we have plenty of Brussels Sprouts, which were uninjured, as also were Asparagus, Kale, and the Borecoles. *W. A. C., Wilts.*

RHODODENDRON NOBLEANUM.—It is to me surprising that this Rhododendron is not more extensively grown than is the case at present. Very seldom do I notice it in gardens. As a rule, it commences to flower in November, and lasts until the others begin

to bloom. Of course, the flowers are not so abundant after March, although a good many can be found even then. We have dozens of large bushes scattered about the grounds here, ranging from 6 to 10 feet in height, and as much in diameter. All through February these were brilliant masses of scarlet, a colour unusual at such a dull period of the year. *R. Weller, Glenstal Castle Gardens, Limerick.*

PETROLEUM AS AN INSECTICIDE.—Relative to the paragraphs which have appeared in the *Gardeners' Chronicle* on petroleum and its effect on plants, it is singular, considering the time it has been in use, to see so much damage still being done by it. From what can be gathered from the correspondence, the opinion held is that it is dangerous to employ in its crude form as a wash generally, or as a winter dressing for Vine rods. It may, however, be used with effect, and with perfect safety in the form of spray, at the rate of a wineglass, with the usual quantity of soap to the gallon of water, on all but the most tender-leaved plants, or those with soft woolly foliage, provided the solution is kept in commotion while being applied. For cleaning Peach trees the solution is invaluable. If "C. W. C.," who in a recent issue asked the opinion of correspondents on this point, would syringe his trees thoroughly with the solution before the buds begin to swell, and again, after the fruit is gathered, he should have little trouble with red-spider or aphides. If we accept the statement of "W. R." p. 78, as to the existence of red-spider being but another name for bad cultivation, most of us will have to bow our heads in despair, until we have found out the secret that no doubt keeps everything in its proper place at Streatham Hill. "W. R." alludes to the various circumstances for its being such, as dry borders, want of nourishment, leaves near the glass, &c., leading one almost to believe in the possibility of spontaneous generation. We are fully alive to the fact that the conditions named are favourable to the increase of the pest, and we also know that many things beyond the gardeners control, such as peculiarity of season, locality, &c., tend to increase the evil complained of; but how to effect a complete annihilation, would be knowledge gained of great value, and for which we would be extremely obliged. Regarding the spots on Muscat Grapes, mentioned in a previous letter, as being the effects of red spider, I expected to see the opinion fully corroborated, besides the interjection by the editor, because there are not a few similarly affected —notably, an old Champion Muscat Grape exhibitor from the south of Scotland, whose Grapes have of late been badly spotted. The marks caused by thrips are quite distinct from those already described, being irregular silvery streaks and spots, and confined to no particular part of the berry. *Wm. Williamson.*

TO DESTROY WEEDS ON LAWNS.—I have often seen the question asked in your columns, as to the best means for the destruction of the various kinds of weeds which so disfigure mown lawns, but, as yet, I have never seen any plan proposed that is at all comparable with one which has been successfully tried here, and in neighbouring gardens, for several years past. The appliances are inexpensive, and the *modus operandi* so simple, that a child can do the work. Take an old champagne-bottle for choice, and tie a cord round its neck, to which cord a piece of wood may be looped as a handle, then procure a ¼-inch iron spike, pointed at both ends. Let the spike be about 18 inches long, and drive a wooden handle on to it at one end. Two long lines for marking the portions of grass operated upon, will be also found useful, and then the machinery is complete. Now fill the bottle with some unrectified sulphuric acid, the brown vitriol of commerce, and dipping the spike in the acid, pierce the heart or centre of each Daisy, Dandelion, Plantain, or other noxious weed, which may be disfiguring the grass between the two marked lines. As a rule, one stab will be sufficient for the destruction of each plant, but if, on inspection, in a day or two, this should not be the case, in every instance, a second dose will make death certain. When the weeds are all killed, bare places will be left on the lawn, but such bare spots will gradually become re-covered with grass in course of time, especially if they be treated with some fresh soil, and seeds be sown thereon. No lawn is ever so much overgrown with weeds as not to be restored to perfect condition if the above instructions be carefully carried out. *O. O. Wrigley.*

COFFEE CULTIVATION IN NATAL.—May I be permitted to say a few words on the above subject? Your informant seems to infer that the chief reason of the failure of Coffee in Natal is due to the want of skill and enterprise on the part of the planter. Now, if thousands could be made out of Coffee twenty years ago (and I know full well that such was the case), there could not have been a great deal wrong in the way the grower went about his work, and a man must be sadly in want of common sense to alter his methods of cultivation to such an extent as to cause the present lamentable state of affairs in Coffee production. I am rather surprised that a government official from Natal, if he has visited any of the Coffee-growing districts in the colony, should make such a statement. Without a doubt the real reason of the failure is the same as that which has been nearly the ruin of some of the planters in Ceylon, i.e., leaf disease, known to scientists as Hemileia vastatrix. This first made an appearance in the Natal plantations about fifteen years ago, and from that time the cultivation of Coffee has so fallen away that now it forms a very small item in South African industries. Many efforts have been made to eradicate this destructive fungus, but in vain, and the planter thinks himself very fortunate if he can prevent it spreading. Mr. Medley Wood, of the Botanic Gardens, Durban, told me in a conversation I had with him on the subject, that it was possible to cope with it by supplying the infected plants with plenty of nourishment in the form of manure, but it would be labour in vain to attempt to destroy it. Some of the pioneers of the Coffee industry in Natal told the same tale, hence their reason for rooting up the plants, and putting the land under tea and sugar; and who can blame them for growing the latter at a very fair profit, instead of Coffee at a loss? Much might be said with regard to the successful and unsuccessful cultivation of many fruits that would be welcomed to the English market, but it certainly ought not to be laid entirely at the doors of the Natalian that the Colony produces less Coffee than it did twenty years ago. *G. W. Staden, Kew Green; late of "Nonoti Peak," Natal.*

HOLLY GROWING THROUGH AN OAK.—Not far from the historic house, Moyles Court, near here, stands a very old Oak, which must have been a fine tree in its prime maturity. It is decaying, but still puts forth a few living branches. Its bole measures nearly 30 feet in circumference, and is partially hollow. From the crown of its bole, 14 feet from the ground, springs a large luxuriant two-forked Holly tree. Its larger bole is 3 feet in circumference, and ascends some 20 feet. Thus we have the certainly uncommon and, I believe, unique sight of a Holly rising above a massive Oak, roughly like a steeple surmounting a tower. Down through the hollow bole of the Oak the roots of the Holly can be seen descending like a score or more of stout cables, varying in sizes, the largest as big as a man's wrist. Rootlets also branch out into the decaying wood, and apparently feed upon it. It is not unusual to see a dwarf stunted Holly growing in the cleft of another tree, but the present case has inexplicable circumstances for me. The initial rooting and growth is easy to understand, but how did these long cable-like roots gradually work their way down through the bole of the Oak? They must have fed on the decaying wood of the Oak as they went; then they had to eat their way through the roots of the stump also. I could not understand where the nourishment was derived to support such a luxuriant tree. The Holly roots would have to compete with the roots of the Oak, which must have long before exhausted the soil around. The Holly must have largely lived on the decaying Oak-wood. Is not this unusual? *Arthur H. Kingsbury, Ringwood, Hants.* [*Communicated by the Director, Royal Gardens, Kew.*]

SINGLE CHRYSANTHEMUMS.—Mr. W. Wells, Earlswood, who grows an enormous number of Chrysanthemums, is of opinion that whilst single varieties get very little appreciation from schedule makers, they are by far the most popular with ladies, who will often go into ecstasies over quaint flowers, from which the stiff and starched florist, who has no soul above "big 'uns" and prizes, would turn from with contempt. Happily for the ladies, therefore, these singles are very easily induced to seed, and raised in that way. There are thousands of such being tested the second year from cuttings at Earlswood. Of course, there are plenty of doubles also, indeed, all the best new and old obtainable. One marvels how customers for the myriads of plants one sees in houses and frames are found, but they are found, and, too, in all parts of the world. However, the pleasing way in which the elegant single forms cater for feminine taste is one of not the least recommendations of the Chrysanthemum. *A. D.*

WINTER TOMATOS.—I was but the other day in a place where Tomatos are grown in the summer literally by the ton, and the fruits find a ready sale. None the less, there was no effort made to grow plants during the winter, when home-raised fruits of good quality would sell easily at treble the best price obtained in the summer. I refer to this, because sometimes Tomatos are recommended as winter varieties, yet somehow we never see them in the winter. There has been no Tomatos seen at any of the Royal Horticultural Society's meetings for the past four months. When the merest tyro can grow Tomatos easily in the summer, is it not possible for able growers to get them in the winter in decent form and abundance? If not, then assumed winter-fruiting Tomatos are non-existent. Here is a fine field open to the enterprising hybridist or grower who wishes to make a fortune. *D.*

GOLD FISH.—The remarks in the *Gardeners' Chronicle* concerning gold fish drew my attention to the subject. We have them here in an aquarium which is 14 feet long by 7 feet broad, and 2 feet deep. I may add on the information of those who know, that these fishes have only been fed once during the last eighteen months! the tank is filled once a week. *J. A. Rogers, Melchet Court.*

ROUND *versus* PRICKLY SPINACH.—It has long been a standing article in the horticultural creed that, whilst round Spinach only was suited for summer purposes, only prickly Spinach was fitted for winter work. I must confess to have this latter notion most severely tried when going through the kitchen gardens at Claremont, Esher, the other day, and observed the singularly marked strength of leafage and beautiful robustness of one breadth of Spinach over another breadth growing side by side. I enquired of Mr. Burrell whether the former was the Victoria or Viroflay, but he said no, it was simply round Spinach, and the poor breadth almost leafless was prickly Spinach. The former was relatively 50 per cent. better than the latter. Is that other gardeners' experience? If Mr. Burrell's experience be others, then have we been blundering greatly over these divers forms of Spinach! *A. D.*

SPECIES OF ASH.—In your number of March 11, no mention is made of a variety of Fraxinus elatior, which is far more beautiful than either the Parsley-leaved or the tufted form. This is Fraxinus heterophylla (Vahl.), a variety with simple lanceolate leaves of about 8 inches in length and 2 inches in width. These give the tree an appearance not unlike that of Eucalyptus globulus. The tree is not common, I have only seen it at Hartland Abbey in N. Devon, and at St. Columb Rectory in Cornwall. It seeds freely, and I believe that it comes true from seed. It would be interesting to know more of the distribution of this variety of the common Ash in Great Britain. *G. H. Wollaston, Clifton.*

ISOPYRUM THALICTROIDES.—A very pretty and hardy plant to ornament the rockery in early spring is the above-named. It grows only 3 or 4 inches high, has most elegant light Rue-like foliage, and small flowers of pure white. It was in flower this year before the end of February, and is now passing off, but the leaves continue, and are never untidy. The only objection to it is its running habit, but it roots so lightly that it does not smother anything amongst which it grows. I lost my temper with it two years ago, because I saw it overshadowing some choice Androsaces, and ordered it to be cleared entirely out; but I am glad to say that it has quite recovered this rude treatment, and is a very welcome ornament so early in the year. It is a native of the South of France, and the same zone of latitude across Europe, re-appearing in the Himalayas. I have not often seen it in nurserymen's catalogues, and its slight thread-like stolons make it not very easy to deal with, until well-established. I found it abundantly wild last year in woods near Bayonne; growing close to the edge of streams, and flowering at the beginning of March. *C. Wolley Dod, Edge Hall, Malpas.*

LACHENALIA AUREA GIGANTEA.—The plant which you mention as Lachenalia aurea gigantea, received from Mr. Todd, is no doubt the same plant as one of which I sent the flower two years ago to Kew, and which Mr. Baker called a large form of L. aurea. I received mine amongst imported bulbs

from Mr. O'Brien. In habit the plant is widely different from L. aurea, but is undistinguishable (except from its larger flowers) from L. Nelsoni, which I understand to be a garden hybrid between L. aurea and L. luteola, and which in habit closely resembles L. luteola. These three, luteola, Nelsoni, and the imported one, have ascending strap-shaped shining green leaves, whereas L. aurea has broad short recumbent dull green leaves, and is not yet in flower, and will not be so until the other three are quite out of flower. Can it be a natural hybrid between aurea and luteola? If I were to name it I should call it L. Nelsoni gigantea, which would exactly describe it, which the other name does not do. *C. W. Strickland.*

THE ROYAL HORTICULTURAL MEETINGS.—At the commencement of your report of the Drill Hall meeting of the 14th, it is stated that "exhibits were so numerous, it was with difficulty they were accommodated." That was perfectly true, but at least the fault did not lie with the society, for there was still ample room and spare tabling if needed. I took the trouble to inquire as to the prevailing practice in relation to the sending of exhibits to these meetings, and learnt that only two or three of the almost regular exhibitors give the superintendent any notice, and that the majority give no notice whatever. Now, if postcards reached the Drill Hall early in the morning of the meeting, there would be ample time, I take it, to make the needful preparation, for a line of tabling can soon be run up; but if no notice of any sort is given, then no wonder if late comers find their products placed disadvantageously. Surely, it should not be too much trouble to give notice the day previous to the meeting on a postcard. That would allow some time for making provision, especially in granting more space, for at least half as much tabling again as was finally placed could have been advantageously filled with the numerous exhibits. Now that the meetings are really becoming shows, and some of them very beautiful ones, it cannot be too much to expect of exhibitors that they give some previous notice of their intention to exhibit, and probable space needed, so that ample room may be found, and the beauty of the exhibition be much enhanced. It seems as if these shows would become larger every meeting. *A Fellow.*

LÆLIA VITELLINA, *new gard. hyb.*

At fig. 53, will be found an illustration of an interesting hybrid Lælia, raised in the gardens of Baron Schroder at The Dell, Egham, but whose

Fig. 53.—LÆLIA × VITELLINA: FLOWERS ORANGE-SALMON COLOURED.

parentage, not having been recorded, can only be guessed at. The supposition is, that L. harpophylla was one of the agents in its production, and the probability is that L. Perrinii was the other, and most likely the seed-bearer. As evidence of that, we have in L. × vitellina an indication of the deflected apex of the labellum as seen in L. Perrinii, and the influence of the orange-coloured species, which has been proved by these garden hybrids to be so potent in suppressing other colours in the species in which they are crossed, seems to have failed to wholly obliterate the dark

purplish-crimson on the tip of the labellum of the other supposed parent. I have not yet had an opportunity of examining the pollinia of the new hybrid, and therefore cannot say how they stand with relation to true Lælia.

The flowers of this beautiful novelty are orange-tinted, Indian-yellow the base of the column, and tip of the labellum tinged with light purple. The plant was awarded a First-class Certificate at the Royal Horticultural Society, March 14. *James O'Brien.*

THE ROSERY.

PRUNING ROSES.

Now that the time is coming on, a word or two may not be out of place. On the pruning of standards little can be said; it is principally concerning dwarf and pot Roses that I would make a few remarks. Some time ago, we had some Rose beds planted with dwarf bush Roses, which looked miserably bad, and upon examining them, I found that they had been pruned back too severely; and instead of pruning them (they did not need much) I gave them a heavy top-dressing of manure, and occasionally during the summer a syringing with the garden-engine, and the growth these bushes made was simply wonderful, some of them making shoots 10 feet long. The following season, instead of cutting them back, I had some wire-pegs made, and pegged them down all over the beds, and the quantity of bloom produced was marvellous. I have seen many bush Roses killed by too much pruning. In this same way, I would recommend pot Roses to be treated, excepting such as are being grown for exhibition. In the previous autumn or winter, let all well-ripened long shoots be tied round four or five stakes stuck in round the edging of the pots, and the result will be a greatly increased number of flowers. After the plants have flowered, let them grow away again without stopping, and in this way the wood will get thoroughly ripened. Of course, I know all Roses cannot be done in this way, simply because they do not make a sufficiently vigorous growth; but even with these weaklings, one or two slight dressings during the growing season of Standen's manure works wonders. *Rusticus, Wilts.*

Tea Roses.

The writer has often been amused at the various articles which appear from time to time in your valuable paper reflecting on the hardiness of Tea Roses, and as "Wild Rose," in your issue of the 25th ult., is apparently still convinced of their tenderness, I should much like, with your permission, to give a few reasons for an altogether opposite opinion. In this district (eastern Scotland) I have grown Teas entirely unprotected for sixteen years now—comparatively few for the first few years, but latterly possibly the largest collection in Scotland. At present they are grown by the acre. In some winters during that period I have seen the dormant buds embedded in ice for six weeks at a stretch; and that year we had 500 dormant Maréchal Niel, and only lost two buds, and they grew from 5 to 7 feet high the next summer.

We consider this winter as trying possibly as any that we have yet encountered, and that chiefly owing to the very cold season of 1892, which here (at Broughty Ferry) was the coldest we have had for twenty years, the average winter temperature being 46°.6, while 1892 only registered 44°.6. The hardest frost we have had during the winter of 1892-93 was 22°, and still we protect none whatever, and up to the present time no harm has been done; and I have no doubt whatever but that the Teas will be found when summer comes as solid as of yore.

As between Teas and Hybrid Perpetuals we find absolutely no difference in regard to hardiness, though the Hybrid Perpetuals make more show of growth than the weaker growing Teas, and the latter are sometimes harder cut down in their late-made shoots; still, root for root, the one is as hardy as the other, and on the seedling Briar (the best of Rose stocks) succeed in a wonderful manner.

There is also, I think, a great deal of harm done by late pruning. I confess to being much more afraid of the late pruning with its sometimes serious bleeding of the wounds draining slowly the life-blood of the Rose, than ever I was of frost. The rule here is to commence pruning at the new year, finishing by March 1. During this period on mild days the pruner is at work; and this season, although it is not quite finished owing to frost and snow, we are nearly so. *James Simpson, Dalhousie Nursery, Broughty Ferry.*

Roses Madame Desprez and Jaune Desprez.

These are two old varieties, the former belonging to the Bourbons, and the latter to the Teas. Madame Desprez was raised by M. Desprez very many years ago, and is a strong grower, well adapted to form an arbour or cover a wall. The blooms are large, double, produced in massive corymbs; colour rosy-lilac shaded violet. It is a Rose whose display is magnificent whilst it lasts; but of short duration—less than a month. On its own roots it is long-lived, throwing up strong suckers and basal shoots. Only moderate pruning is necessary. The foliage is massive, robust, and enduring.

Jaune Desprez is one of the sweetest of Tea Roses, of a yellowish coppery tint, by no means a strong or rapid grower, but exceedingly floriferous. I well remember a plant of it at Highnam Court, Gloucester, artfully planted against a south wall, and close by a door in the kitchen garden. The perfume always seemed to meet one on the instant when the door was opened. It is not mentioned under its name in the *Dictionnaire des Roses,* but the description there found of Jaune Ancienne fits it very well. *A. Y. E.*

VEGETABLES.

BROCCOLI—SUTTON'S LATE QUEEN.

As the time for sowing seeds of Broccoli is approaching, I would draw the attention of your readers to the merits of Sutton's Late Queen Broccoli. During the present and two preceding winters, this variety has withstood frost without any protection whatever, whilst other Broccolis have been destroyed, even although heeled-in in October, or bulwarks of soil heaped around their necks and roots. Last summer and autumn being sunless and moist, the plants made strong soft growth; but in spite of this and the severe frosts which followed, Late Queen looks as promising as it ever did. Living as I do in a cold district, and having a heavy soil to deal with, it is found requisite to sow the seeds of Broccoli on the first favourable opportunity after the first week in February, in order that they may have an early start and a long season of growth. The quarters where they will be planted out are well-manured, trenched, and ridged in the autumn. Late Queen, when well-grown, produces large beautifully-white heads, and is undoubtedly the best of its season—May and June. I have tried to increase the frost-resisting power of these plants by starving the land, and have reaped only miserably small heads, tough in texture, but I have now given up the practice in favour of one more in keeping with the requirements of this crop. *J. Riddell, Castle Howard.*

Finnochio, or Fennel.

In a recent issue of the *Gardeners' Chronicle,* mention is made of the use and cultivation of "Tuberous Fennel." This vegetable is highly appreciated in Southern Italy; however, it is not eaten, as you suppose, boiled, but raw, and it is not wanting during the whole winter-time at any dinner-table. It plays here the same *rôle* as in your country does Celery. [We prefer it cooked like Celeriac.]

We offered last year to the trade a new, large, fine-flavoured variety of Fennel, named Prince Bismarck, which attains the weight of 4 lb. if well cultivated. We are sure that, when Finnochio is better known in northern countries, it will be as much appreciated as Celery. *Herb & Wulle, Naples.*

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

March 14.—Present: Dr. M. T. Masters, F.R.S., in the chair; Mr. Michael, Mr. Blandford, Dr. Scott, Professor Oliver, Rev. W. Wilks, Professor Farmer, Dr. Müller, F.R.S.; Mr. G. F. Wilson, F.R.S.; Professor Marshall Ward, F.R.S.; and Rev. G. Henslow, Hon. Sec.

Sargasso Weed and Cocoa-nuts.—Mr. Blandford exhibited a specimen collected off the Azores. He also remarked upon a perfectly successful experiment of bringing fresh green Cocoa-nuts from Jamaica in the refrigerator of a vessel.

Tipulæ in Soil.—Dr. Müller exhibited some grubs which were pronounced to be a species of this genus allied to the common T. oleracea, or Daddy Long-legs.

Blue Primulas.—Mr. Wilson exhibited about fifty varieties of different shades of blue, plum-blue, and bluish-violet Primroses, all being seedlings from the original "Scott Wilson," and grown at Weybridge and Wisley.

Knotted Oak Branch.—Dr. Masters exhibited a specimen of a knotted branch, on which a black fungus was present. He had referred it to Dr. Cooke, who had determined the fungus to be Dichæna quercina, a species that feeds on the living bark. It was a question, however, to be solved whether this fungus was the cause of the knob-like protrusions or not. It was referred to Professor H. Marshall Ward for further examination and report.

Cecidomya taxi.—Professor Farmer exhibited specimens of Yew sprays affected by this well-known parasite, which determines an arrest of the axis and causes the leaves to form a rosette. The question was raised as to whether the shoot subsequently elongated or not. In Mr. Henslow's garden both male and female Yews are always affected by it, the tufts of leaves and shoots attacked dying every year.

Injuries to Plants by Certain Substances Present in Coal Smoke.—Prof. Oliver exhibited several results of his experiments in testing the effects of the ingredients of fog and their allied substances upon plants. A frond of Phegopteris trichoides, subjected to the vapour of phenol under a bell-glass, was blackened. White Lilac became of a chocolate-brown colour; white Cyclamens, however, being unaffected, though killed. It was remarkable that the alcoholic extract of chlorophyll made from the blackened frond was identically like that of the uninjured green leaf, showing that the chlorophyll was "masked," but not altered in character by the phenol. The effects of "pyridine" were not so marked, as the Lilac and Cyclamen were only slightly tinted with a pale brown colour. Professor Oliver had tested these and other plants for tannin, but the distribution of this substance in organs which change colour with or resist phenol and other coal-tar products, was found to be such that no positive conclusions could be drawn.

Professor Oliver also showed the effects of sulphurous acid gas, so prevalent in urban fogs. The above-mentioned white flowers were killed by its action. The spectrum of chlorophyll of leaves subjected to its action showed the usual modifications due to the presence of an acid. It is to be noted that the effects produced were only on living protoplasm, no such results occurring if the protoplasm had been previously killed.

Dr. Scott said that he hoped Prof. Oliver would be able to throw some more light on the falling of almost uninjured leaves, which was perhaps the most remarkable of the effects of fog. In these cases, the leaves, when they fall, are alive, and show scarcely any symptons of poisoning. He thought it possible that the investigation of this phenomenon might help to explain the immediate cause of the normal fall of leaves in autumn, as to which we at present know little more than the anatomical conditions.

Prof. H. Marshall Ward, in commenting upon Prof. Oliver's elaborate report, observed that the author had evidently attacked the problem quite in the right way, by experimenting on plants with the separate ingredients of urban fogs; and that as the report showed, the investigation had raised a number of interesting and very important questions in vegetable physiology. It was, indeed, a matter of surprise to see how much information Prof. Oliver had extracted from his investigations in the short time at his disposal. He trusted that the author would persevere with his experiments, as he would have the hearty sympathy of everyone

interested in the subject. Prof. Ward alluded to some old experiments of his own, in which he found that in fine, dry, bright, and sunshiny weather plants resisted the effects of sulphurous acid better than in dull seasons, thus correlating in an interesting manner the results of Prof. Oliver, in that in foggy weather sulphurous acid gas was most effective in injuring plants. The result of this action was a "plasmolysis" and diffusion giving the appearance of sweating in the cells. The sulphurous acid in the gaseous condition penetrated the intercellular spaces of the tissues, and entered the cells in solution.

Dr. Müller called attention to the statement in the report that, according to Dr. Bailey, the organic matter which forms a large proportion of the greasy deposit left by fog, and which proved so injurious to plants, consisted mainly of some form of pyridine. Now, considering that pyridine is a rather volatile liquid substance, this is a somewhat surprising fact, and the question arises how the pyridine and other similar volatile constituents of smoke become thus fixed and precipitated. He suggested that this probably is brought about by the agency of the particles of solid hydro-carbon and tarry ingredients of the fog, which possess great affinity for these volatile substances, and absorb them. It is now well understood that these solid constituents of the smoke, along with the mineral dust suspended in the atmosphere, form the primary cause of the formation of fog.

Dr. Masters exhibited sprays of Holly, Skimmia and Aucuba covered with sooty deposit of fog, but yet the foliage was apparently healthy. He attributed their capability of resisting the deleterious influences to the great thickness of the cuticle possessed by these plants. He observed that evergreens often possessed two or three rows of palisade-cells, instead of one only, and were thus enabled by their structure to offer a greater degree of resistance to injurious vapours than plants less well equipped. Dr. Masters also observed that plants with an aqueous hypodermal layer, such as was present in certain Orchids, might on that account be better able to resist the injurious effects of fogs. Mr. Henslow added that East Indian Rhododendrons have much tannin, a moderately thick cuticle, and aqueous layers on both sides of their leaves, and as they withstood the fogs well, these features might corroborate Dr. Masters' suggestion. Dr. Masters also remarked on the observation of Prof. Oliver that Monocotyledons appeared to be less liable to injury than Dicotyledons. He threw out the suggestion that as so many of the former class have a more or less erect, phyllodineous foliage, the fog deposit would be less likely to accumulate upon it than on the more usually horizontal blades of dicotyledonous plants. In addition to this morphological feature was the anatomical structure—viz., there being two palisade layers and the presence of stomata on both sides, &c. Such and other histological differences, though apparently not borne out in the case of Ferns, might prove to account for some of the differences mentioned.

The thanks of the committee were unanimously tendered to Prof. Oliver for his interesting and valuable report.

ROYAL BOTANIC.

March 22.—This society held its first exhibition of the present year on Wednesday last. The exhibits were not numerous, but the plants shown were varied, interesting, and in fine character, especially Persian Cyclamens.

There were the usual classes for Hyacinths, Tulips, and other spring-flowering bulbs. In the amateur classes for Hyacinths, Tulips, Polyanthus, Narcissus, and Crocuses, Mr. James Douglas, gr. to Mrs. Whitbourne, Great Gearies, Ilford, was 1st in each case, exhibiting the plants well, far better than in the trade division. The two chief prize-winners other than Mr. Douglas, were Mr. H. Eason, gr. to B. Noakes, Esq., Hope Cottage, Highgate; and Mr. R. Scott, gr. to Miss Foster, The Holme, Regent's Park.

In the nurserymen's division for bulbs, the chief prize-winners were Messrs. Williams & Son, Fortis Green, Finchley, but as a rule the flowers were poor. The same firm had the finest pots of Lily of the Valley; Mr. W. Morle being also a successful exhibitor in the trade classes.

Very fine Amaryllis were seen in the class for twelve, equal 1st being Messrs. Paul & Son, Cheshunt, and Mr. Jas. Douglas; whilst the best six specimen Azaleas were those from Mr. R. Scott. Splendidly-flowered Deutzias came from Mr. Douglas, who was placed 1st. Messrs. Paul & Son were 1st for six Roses, the plants well-flowered; whilst Mr. Douglas was the most successful for twelve Freesias.

Amongst the most interesting features was the collection of hardy herbaceous plants, from Mr. T. S. Ware, Tottenham, which won the 1st prize; the compact variety of Spiræa (Astilbe) japonica, named multiflora compacta, was well shown.

Cyclamens were the finest subjects to be seen; we have never seen better plants at any exhibition of the Society. Twelve very fine specimens came from Mr. Mowbray, gr. to Major the Hon. H. C. Legge, Fulmer, Slough, who was 1st in a good competition; Mr. T. Pestridge, Boston Park Road Nursery, Brentford, 2nd.

Miscellaneous collections formed the principal part of the show. A very extensive display of bulbous plants, Cliveias, new Orchids, &c., was made by Messrs. B. S. Williams & Son, Upper Holloway (Large Silver Medal). New Roses and several boxes of cut Camellia blooms were staged by Messrs. Wm. Paul & Son, Waltham Cross (Silver Medal); whilst a similar award was given to Messrs. J. James & Son, Farnham Royal, near Slough, for their splendid group of Cinerarias, the plants very dwarf and compact, and the flowers of exceptionally fine form. Messrs. W. Cutbush & Son, Highgate, exhibited a miscellaneous group, chiefly hard-wooded plants. Messrs. H. Williams & Son, Highgate, Hyacinths, Tulips, and Narcissi; Mr. John Odell, Gould's Green, Hillingdon, Cyclamens; and the St. George's Nursery Co., Hanwell, new Cyclamens, in each case a Silver Medal being given. Messrs. Barr & Son, Covent Garden, were awarded a Bronze Medal for a group of Narcissi and other spring flowers, and Mr. T. Pestridge for his group of Cyclamens.

There were many new plants exhibited, Hippeastrums in particular from Messrs. J. Veitch & Sons; Messrs. B. S. Williams & Sons, having a number of Cypripediums. Several botanical and floricultural Certificates were given. Their number is, however, so great that want of space prevents description.

EDINBURGH BOTANICAL.

March 9.—The fifth meeting was held on the above date, Dr. David Christison (President) in the chair. The Curator exhibited from the Royal Botanic Garden a plant of Rhododendron racemosum, Franch. This is an extremely beautiful dwarf species, growing only a few inches high, and flowering freely. It is a new species, found by the Abbé Delavay, in the province of Yunnan, China; also a plant of Anoiganthus breviflorus in flower; Saxifraga Burseriana Boydii; and a branch of Rhododendron dahuricum var. atrovirens, covered with deep red blossoms.

The Rev. David Landsborough, of Kilmarnock, sent branches of Eucalyptus pauciflora, along with some ripe seeds of the same plant, from a tree growing in the open air at Arran. He also sent branches of Eucalyptus alpina, and a flower-spike of Cordyline australis with young fruit on it, both grown in the open air at the same place.

In the absence of the author, a paper by Mr. Arthur Bennett on the "Discovery of Orobanche cruenta, Bert., near Oban, Argyllshire," was read by the assistant-secretary.

The president read a notice of Mr. Marsham, of Stratton, Norfolk, a country gentleman, who in the middle of last century, appears to have devoted much time to the study of forestry. All records of his observations seem however to have been lost, except those contained in two letters, from which it seems he was in the habit of studying the effect of washing trees with water by means of a brush, and of manuring the soil in the neighbourhood of their roots.

In the discussion which followed, it was suggested that the washing of trees might greatly benefit their health, especially in towns where the bark of the stem becomes covered with a thick deposit of soot and dust, which is dependent for its removal on occasional showers.

The assistant-secretary showed some winter buds and plants of Utricularia vulgaris.

Mr. Lindsay read the monthly report on the temperature and vegetation at the Royal Botanic Garden. During February the thermometer was at or below freezing point on eleven occasions, indicating collectively 64° of frost for the month as against 114° for the corresponding month of last year. The lowest day temperature was 39° on the 24th, and the highest, 58° on the 19th.

A good deal of snow fell during the last week of the month. Rhododendron præcox had all its flowers destroyed by frost on the 25th, while R. dahuricum was quite uninjured, and is flowering more profusely this season than it has for some years. Of the forty spring-flowering plants whose dates of flowering are annually recorded, the following fifteen came into flower: Rhododendron atrovirens on February 4, Tussilago fragrans, Leucoium vernum, February 6; Corylus Avellana, Crocus susianus, February 8; Bulbocodium vernum, Scilla præcox, February 10; Crocus vernus, Scilla sibirica, Rhododendron Nobleanum, Symplocarpus fœtidus, February 14; Tussilago alba, T. nivea, February 18; Daphne Mezereum, February 19; Nordmannia cordifolia, February 20.

FLORISTS' FLOWERS.

NEW DAHLIAS.

It is a somewhat curious circumstance that so few new show Dahlias should have appeared during the last year, while new Cactus, decorative and single varieties have been abundant. The season of 1892 was chiefly remarkable for the valuable additions made to the true Cactus type by Messrs. Keynes, Williams & Co., of Salisbury. A few years ago, when they introduced the pale amber-coloured Panthea and the reddish-salmon Panthea, it was seen they had secured a break in colour that shadowed possibilities of novel colouring undreamed of previously, and these have become verified in the novel and beautiful varieties they have produced this season.

In Delicata was to be seen one of the most beautiful varieties of the true Cactus Dahlia. Mr. T. S. Ware obtained a variety that marked a very decided advance towards new tints in that section, and the fine character in which it was shown justified the awards made to it when first exhibited as a seedling. It is well described as "light salmon at the base of the petals, gradually shading off to a lovely delicate pink."

One of the best of the new show varieties seen last season was Gwendoline, shown by Mr. J. R. Tranter, Henley-on-Thames. It is a good second-row flower, of a bright wine-crimson colour, shaded with maroon, the petals small and well-formed, fine outline and well up in the centre. It missed a Certificate of Merit at the Crystal Palace, but it was awarded one at Reading, Oxford, and the Earl's Court show. Though we have so many dark self-coloured Dahlias, Gwendoline showed distinctness of character.

Mr. G. H. Pierre Harriss showed flowers of Draughtsman, a dull crimson with deeper shading, good petal, and fine shape; Rosy Queen, rose, with slight stripes of dull purple; and Freedom, buff, with a bright rosy reverse to the petals. At Earl's Court, Mr. Tranter had Gwendoline in good form. Mr. Tranter also had a light variety named Florence Tranter, that will probably be seen this season in better form. Messrs. Keynes, Williams & Co., showed Dazzler, Fancy, yellow, striped with crimson; a finely-formed flower of great promise; Virginale, a charming light variety in the way of Queen of the Belgians, but with a deeper colour on the petal edges; and Niobe, deep bright crimson, a well-formed flower, of good quality.

Coming now to the Cactus type, allusion has already been made to Ware's Delicata; and fine and distinct varieties were exhibited by Messrs. Keynes & Co., viz, Bertha Mawley, very bright orange-crimson, slightly shaded, a true Cactus type, a new shade of colour. An Award of Merit was also given to this variety by the Royal Horticultural Society. Other of their varieties were Countess of Gosford, yellow ground, suffused with bright salmon, and slightly tinted with pink; and Countess of Radnor, yellow ground, rich salmon, suffused with mauve and pink, fine in colour, very distinct and striking—certificated by the Royal Horticultural Society. Kaiserin, of a pale yellow shade of colour, and of true Cactus form; Mrs. Basham, yellow, flushed with deep mauve and salmon, novel and distinct; Miss Violet Morgan, yellow, edged with pinkish-salmon, very pretty; Avalanche, a white decorative

variety, with curiously-formed petals, which acquire a kind of tubular form with age; Countess of Pembroke, decorative, soft pinkish-lilac, very distinct in colour; and Daphne, deep pink, flushed with rose.

At the Crystal Palace, Mr. Geo. Humphries, nurseryman, received Certificates of Merit for May Pictor, a pale-yellow variety of the true Cactus type. Messrs. Perkins & Son, nurserymen, Coventry, showed at Reading Cactus Dahlia Matchless, crimson, shaded with maroon of the true Cactus type; and a valuable addition to the dark varieties.

At the Crystal Palace and elsewhere, Mr. C. Turner, Royal Nursery, Slough, staged several new varieties of the Cactus type, among them Sir Hugo, Oscar, Bullion, Lord Rosebery, Lady Primrose, H. E. Milner, Blushing Bride, and Homer; Certificates were awarded to H. E. Milner, salmon and mauve, very distinct; and Blushing Bride, very delicate blush-white, a charming variety; Sir Roger, bright pale orange-scarlet; and Robert Cannell, magenta, tipped with violet; both of the true Cactus character, are beautiful varieties. New Pompon varieties were plentiful last year, and mention should be made of Bacchus, very bright orange-scarlet, small and of the finest quality (Keynes & Co.); Amber, amber and gold, like the colour of the old Dahlia Leah (C. Turner); Gipsy Queen, dark maroon, small and of fine shape; an improved Little Nigger (C. Turner); and Eva, bright red centre, the edge of the petals paling to delicate lilac, very pretty (J. T. West); Hilda, a pretty tipped variety (C. Turner); W. Tommy Keith, white, with side margins of red, very pretty, and compact; Winnifred, blush-white, small, and of very fine shape (J. T. West); Boule d'Or, bright yellow, a small well-formed flower; Amber and Gipsy Queen (C. Turner); Madge, red-tipped white, fine shape; Little Frank, yellow, flushed with pale salmon; Bacchus and Ceres, delicate primrose, extra fine, all from Messrs. Keynes & Co.

Single varieties certificated at the Crystal Palace were:—Duke of York, very bright deep orange-scarlet, from Messrs. J. Cheal & Son; Yellow Satin, deep satiny-yellow—fine shape; Sunningdale Scarlet, rich deep scarlet—fine shape; and Kitty, the petals tinted with bright pale pink—fine shape and very distinct; Jack, yellow-satin; and Cadet, all from Mr. T. W. Girdlestone, Sunningdale. *R. D.*

Fruit Register.

APPLE ROYAL SOMERSET.

In this we have a fine cooking kind. It is large and handsome, round, and very yellow, and the flesh is white. It secures the cook's favour, because it is nice and white when sent to table. In our orchard the trees grow well; they are hardy, and most years bear an average crop. It is grown largely in the West of England, which may account for the name. It keeps well with us into March, and we have some nice samples in our fruit-room, and they look as if they would be as good three months hence. *East Somerset.*

Apple Beauty of Stoke.

Mr. Doe, of Rufford Abbey, sent me a few of the above a few days ago. It is a large handsome fruit, and a reputed good keeper, remaining quite sound without speck or blemish till the present season. The cooking qualities are all that could be wished for, the pulp of good flavour, and nice colour when cooked. It is a fruit that will doubtless be sought after when its merits become known. It bears freely on quite small trees, which at this time Mr. Doe tells me are covered with fruit buds. [Why not show some fruits at the next meeting of the Royal Horticultural Society? Ed.] *A. Henderson, Thoresby.*

—— This new Apple, raised by Mr. Robert Doe, gardener to Lord Saville, Rufford Abbey, is, think, likely to be much sought after as an early culinary variety. When at Rufford two months ago, I was shown bushels of splendid fruits, which were even in size and very firm, and of a rich golden colour, many of them weighing 9 and 10 ounces apiece. The fruit when cooked is everything that one could desire, and as an Apple for the dessert it is not to be despised; juicy, and the flavour is rather brisk. I was informed that a tree of Beauty of Stoke comes quickly into bearing, indeed, the crop which was shown to me in the fruit-room came chiefly from young standards. The growth is vigorous without being gross, and the tree produces plenty of bearing wood. I understand the stock is in the hands of Messrs. Veitch & Sons, Chelsea. *Geo. Dyke, Kirklington Hall, Notts.*

Cockle's Pippin.

As a late-keeping dessert Apple, this variety (I am now eating fruit of it), which was alluded to in very favourable terms recently in the *Gardeners' Chronicle*, is excellent at even this late part of the season, the fruit being plump, juicy, pleasantly acid, and sugary. In my grounds at Bedfont, it crops very well. It is generally known as Cockle Pippin, and it is well to state that according to Hogg's *Fruit Manual*, it was raised by a person of the name of Cockle, residing at Godstone, Surrey, where it is extensively grown, as also in the neighbouring county of Sussex. I remember it distinctly as a school-boy, so it is by no means a modern Apple. It is worthy a place in a select collection of dessert Apples. *R. D.*

Book Notice.

JOHNSON'S GARDENERS' DICTIONARY.

The appearance of a new and revised edition of a book which has held a foremost place among gardening works for nearly half a century ought not to be allowed to pass without a few words in reference to its history. A brief description, moreover, is especially called for in these columns, considering that the *Gardeners' Chronicle* was the primary source of much of the matter published in the earliest edition of the book in question.

A Dictionary of Modern Gardening was the title of the first edition of the late George W. Johnson's book, which bore the imprint of Robert Baldwin, of 47, Paternoster Row, London, and was dated 1846. It appeared in what is known technically as duodecimo size, its price being half a guinea. It is a stout volume of 704 pages, with eight pages of prefatory matter. It was dedicated to John Lindley, the then high priest of horticulture and botany, and whom the compiler justly describes as "one of the most efficient promoters of modern horticulture."

The aim of the compiler was, as he says, to gather together in one volume, attainable at a moderate price, and arranged in a manner easily consulted,' a complete record of gardening. Mr. Johnson obtained aid from the best living authorities, as well as from their published works. But, he continues, "of all the authorities consulted, none has afforded such abundant information as the *Gardeners' Chronicle*, of which it is not too much to say that, as it is the best of modern journals devoted to promoting the cultivation of the soil; so, whoever is fortunate enough to possess a complete copy of its five published volumes, has a work of reference for which he will rarely turn away unsatisfied if seeking for information relative to its particular subject." The success of this somewhat ambitious venture appears to have been a very decided one, both in this country and abroad. In America, an edition, revised to suit the exigencies of other and extremely varied conditions, was edited by David Landreth and published in Philadelphia in 1847. It contained 180 woodcuts, including a number of outlined diagrams of Apples, Pears, &c.

The first English edition having been well received, a revision was determined upon. In the meantime, Mr. Johnson had projected the *Cottage Gardener*, and had drawn around him a staff of first-rate writers—men of great practical knowledge. The revised edition bore the less ambitious, but certainly less appropriate title of the *Cottage Gardeners' Dictionary*, its publishers being the well-known firm of W. S. Orr & Co., of Amen Corner, Paternoster Row, London. It consisted of 927 pages, which were divided into fourteen monthly parts, the first of which appeared in November or December, 1850. From the preface to the first edition, which is really the second if we begin at the beginning, we learn that Mr. Beaton, gardener to Sir W. Middleton, furnished all the headings descriptive of each genus, the derivation of their names, with their botanical classification and nomenclature; Mr. Fish, gardener to Colonel Sowerby, supplied the cultural directions for each genus of flowering and ornamental plants; Mr. Errington, gardener to Sir P. Egerton, the directions for fruit culture, and the selection of varieties; Mr. Appleby, floricultural manager to Messrs. Henderson, the information relative to florists' flowers; whilst the important department of the kitchen garden was the joint work of Mr. Barnes, gardener to Lady Rolle, Mr. Weaver, gardener to the Warden of Winchester College, and the editor himself.

The new edition differed in many respects from the first issue of 1846. It was not dedicated to anyone, and the references to the *Gardeners' Chronicle* were suppressed, the information which had been derived from these columns having been in a great measure omitted, and replaced by matter from Mr. Johnson's own journal. Lengthy articles on soils were condensed into short paragraphs. On the other hand, subjects which had previously been discussed in a few lines were now elaborated into lengthy monographs. For example, the genus Acacia, which received in the 1846 edition a space of only four lines, was now extended to five columns; and Erica, which had previously been compressed into seven lines, now occupied eight columns. Moreover, the "Calendar" of operations for each month in the year, distributed according to alphabetical arrangement, was entirely omitted.

The periodical issue of the revised edition had not long terminated before a second edition was determined upon. The rapid manner in which the very large impression sold was a flattering testimony to the general utility of the book as a handy work of reference. The second edition of the revised issue was completed in twelve parts, priced at 7*d.*, 8½*d.*, or 10*d.*, according to the quantity of matter, the first part being dated December, 1856. W. Kent & Co., 51, Paternoster Row, London, were the publishers. It was submitted to a considerable amount of revision, as will be seen by the fact that it contained only 857 pages, of which thirty pages were entirely taken by lists of synonyms which did not appear in the earlier issue. Although what seemed to be new editions had appeared in 1863 and 1875, the body of the book remained untouched. In 1868 the first supplement was published by Messrs. Bell & Daldy, which brought the total number of pages up to 916, and in 1880 a further supplement, compiled by Mr. N. E. Brown, of Kew, was issued by Messrs. George Bell & Sons, the publishers of the new edition which has just commenced to appear in shilling monthly parts, under the editorship of Messrs. C. H. Wright and D. Dewar. The names of these gentlemen should afford a guarantee that their work will be well done, and we trust that their revision may be so thorough as to bring the work up to date.

We notice a statement on the first page, where

Abies is given as the Latin equivalent for Spruce Fir, but from the way in which the generic names Picea and Abies have been interchanged, it is no wonder that perplexity exists. We do not think the Horse-Chestnut was ever a native of the tropics, and the very vague locality "Asia" assigned to the tree under the head of Æsculus might with more correctness have been replaced by mountains of Greece. The circumstance that Aucuba japonica "passed from stove to greenhouse and thence to the open air," is no proof of any "acclimatisation" having taken place. The names of plants are well spelt, and the lists have been carefully revised, so that the book will be useful as a register of the more important plants cultivated in gardens, as pains have evidently been taken to incorporate the newer introductions.

The compilers have followed the generic arrangement adopted in the *Genera Plantarum*, from which they have only departed in cases where some genera which are then united, are sufficiently distinct for horticultural purposes—for example, Azalea is wisely, we think, kept quite distinct from Rhododendron. The greatest innovation in the new edition is in reference to the translations of the specific names. These are omitted from the body of the work, but will be given in an appendix. This is in many respects a pity, as the specific name is often helpful in identifying a plant; few gardeners have any knowledge of the Greek and Latin meanings of the names given to plants, and these translations have been one of the chief features of Johnson's *Dictionary*. The new edition also differs from its predecessors in being beautifully printed—the Chiswick Press being responsible for its typography.

THE WEATHER.

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees — a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Accumulated. Above (+) or below (—) the Mean for the week ending March 18.	Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1893.	Below 42° difference from Mean since January 1, 1893.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1893.	Total Fall since Jan. 1, 1893.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1893.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	2 —	0	36	— 1	+ 26	6 +	61	12·7	18	17
1	1 —	7	35	— 21	+ 21	3 —	50	5·9	44	24
2	2 +	31	19	+ 21	— 32	3 —	43	4·6	52	24
3	3 +	39	15	+ 51	— 17	3 —	49	5·1	43	25
4	3 +	38	15	+ 51	— 34	3 —	47	4·9	44	25
5	3 +	35	7	+ 41	— 16	3 —	48	6·1	44	24
6	1 —	10	26	+ 12	— 18	3 —	55	9·6	46	24
7	1 +	21	13	+ 32	— 42	3 —	48	6·3	39	20
8	3 +	32	4	+ 42	— 35	5 —	48	8·7	40	28
9	1 —	13	22	+ 11	— 41	1 —	56	7·7	30	20
10	2 +	30	3	+ 29	— 52	5 —	49	8·6	26	22
*	4 +	48	0	+ 81	— 37	5 —	55	7·3	46	29

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; (* Channel Islands.)

THE PAST WEEK.

The following summary record of the weather for the week ending March 18, is furnished from the Meteorological Office:—

"The *weather* continued generally fair and bright over all the more southern parts of the Kingdom, but was unsettled in the north and north-west, where rain fell frequently during the early part of the week, and sleet and snow showers later. Some snow showers were also experienced at many of our southern and eastern stations, but they were mostly very slight.

"The *temperature* continued high during the first half of the period, but subsequently fell rapidly, and became low for the time of year. The averages for the week were rather above the normal in England, as well as in 'Ireland, S.,' and the 'Channel Islands;' elsewhere they were a little below. The highest readings were registered on the 12th, when the thermometer rose to between 64° and 66° over England; in Ireland the absolute maxima ranged from 53° to 56°, and in Scotland, from 51° to 53°. The lowest of the minima were recorded at the end of the week, where they ranged from 16° in 'Scotland, N.,' and 22° in 'Scotland, E.,' and the 'Midland Counties,' to 35° in 'Ireland, S.,' and to 42° in the 'Channel Islands.'

"The *rainfall* was considerably in excess of the mean in 'Scotland, N.,' but less in all other parts of the kingdom. The fall over England was very slight, not amounting to more than 1-10th or 2-10ths of an inch.

"The *bright sunshine* was less than the mean in 'Scotland, N.,' and 'Ireland, S.,' but showed a decided excess elsewhere. The possible amount of duration ranged from 52 in 'England, N.E.,' from 46 in 'Scotland, W.' and the 'Channel Islands,' and from between 39 and 44 in most other districts, to 26 in 'Ireland, S.,' and 18 in 'Scotland, N.'"

MARKETS.

COVENT GARDEN, March 23.

Trade dull. Prices unaltered. *James Webber, Wholesale Apple Market.*

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.
Arum, per doz. bl.	1 0	3 0
Azalea, dozen sprays	0 6	0 9
Bouvardias, per bun.	0 6	1 0
Carnations, 12 blms.	2 0	6 0
Chrysanthemums, p. doz. bunches	4 0	9 0
Cyclamen, doz. blms.	0 6	0 9
Daffodils, dble., doz. bunches	1 6	3 0
— single do.	2 0	9 0
Eucharis, per dozen	2 6	4 0
Gardenias, per dozen	6 0	12 0
Heliotropes, per doz. sprays	0 6	0 9
Hyacinths, Roman, doz. sprays	0 6	1 0
— dozen spikes	3 0	6 0
— French, 12 bun.	0 6	1 0
Lilac, French, per bunch	3 6	5 0
Lilium Harrisii, doz.	6 0	9 0
Lily of the Valley, doz. sprays	0 6	1 0
Maiden Hair Fern, 12 bunches	6 0	9 0
Marguerites, p. doz. bunches	2 6	4 0
Mignonette, 12 bun.	3 0	12 0
Mimosa, French, bun.	1 0	1 6
Narcissus, various, French, doz. bun.	2 0	6 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blms.	2 0	6 0
Pelargoniums, scarlet, p. 12 bun.	6 0	9 0
12 sprays	0 9	1 6
Primroses, doz. bun.	1 0	2 0
Primulas, dble. p. bun.	0 6	1 0
Roses, Tea, per dozen	2 0	4 0
— coloured, dozen	3 0	6 0
— yellow (Maréchals), per doz.	4 0	9 0
— red, per dozen	3 0	6 0
— (French) p. doz.	1 6	4 0
Snowdrops, doz. bun.	0 9	1 6
Tuberoses, 12 blms.	1 0	1 6
Tulips, red, doz. bm.	0 6	0 9
— white, doz. blm.	1 6	2 0
— yellow, doz. blm.	1 0	1 6
Violets, Parme French per bunch	3 6	4 0
— Czar, French, per bunch	1 6	2 0
— small French, p. doz. bunches	1 0	1 6

Orchid-bloom in variety not in quantity.

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.
Arums, dozen pots	12 0	18 0
Azalea, per doz.	24 0	42 0
Adiantum, per doz.	6 0	12 0
Aspidistra, per doz.	15 0	30 0
— specimen, each	7 6	21 0
Cineraria, per doz.	8 0	12 0
Cyclamen, doz.	9 0	18 0
Cyperus, per dozen	4 0	10 0
Dracæna, each	1 0	5 0
Erica, various, doz.	9 0	18 0
Ferns, various, doz.	4 0	9 0
Ferns, small, per 100	5 0	8 0
Ficus elastica, each	1 6	7 6
Genista, per doz.	9 0	15 0
Hyacinth, doz. pots	8 0	12 0
Lilium Harrisii	24 0	36 0
Lily of the Valley, 12 pots	12	18 0
Marguerite, per doz.	6 0	12 0
Mignonette, doz. pots	6 0	12 0
Palms, various, each	2 0	10 0
— specimens, each	10 6	84 0
Solanum, per doz.	9 0	12 0
Tulip, per doz. pots	6 0	9 0

Fruit.—Average Wholesale Prices.

	s. d.	s. d.
Apples, p. half-sieve	2 0	3 6
— Nova Scotia, per barrel	10 0	17 6
Cobs, per 100 lb.	...	...
Grapes, per lb.	1 0	5 0
Lemons, per case	12 0	20 0
Pine-apples, St. Michael	4 0	8 0
Oranges, Florida, per case	10 0	16 0
Strawberries, per lb.	6 0	12 0

Vegetables. — Average Retail Prices.

	s. d.	s. d.
Beans, French, lb.	1 6	2 0
Beet, red, per dozen	2 0	3 0
Carrots, per bunch	0 4	0 6
Cauliflowers, each	0 3	0 6
Cucumbers, each	0 9	1 0
Endive, per dozen	2 0	3 0
Herbs, per bunch	0 9	1 0
Lettuces, per doz.	1 6	2 0
Mushrooms, punnet	2 0	...
Mustard and Cress, punnet	0 4	...
Parsley per bunch	0 3	0 6
Seakale, per basket	2 0	2 6
Shallots, per lb.	0 6	...
Tomatos, per lb.	1 0	2 0
Turnips, per bunch	0 4	0 6

Potatos.

Trade still continues very quiet, and prices low for all kinds except first-class samples.

New Potatos. — Arrivals this week rather heavy, best samples making 26*s.* to 28*s.*; medium, 20*s.* to 22*s.*; ordinary, 14*s.* to 16*s.* *J. B. Thomas.*

SEEDS.

London: *March* 22.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write, that with a continuance of favourable weather, there is a daily increasing demand for field seeds. Quotations all round are characterised by extreme firmness. For White and Alsike the tendency is upwards. Trefoils are steady. The meagre stocks remaining of French and Italian Rye-grass are rapidly approaching exhaustion. Sanfoin is 2*s.* dearer. Perennials keep firm. For Brunswick and Kœninsberg Tares there is a free sale. Bird seeds move off slowly. Scarlet Runner Beans offer on temptingly low terms. Haricot Beans are in somewhat improved request. There is no change this week in either Mustard or Rapeseed. Blue Peas continue inactive. Linseed in stronger.

FRUITS AND VEGETABLES.

Borough: *March* 21.—Quotations:—Savoys, 3*s.* to 7*s.* per tally; Sprouts, 9*d.* to 1*s.* per half-sieve; Kale, 9*d.* to 1*s.* 3*d.* per bushel; Turnip-tops, 1*s.* to 2*s.*; Broccoli, 1*s.* 6*d.* to 2*s.* per bag; Greens, 1*s.* 6*d.*; Parsley, 3*s.*; Carrots, 2*s.* 6*d.* to 3*s.* 6*d.*; Turnips, 1*s.* 6*d.* per dozen bunches; English Onions, 8*s.* to 9*s.* per cwt.; Dutch do., 6*s.* per bag; Horseradish, 2*s.* 3*d.* to 2*s.* 6*d* per bundle; Apples, 4*s.* 6*d.* to 6*s.* per bushel.

Spitalfields: *March* 21.—Quotations:—English Apples, 6*s.* to 6*s.* 6*d.* per bushel; American do., 18*s.* to 19*s.* per barrel; Savoys, 3*s* to 6*s.* per tally; Cauliflowers, 4*s.* to 7*s.* do.; Sea-kale, 1*s.* 3*d.* per punnet; Curly Kale, 1*s.* 6*d.* per bushel; Sprouting Broccoli, 1*s.* 6*d.* to 2*s.* 6*d.* per sack; Turnip tops, 1*s.* 9*d.* to 2*s.*; Swede-tops, 1*s.* 6*d.* per sack; Sprouts, 1*s.* to 1*s.* 3*d.* per half-sieve; forced Rhubarb, 1*s.* 9*d.* to 2*s.*; natural do., 2*s.* to 2*s.* 6*d.* per dozen bundles; Greens, 1*s.* to 2*s.*; Turnips, 2*s.* to 2*s.* 6*d.*; Carrots, 2*s.* to 3*s.*; Parsley, 6*s.* to 7*s.* per dozen bunches; Mint, 5*s.* per dozen bundles; Horseradish, 2*s.* to 2*s.* 6*d.*; Celery, 1*s.* 3*d.* to 1*s.* 8*d.* per bundle; Beetroot, 3*s.* to 4*s.* per bushel; Mustard and Cress, 2*s.* per dozen baskets; English Onions, 8*s.* to 9*s.* per cwt.; Spanish do., 9*s* to 10*s.* per case.

Farringdon: *March* 23.—Quotations:—English Onions, 10*s.* per cwt.; Carrots, 50*s.* to 60*s.* per ton; Turnips, 45*s.* to 50*s.* do.; Parsnips, 50*s.* do.; Apples, Baldwins, 17*s.* 6*d.* per barrel; Greenings, 15*s.* do.; Grapes, Cape, 7*s.* 6*d.* per box; Pine-apples, 2*s.* 6*d.* to 3*s.* each.

Stratford: *March* 21.—There has been an excellent supply of all kinds of produce at this market during the past week, and a brisk trade has been done at the undermentioned quotations:—Savoys, 2*s.* 6*d.* to 7*s.* per tally; Greens, 1*s.* to 1*s.* 6*d.* per bag; do., 1*s.* 6*d.* to 2*s.* 6*d.* per dozen bunches; Cauliflowers, 1*s.* to 1*s.* 6*d.* per doz.; Carrots, household, 40*s.* to 50*s.* per ton; do., cattle feeding, 24*s.* to 40*s.* do.; Parsnips, 6*d.* to 9*d.* per score; Mangels, 16*s.* to 20*s.* per ton; Swedes, 15*s.* to 21*s.* per ton; Onions, English, 200*s.* to 210*s.* do.; do., Dutch, 1*s.* to 1*s.* 6*d.* per bag; do., Bordeaux, 4*s.* to 6*s.* 6*d.* per case; Apples, English, 2*s.* to 5*s.* 6*d.* per bushel; Broccoli, 2*s.* to 2*s.* 3*d.* per bag; do., 1*s.* to 1*s.* 9*d.* per sieve; Turnip-tops, 1*s.* 6*d.* to 2*s.* 3*d* per bag.

POTATOS.

Borough: *March* 21.—Quotations: — English Magnums, 40*s.* to 60*s.* per ton. The rest at last quotations.

Spitalfields: *March* 21.—Quotations:—Magnums, 45*s.* to 70*s.*; Champions, 45*s.* to 60*s.*; Imperators, 55*s.* to 70*s.* per ton.

Stratford: *March* 21. — Quotations: — Magnums, 40*s.* to 65*s.*; Bruce do., 50*s.* to 70*s.*; Imperators, 40*s.* to 60*s.* Scotch Bruces, 65*s.* to 85*s.*; Belgian Magnums, 40*s.* to 60*s.* per ton.

London Averages: *March* 22.—Magnums, 45*s.* to 70*s.*; Hebrons, 60*s.* to 80*s.*; Champions, 45*s.* to 60*s.*; Regents, 65*s.* to 80*s.*; Imperators, 50*s.* to 70*s.*; Belgians, 50*s.* to 60*s.* per ton. New:—Jerseys, 4*d.* to 8*d.* per pound.

Farringdon: *March* 23.—Quotations: — Sutton's Abundance, 80*s.* to 85*s.*; Main Crop, 85*s.* to 90*s.*; Bruce's, 65*s.* to 70*s.*; Magnums, 55*s.* to 65*s.*; Imperators, 55*s.* to 60*s.* per ton.

NOTICES TO CORRESPONDENTS.

*** *NOTICE.—We shall publish a day earlier next week owing to the occurrence of Easter. Correspondents are consequently requested to send in their matter a day earlier.*

Books: *A. B.* We know of no special book upon the subject you name, but you will find useful hints in Cassell's *Popular Gardening*, of which a new edition is now coming out in parts. The subject could not be dealt with satisfactorily in this column.—*J. S. U.* There is no one book that deals with Cryptogamous plants in the manner you wish. The nearest we can advise you is Murray and Bennett's *Cryptogamic Botany*, published by Longmans, price about 6*s.*

Calla æthiopica: *T. B.* It is not at all uncommon to see a double spathed form. We have figured it occasionally, and are surprised that no one has attempted to fix it, either by seed or by division. The process would be slow, no doubt, but it would be worth the trouble.

Hyacinth Failure: *B. P.* The failure is not due to the compost, which is quite suitable. It may, however, be the result of a check received since plants began to grow, such as draught, &c.

INSECTS IN LARCH TIMBER: *J. W.* What you send are saw-flies of the genus Sirex (fig. 54). The female insect perforates the tree to deposit her eggs.

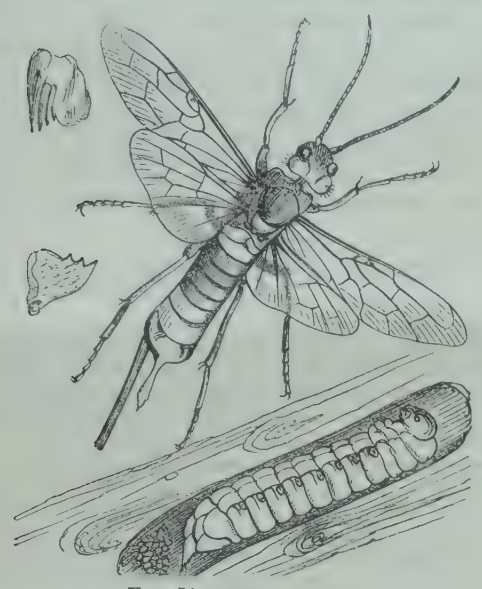

FIG. 54.—SIREX GIGAS.

From these come grubs or maggots, which feed on the wood, and bore channels in it; they do great mischief, and affected trees should be destroyed.

MOSS: *J. M.* We cannot advise you, as we do not know the market value of the moss. Communicate with Mr. Dickson, Covent Garden; or advertise your wares.

NAMES OF PLANTS: *H. A.* Phaius grandifolius.—*C. H., Salisbury.* Wretched scraps; withered on arrival. 1, Forsythia viridiflora; 2, Pulmonaria officinalis; 3, not recognised; 4, Stachys lanata; 5, Tussilago Farfara, Coltsfoot; 6, Veronica Traversi.—*J. M. C.* Rhododendron Nobleanum, a hybrid. Move it immediately it has done blooming, or, better still, in autumn.—*G. D.* Rhododendron argenteum, not Falconeri.—*W. S. P.* 1, Ornithogalum umbellatum; 2, a form of Narcissus Pseudo-Narcissus major; 3, N. juncifolius var.; 4, N. odorus var. minor (so far as we can tell). *C. H. T.* Abies Pinsapo.—*G. A.* Staphylea Colchica.—*T. D.* Narcissus pseudo-Narcissus var. major, and one of the innumerable forms of Scolopendrium vulgare; the others next week.—*L. A. G.* 1, Santolina incana; 2, Epidendrum cochleatum.—*J. M.* The yellow species is Dendrobium suavissimum. It is next to impossible to give varietal names to match fresh imported forms of Dendrobium nobile. Yours seem good flowers; the light one in the way of D. n. intermedium.—*W. J., Bath.* Next week.—*Eureka.* 1, Osmunda regalis? 2, Athyrium Goringianum pictum; 3, Onoclea sensibilis.—*Grower.* Vanda lamellata, Cattleya Trianæ var. delicata.—*D. & Co.* Fuchsia bacillaris.

PELARGONIUMS, TUBEROUS: *W. H. M.* We know of some South African species that have fleshy stems, and which were once in cultivation, but we do not know of any tuberous-rooted varieties.

COMMUNICATIONS RECEIVED.—W. W.—H. J. V.—Dicksons.—J. C. H., Los Angeles.—C. S. C., Boston, U.S.—Dr. F., Los Angeles, California.—H. R.—A. T., Versailles.—J. M. McF., Philadelphia.—C. A. H. C.—E. D. T.—E. H. L., New York.—H. E., Ryde.—M. G., Florence.—J. D. S., Baltimore.—Ch. de B., Lierre.—W. T. T. D.—G. A.—J. P.—H. W. W.—W. E.—W. A. C.—F. K.—T. C.—E. M.—C. Y. M.—W. E. G.—R. D.—G. P.—R. (next week).—E. T. C.—J. W.—J. G. B.—A. G. (next week).—A. J. T.—R. W.—A. E.—W. K.—H. E.

SPECIMENS RECEIVED.—G. C. Ochtertyre (with many thanks).—T. S. (next week).

DRAWINGS RECEIVED.—E. D. T. (many thanks. Too well known).

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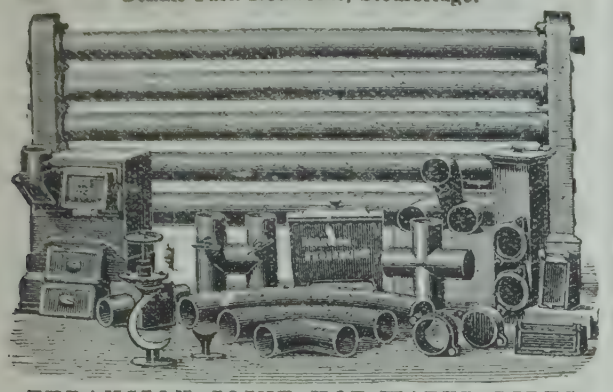

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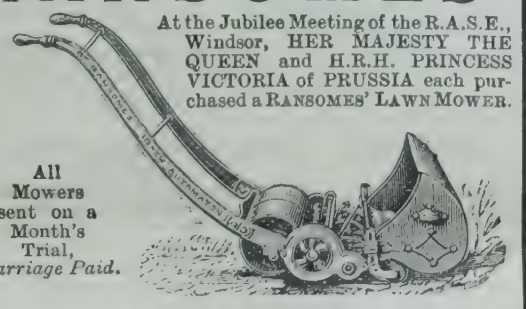

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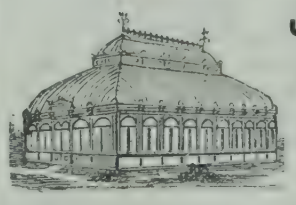

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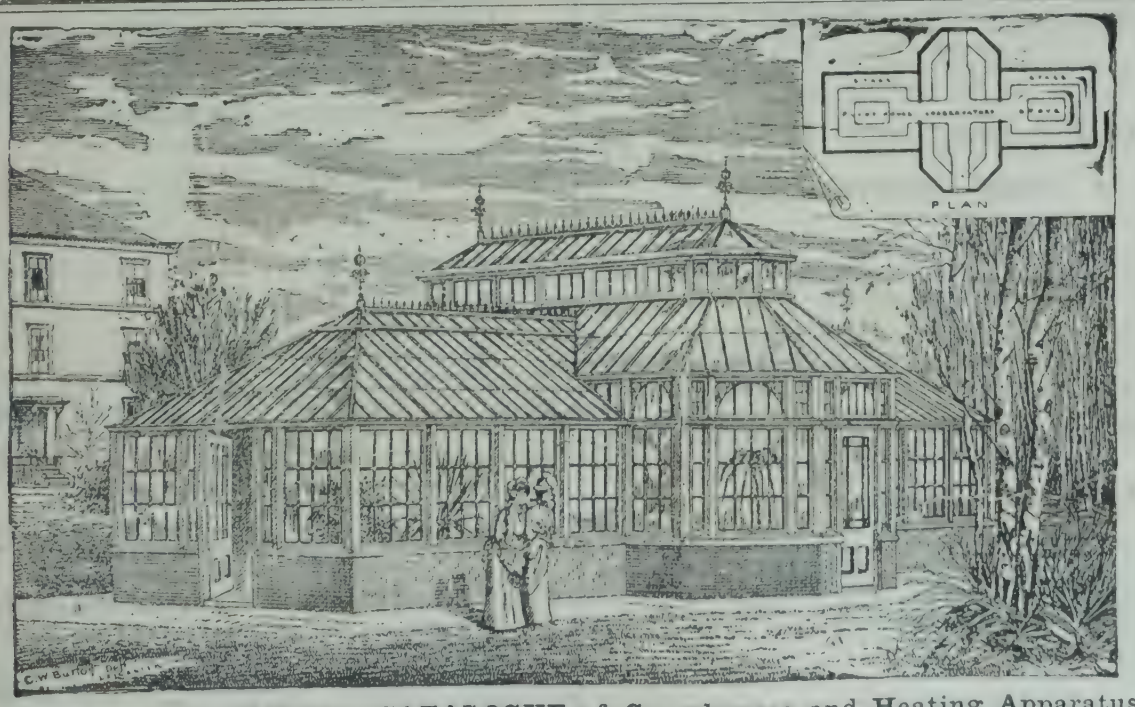

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BROWN and BLACK FIBROUS PEAT, 25*s.* per Ton, or £5 per Truck of 4 Tons; Bags, 5*s.* each; 10 Bags, 45*s.*
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For ORCHIDS, STOVE PLANTS,
Hardwood do., Ferns, and Rhododendrons, by sack, yard, ton, or truckload. SPECIAL ORCHID PEAT, in sack only. Rich fibrous LOAM, superior LEAF-MOULD, Coarse, Crystal, and Fine SILVER SAND, CHARCOAL, C. N. FIBRE REFUSE, fresh SPHAGNUM, Patent MANURES, FERTILISERS, INSECTICIDES, and all other Garden Requisites. **Peat Moss Litter.**
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Specially selected and prepared for ORCHIDS, and all other plants. ARTIFICIAL MANURES, and GARDEN SUNDRIES of every description. Please write for a free PRICE LIST. Special quotations given for any goods, carriage paid, in large or small quantities.
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Designs and Estimates Free, and Measurements taken Free of Cost.

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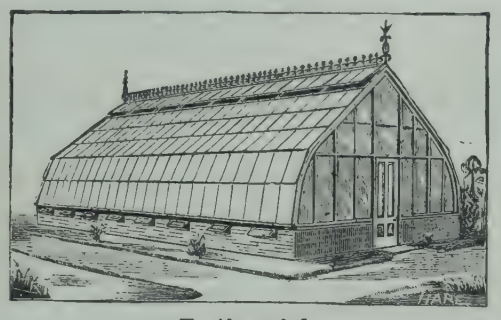
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"Estate Office, Ripley, Yorkshire, January 23, 1890.
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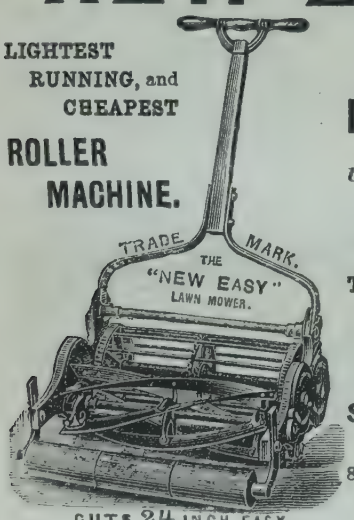

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The LARGEST SIZE EASILY WORKED BY ONE MAN.
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WARE and SONS'
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THE SUSSEX POTTERY WORKS, UCKFIELD.
Quotations given for quantities. Carriage paid to any Railway Station.
The Best are Cheapest.
SAMPLES and LISTS FREE. Crates packed.

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WROUGHT-IRON ASHES or OFFAL BARROW, Garden Barrow & Cinder Sifter combined.
CASH PRICE.
Painted 30/-
Body galvanised ... extra 7/6
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Portable Sanitary Dust-Bins and Swing Barrows.
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Horticultural Work of all descriptions, Ironmongery, &c.
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THE CHEAP WOOD COMPANY,
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Special qualities for Flowers, Fruit, and other Garden requisites.
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THE GARDENERS' HAND SEED-DRILL has an established reputation. Six Silver Medals awarded. Over 16,000 in use in all parts of the globe. Extensively used by the French and German peasantry. Sows in rows, Onions, Turnips, Carrots, Mangolds, Veitches, Parsnips, Barley, and Wheat. Simple and easily adjusted. Price, No. 1, 10*s.* 6*d.*; No. 2, large hopper (for field or garden), 12*s.* 6*d.* Send P.O.O. and name of station to J. LE BUTT AND CO., South Works, Bury St. Edmunds, Suffolk. Drill leaves same day, Invaluable for filling up blank places left by Horse Drill.
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Dr. GEORGE WALKER, Inventor of Chrysanthemum Cup Tubes, Wimbledon, says:—"I have used your Automatic Damper for some weeks, and am perfectly satisfied with it. A most ingenious and useful invention."
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THE FRUIT GARDEN of the UNIVERSE —THE AUSTRALIAN IRRIGATION COLONIES (Chaffey brothers), established and regulated by Government, OFFER an enjoyable Life and OCCUPATION, a sunny and salubrious Climate, and most highly remunerative returns to Cultivators with small or large Capital. Pamphlet free.
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GRATEFUL—COMFORTING.
COCOA
BOILING WATER OR MILK.

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FOR SALE, a large quantity of BURRS, at greatly reduced prices, for Immediate Clearance. Suitable for Garden Walls and Ornamental Work.—Apply, FINSBURY PARK BRICK CO., LTD., Oakfield Road, Stroud Green, N.

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COUNTY COUNCIL LECTURES.

PAXTON'S COTTAGERS' CALENDAR
OF GARDEN OPERATIONS.

Will be useful to Lecturers and Students in the above subject.

Price 3d.; post-free, 3½d.

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THE GARDENERS' CHRONICLE

PUBLISHER'S NOTICES.

GARDENERS' CHRONICLE TELEGRAMS.—*The Registered Address for Foreign and Inland Telegrams is "Gardchron, London."*

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Scale of Charges for Advertising.
Head Line charged as two.

4	Lines ..	£0	3	0	15	Lines ..	£0	8	6
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7	,, ..	0	4	6	18	,, ..	0	10	0
8	,, ..	0	5	0	19	,, ..	0	10	6
9	,, ..	0	5	6	20	,, ..	0	11	0
10	,, ..	0	6	0	21	,, ..	0	11	6
11	,, ..	0	6	6	22	,, ..	0	12	0
12	,, ..	0	7	0	23	,, ..	0	12	6
13	,, ..	0	7	6	24	,, ..	0	13	0
14	,, ..	0	8	0	25	,, ..	0	13	6

AND SIXPENCE FOR EVERY ADDITIONAL LINE.
If set across two Columns, the lowest charge will be 20*s.*
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Page, £8; Half Page, £4 10*s.*; Column, £3.

GARDENERS AND OTHERS WANTING SITUATIONS. 26 *words, including name and address,* 1*s.* 6*d.*, *and* 6*d. for every additional line (about nine words) or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, which are charged at the ordinary scale.*
Births, Deaths, and Marriages, 5*s. each insertion.*

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements,
41, WELLINGTON STREET, STRAND, W.C.

NOTICE TO ADVERTISERS.

FRIDAY NEXT, *March* 31, *being* GOOD FRIDAY, *the* "GARDENERS' CHRONICLE" *will be published on* THURSDAY, *March* 30.

ADVERTISEMENTS *for* NEXT WEEK *must therefore reach the Office not* LATER *than* WEDNESDAY MORNING, *March* 29.

CATALOGUES RECEIVED.

Messrs. E. H. KRELAGE & SON, Haarlem, Holland—Bulbs for Spring Planting.

WM. PAUL & Co., Bridge of Weir, N.B.—Fancy and Show Pansies.

FRED. W. KELSEY, 145, Broadway, New York—Hardy Trees and Plants.

E. P. DIXON & SONS, Hull—Agricultural Seeds.

GARDENING APPOINTMENTS.

MR. A. GEAR, Gardener, Holmwood, Ascot, and formerly Foreman to the late Mr. WILDSMITH, at Heckfield Place, as Head Gardener to E. W. WALL, Esq., Foxhill, Reading.

Mr. CHAS. TRODD, late Gardener to R. Moss, Esq., Sefton Park, near Slough, Bucks, as Gardener to W. WALTON, Esq., Grove Park, Kingsbury, N.W.

Mr. F. HEREMAN, for the past three years Foreman to Mr. W. LANE, King's Ride, Ascot, has been appointed Gardener to the Lady ISABELLA KEEN, Rosemount, Sunninghill, Ascot.

Mr. THOMAS METCALFE, from Lowther Castle Gardens, Penrith, as Head Gardener to Lord CHURCHILL, Rolliston Hall, near Leicester.

Mr. J. G. SEYMOUR, late Gardener to H. BULL, Esq., Drove House, Chichester, as Gardener to Hon. A. TALBOT, Little Gaddesdon House, Berkhampstead, Herts.

Mr. F. YOUNG, late Gardener to F. J. DIVER, Esq., Westdean, Chichester, as Gardener to WALTER BARROW, Esq., Taplow House, Taplow, Bucks.

Mr. WILLIAM ROGERSON, as Head Gardener to J. ASHTON CROSS, Esq., of Copt Hill, Burgh Heath, Banstead, Surrey.

Mr. G. RENSHAW, for the last six years in the Gardens of Longford Hall, Stretford, has been appointed Head Gardener to the Lancashire Independent College, Whalley Range, Manchester.

Mr. EDWARD PARRY, for nearly two years General Foreman at Downton Castle Gardens, Salop, as Head Gardener to G. A. TONGE, Esq., Castlemanns, near Twyford, Berkshire.

Mr. ALFRED J. SIMPSON has been appointed as Gardener and Instructor at the Horticultural College and Produce Company, Swanley, Kent.

PARTNERSHIP.—WANTED, an active or Sleeping PARTNER, able to invest about £500 in a young and growing Seed Business in the North of England. An excellent opportunity for an energetic young Man. Particulars may be had on application to PARTNER, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

W. LANE wishes to THANK all those who APPLIED for the FOREMAN'S PLACE at King's Ride, which is NOW FILLED.

A FRUIT-GROWER and MARKET GARDENER has a VACANCY for a PUPIL, to learn the business of Growing Fruit for the London Market. Comfortable home. References given. — For terms, apply to F. CALLENDER, Kingwood Vineries, Henley-on-Thames.

WANTED, an active and experienced Man, able to undertake the Management of a Department in a large Horticultural Establishment near Haarlem, Holland. Must be a good Begonia Grower, and have special knowledge of Amaryllids and other Bulbous Plants for Greenhouse and Stove Culture.—Apply by letter, stating last employment, to MERTENS AND Co. 3, Cross Lane, London, E.C.

WANTED, AT ONCE, a Gardener, to take Charge of Greenhouses, and Grow Tomatos, Mushrooms, White Flowers, &c., for Market.—Apply with references to JOHN MARSH, Farmers' Stores, Warrington.

WANTED, a GARDENER (SINGLE-HANDED). Must be thoroughly experienced, and have good personal character.—Apply, by letter only, to R. S. C., 4, Morden Road, Blackheath.

WANTED, a FOREMAN, or SECOND GARDENER, married man with no family or one child only preferred. Must thoroughly understand Conservatory Management, over which he would have sole control. At other times he would help in General Work under the Head Gardener. It is a small establishment. House provided.—Apply, in the first instance, by letter, to P. M., Grosvenor Hotel, Victoria Station, London, S.W.

WANTED, in HAMPSHIRE, a SECOND GARDENER (five in garden) with much experience, and of thoroughly good character; without a child preferred. Wife to attend to Lodge gate. State age, wages, and all particulars, by letter only, to H. W., Esq., Webster's, Piccadilly, London, W.

Nursery Foreman Wanted.

WANTED, an industrious and steady MAN as NURSERY FOREMAN. He must have a general knowledge of Nursery Stock, be an expert and successful budder and Grower of Fruit Trees, and occasionally to act as Salesman. State age, where last employed, and wages expected.—JOHN JEFFERIES AND SON, Royal Nurseries, Cirencester.

WANTED, a reliable MAN as OUTDOOR WORKING FOREMAN for General Nursery. Wages, 25*s*.—Full particulars to LAXTON BROTHERS, Nurserymen, Bedford.

WANTED, a young Man, as INDOOR FOREMAN, must have a thorough knowledge of Growing Strawberries, Tomatos, Chrysanthemums, &c. Preference given to abstainer. Wages 18*s*. and bothy.—Apply, TURNER, Nursery, Hale, near Liverpool.

WANTED, a PROPAGATOR and GROWER of Hard and Soft-wooded Plants for Market. Must be well up in Wreaths, Bouquets, &c.—Apply, stating age and wages required, to LUXTON'S, 25 to 29, High St., Salisbury.

WANTED, IMMEDIATELY, INDOOR PROPAGATOR and SALESMAN, not under 25 years old. Greenhouse and bedding plants. Able. Primula, Clematis, Roses, hardy Conifers, &c. Wages, 25*s*.— JOHN CARTER, Nursery, Keighley.

WANTED a MAN to Grow Fruit Trees, Roses, and other Hardy Stuff. Must be a good Trainer of Fruit Trees.—Apply, stating age, wages required, and experience, to MANAGER, Whiteley's Nurseries, Hillington Heath, Uxbridge.

WANTED, AT ONCE, an experienced SOFT-WOODED PROPAGATOR. State age, wages, and references.—TROUGHTON, Nurseryman, Preston.

WANTED, by a Gentleman, a SINGLE-HANDED JOURNEYMAN GARDENER, good all-round man, with practical experience in Growing Flowers and Vegetables. Single man preferred.—Apply by letter to A. B., North's Library, Brighton.

WANTED, a strong young MAN, as UNDER GARDENER. Some experience. Must be willing and obliging. Good character. Wages, 14*s*. per week.—State age, &c., to GARDENER, Gate Burton Hall, Lincoln.

WANTED, AT ONCE, a MAN well up in Grape Growing for Market —Apply, with full particulars, to J. PURROTT, Brookhill Road, New Barnet.

WANTED, a young MAN, experienced in Tomatos and Market Nursery Work. Address, stating all particulars, to WALKER, 6, Savoy Buildings, Strand, W.C.

WANTED, SEVERAL quick active MEN, who have had some experience in Cucumber, Tomato, or Grape Growing. Wages according to ability.—Apply, stating where employed during past two years, with full particulars, to JOSEPH ROCHFORD, Turnford Nurseries, near Broxbourne.

WANTED, a KNIFEMAN.—Must have first-class references.—Apply, stating wages required, to SYDNEY S. MARSHALL, Barnham Nursery, Sussex.

WANTED, SEVERAL good MEN, used to Fruit and Flower Growing under Glass. Wages 20*s*. per week. — Apply, FOREMAN, Turnford Hall Nursery, Turnford, near Broxbourne, Herts.

WANTED, SIX active MEN for the Tomato-houses. Wages 20*s*.—JOHN ROCHFORD, Turkey Street, Waltham Cross. Nearest Station, Forty Hill, G.E.R.

WANTED, a young MAN well up in Jobbing Work. Wages, 18*s*. to 20*s*.—Mr. McGREGOR, Prince's Square Nursery, Kennington Park Road, S.E.

WANTED, an IMPROVER, in the Houses. —Quick at Potting, Tying, Watering, &c.—Apply, stating wages and testimonials, HERD BROS., Victoria and Castle Nurseries, Penrith.

WANTED, a young MAN, used to Cucumbers and General Plant Work.—Apply, giving age, wages expected, and references, to MANAGER, Fern Nurseries, Prescot, Lancashire.

WANTED, a strong active young MAN, for a small Nursery. Constant employment.—J. D. RICHARDS, Florist, 86, Mildmay Park, London, N.

WANTED, FOUR young MEN, accustomed to Grow Cucumbers for Market.—Apply, 35, Queen Street, Cardiff.

WANTED, a young MAN to work chiefly in the Houses. Must have had good experience in Private Gardens. Wages to commence, 15*s*.; bothy, milk, and vegetables.—Apply to G. J. ANSON, Orchardleigh Park Gardens, Frome.

WANTED, a young MAN as IMPROVER Age from 17 to 18.—J. KNOWLES, Bardney Lincoln.

WANTED, AT ONCE, a trustworthy young MAN for a small Market Nursery. Must be smart at Watering, Fern Bunching, &c. Good character indispensable.—C. B. WOOLLEY, Clement Street, Swanley.

WANTED, a young MAN, to take charge of Garden and Greenhouse, and fill up spare time in the Shop.—B. JEW, Fruiterer and Florist, North Finchley.

WANTED, a smart YOUTH, as IMPROVER in the Seed Trade. One with a knowledge of Plants preferred. State age, experience, with salary required,—ROWE AND CO., 65, Broad Street, Worcester.

WANTED, an APPRENTICE to a Nurseryman and Florist near London. Indoors. Premium, £25, to include Board, Lodgings, &c. Term three years.—N. P., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a JUNIOR CLERK, used to the Nursery and Seed Trade.—Apply, by letter, stating age, experience, and wages required, D. S. THOMSON AND SONS, The Nurseries, Wimbledon.

PAINTERS. — WANTED AT ONCE, for Private Establishment, a steady, industrious MAN, for Repairing, Glazing, Painting Greenhouses, and General Work. One used to Horticultural Work preferred.—Apply by letter only, stating wages required, and giving references, to M. J. R., Mr. Edwin Cole, 24, Southwark Street, S.E.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. *on Wednesday will, in all probability, be held over to the next week.*

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

B. S. WILLIAMS AND SON beg to intimate that they have at present in their Nursery and upon their Register some excellent Men, competent either to fill the situation of HEAD GARDENER, BAILIFF, FOREMAN, or JOURNEYMAN. Ladies and Gentlemen requiring any of the above will please send full particulars, when the best selections for the different capacities will be made.—Victoria and Paradise Nurseries, Upper Holloway, N.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character, and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—
F. SANDER AND CO., St. Albans.

THOMAS BUTCHER can recommend several HEAD and UNDER GARDENERS of first-rate character and proved ability. Gentlemen seeking such may have particulars free.—Apply to THOMAS BUTCHER, Seed Merchant and Nurseryman, Croydon.

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. All particulars on application.
Telegraphic and Postal Address—"DICKSONS, CHESTER."

GARDENER (HEAD).—W. FISHER, Gardener to the Earl of Cawdor, Stackpole Court, Pembroke, would be pleased to recommend his Foreman, Charles Davis, to any Lady or Gentleman who is in want of a first-class man.

GARDENER (HEAD); age 30.—J. DUMBLE, Gardener to Sir Charles Philipps, Bart., Picton Castle, Haverfordwest, is desirous of recommending his General Foreman, H. Butcher, to any Lady or Gentleman requiring a thoroughly competent man. He has a good knowledge of the different branches of Gardening, is well acquainted with the Cultivation of Fruit (Indoor and Out), Flowers and Vegetables, is also a most successful Grower of Chrysanthemums for Exhibition.

GARDENER (HEAD).—A thoroughly practical, energetic man desires re-engagement. Twenty-three years' experience in First-class Establishments as Head and Under Gardener; has also had charge of large establishment in the Channel Islands, where Fruit, Flowers, and Vegetables are grown in enormous quantities. Well up in Landscape Gardening, and Management of Land, and thoroughly capable of Managing a First-class Establishment at the lowest possible cost.—W., 32, London Street, Paddington, W.

GARDENER (HEAD), where two are kept.—Age 23, single; seven years' experience, four under Glass; exceptional good references.—H. POLAND, 3, Belle Vue Crescent, Clifton, Bristol.

GARDENER (HEAD).—Experienced in all branches; high character. Will give £5 for information which will lead to his obtaining a good situation.—POMUM, 10, Hanover Square, W.

GARDENER (HEAD), where two are kept.—Age 26, single; twelve years' good experience, Inside and Out. Three and a half years' good character from last situation.—F. B., Orleans House, Twickenham, S.W.

GARDENER (HEAD).—Lady highly recommends the above; thoroughly experienced in all branches. Excellent personal character. Life abstainer.—HAGEN, Ropley, Alresford, Hants.

GARDENER (HEAD); single.—R. GRAY, Gardener to R. Barclay, Esq., Bury Hill, Dorking, Surrey, can highly recommend a Man as above to any Lady or Gentleman requiring a steady industrious all-round Man; has been with him five years. Excellent references. Life experience.

GARDENER (HEAD); age 36, married, one child —A GENTLEMAN can with every confidence recommend his Gardener, who has been with him upwards of six years. Thoroughly experienced in all branches. First-class references from good establishments. Successful Fruit Grower. Can Manage Stock if required.—J. VOSS, Finches, Lindfield, Sussex.

GARDENER (HEAD); married, two children (age 7 and 11).—A GENTLEMAN wishes to recommend his Head Gardener who has been with him six years. Understands Vines, Melons, Stove and Greenhouse Plants, Flower and Kitchen Gardening. Fourteen years' previous good character.—GEO. TURNER, Cranmore Lodge, Elmstead, Chislehurst.

£5, or more, will be given for intimation that will secure situation as HEAD GARDENER. Thorough in all branches. High character. Age 39, married—P. H., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

GARDENER (HEAD WORKING); age 28, married.—J. MINTON can with confidence recommend a man as above to any Lady or Gentleman requiring a good all-round man. Twelve years' practical experience in all branches.—Burborough, Rawdon Hill, Arthington, Leeds.

GARDENER (HEAD WORKING), man or lad kept.—Middle age, married, no children; twenty-five years' experience. Ten years' good character in present place. Vines, Melons, Cucumbers, Tomatos, Flower and Kitchen Garden; Stock if required.—G. CHILTON, Heacham Lodge, King's Lynn, Norfolk.

GARDENER (HEAD WORKING).—Married; thoroughly experienced.—A GENTLEMAN highly recommends the above, who has been in his service over fourteen years.—B., Tollerton Hall, Notts.

GARDENER (HEAD WORKING).—Age 27; thoroughly experienced in all branches, including Growing and Staging Roses for Exhibition. Strongly recommended by Mr. Frank Cant, Braiswick Nursery, Colchester, my present employer. Twelve years' excellent character from last situation.—HENRY WELLER, Mrs. Cook, West Bergholt, Botolph's Hill, Colchester.

GARDENER (HEAD WORKING).—Age 31, married, two in family; eighteen years' thorough experience. Early and Late Forcing. Three years and ten months' good character. Leaving through family giving up.—T. LUPTON, Elstree, Herts.

GARDENER (HEAD WORKING), where one or two are kept.—Age 30; twelve years' good experience, Inside and Out. Well recommended.—J. P., Chessington, Surrey.

GARDENER (HEAD WORKING).—Age 30; thoroughly practical in Growing Fruit, Flowers, and Vegetables. Can be highly recommended by present and previous employers.—C. TINDALL, Monk's Orchard Gardens, Beckenham, Kent.

GARDENER (HEAD WORKING).—Married, small family; thoroughly practical in all branches. Three years Head in present situation, leaving through time of lease having expired. Life experience. Can be well recommended.—F. W., Wilverley Park, Lyndhurst, Hants.

GARDENER (HEAD WORKING).—Practical experience in Growing Grapes, Peaches, Melons, Cucumbers, Stove and Greenhouse Plants, &c. Good personal character.—LEE, Oak Villa, Ashdown Road, Kingston-on-Thames.

GARDENER (HEAD WORKING), where two or more are kept.—Age 43, married, one girl (age 12). Thoroughly understands the forcing of Fruits, Flowers and Vegetables, Stove and Greenhouse Plants, Flower and Kitchen Gardens. Nine years' excellent character; first-class testimonials.—HORTUS, 21, Heathfield Road, South Croydon.

GARDENER (HEAD WORKING), or FOREMAN (GENERAL).—Age 28; thirteen years' experience. Well up in all branches, Table Decorations, &c. Good Chrysanthemum Grower.—R., Manor House, Acton, W.

GARDENER (HEAD WORKING).—Age 41, married; twenty-six years' experience in all branches. Excellent reference.—L. J., Ivy Cottage, Sherbourne St. John, Basingstoke, Hants.

GARDENER (HEAD WORKING), where one or two are kept.—Age 33, married; sixteen years' experience in all branches. Good references.—D. ALDERMAN, Thornley, South Norwood Hill.

GARDENER (HEAD WORKING).—WILLIAM HERNE, Hanbury Hall Gardens, Droitwich, will be pleased to recommend to any Lady or Gentleman a thorough practical all-round Gardener.

GARDENER (HEAD WORKING), where two or more are kept.—Age 29, married, no children. Thoroughly experienced in Vines, Melons, Cucumbers, Stove and Greenhouse Plants, Flower and Kitchen Gardens. Good references. Abstainer.—J. WALKER, 25, Woodland Hill, Upper Norwood, S.E.

GARDENER (HEAD WORKING), where three or four are kept.—Age 33, married, no family; eighteen years' experience in Vines, Melons, Cucumbers, Stove and Greenhouse Plants, Flower and Kitchen Garden. Six years' good character. Disengaged.—GEO. GOODSELL, 16, Victoria Terrace, Ridley Road, South Wimbledon.

GARDENER (HEAD WORKING).—Age 31; disengaged. Three years Foreman in last situation. Thoroughly practical in all branches. Well up in the Cultivation of all kinds of Fruit, Flowers, and Vegetables. Excellent references.—A. CAMPIN, 58, Perry Hill, Catford, S.E.

GARDENER (HEAD WORKING).—Age 27; thoroughly experienced in all branches. Can be highly recommended by present and previous employer. Clergyman desires to find situation for the above.—Rev. ROBERTS, Blackwater, Hants.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 30, married. Thoroughly experienced in all branches. Good characters.—ANDREWS, 6, Topsfield Cottages, New Road, Crouch End, N.

GARDENER (SINGLE-HANDED, where boy is kept; or SECOND where four are kept).—Age 27, single. Twelve months' good character, and two years and half previous.—F. COLES, Empshott, Petersfield, Hants.

GARDENER (SINGLE-HANDED, or where help is given).—Age 26, single; understands Greenhouse, Flower and Kitchen Garden Work. Has had good experience; good character. Now disengaged.—BLUNDELL, Archbishop's Lodge, Addington Park, Croydon, Surrey.

GARDENER (good SINGLE-HANDED, or otherwise).—Age 29, married when suited. Life experience in all branches; can be well recommended.—A. W. HAMMOND, Denham, Totteridge, Herts.

GARDENER (SINGLE-HANDED), or help given.—Age 28, married when suited; experience Inside and Out. Excellent charact r.—W. L., Mr. Norris, Gunnery Farm, Milverton, Leamington.

GARDENER (good SINGLE-HANDED, or with help).—Age 23; abstainer. Experienced in Vines, Stove and Greenhouse Plants, Kitchen and Flower Garden. Highly recommended. Understands Cows.—T. Y., The Cottage, Gainsborough Road, Leytonstone, E.

GARDENER (SINGLE-HANDED), or where help is given. Age 26, single. Twelve years' experience in all branches. Can be well recommended; excellent character.—J. HOLMAN, The Gardens, Weston Park, Stevenage, Herts.

GARDENER (SINGLE-HANDED, or good SECOND).—Age 21; seven years' experience, Inside and Out, with a knowledge of Orchids. Five years present situation.—W. PARSONS, Erith Road, Bexley Heath, Kent.

GARDENER (SINGLE-HANDED, or UNDER).—Ten years' experience. Good general knowledge of Vines, Cucumbers, Tomatos, &c. Three years in last place.—A. P., 25, New England, Peterborough.

GARDENER (SINGLE-HANDED).—A young man requires situation as above; can be well recommended. A place where there are some Greenhouses preferred.—H. J. D., Mr. Price, 249, Gipsy Road, West Norwood.

GARDENER (good SINGLE-HANDED, or with help).—Age 23; six years' experience. Excellent references.—T. BRADLEY, Wenvoe, near Cardiff.

GARDENER, where help is given, or SINGLE-HANDED.—Age 26, single; good experience in all-round Gardening, both Inside and Out; good references.—W. TURNER, The Gardens, Panshanger, near Hertford.

GARDENER (Kitchen Garden and Pleasure Grounds).—Age 21; four and a half years' good character.—T. P., 21, Milstead Street, Cornwall Road, Brixton Hill, S.W.

GARDENER (SECOND), in a good Establishment.—Age 23; nine years' experience in good places. Good character and testimonials from present and previous employers.—W. H., The Gardens, Hatchford Park, Cobham, Surrey.

GARDENER (SECOND), or JOURNEYMAN, in good establishment.—Mr. BASKETT, The Gardens, Eashing Park, Godalming, would be pleased to recommend T. Earle to any Gardener requiring the services of a trustworthy young man as above. Five and a half years in present situation. Bothy preferred.

GARDENER (SECOND).—Age 23, single; been used to Pleasure Grounds and Kitchen Garden Work. A good character from late and previous places.—RALPH, Albion Cottages, West Hill, Epsom.

GARDENER (SECOND).—Age 24; ten years' experience Inside and Out. Two years in present situation, and four years last.—C. H., 111, Wellfield Road, Streatham, Surrey.

GARDENER (SECOND), or JOURNEYMAN (FIRST).—Age 23; nine years' experience, three in present situation, where three are kept in the Houses. Good character and testimonials. Abstainer.—F. T., The Gardens, The Chestnuts, Denmark Hill, S.E.

GARDENER (SECOND), in the Houses.—Age 24; eleven years' experience; five in present situation, six years in previous. Good character; can be highly recommended.—J. HIBBITT, Nork Park, Epsom, Surrey.

GARDENER (SECOND), Inside and Out, where about four are kept.—Age 24; ten years' good practical experience. Good references.—G. L., 86, Homesdale Road, Bromley, Kent.

GARDENER (SECOND), where four or more are kept.—Age 25; ten years' experience. Good character from present and previous employer.—W. WARE, The Gardens, Ashley Park, Walton-on-Thames.

GARDENER (SECOND).—Six years' experience Inside and Out. Good character. Bothy preferred. Disengaged.—F. SIMPSON, 68, West Street, Farnham.

GARDENER (UNDER), in a private establishment.—Age 22; Inside or Inside and Out. Good references. Near London preferred.—G. WHITEMAN, The Gardens, Grimsthorpe Castle, Bourne, Lincolnshire.

GARDENER (UNDER), Inside, or Inside and Out.—Age 19; two years in present situation, and four years in former. Good character; bothy preferred.—W. THURSTON, Harleyford Gardens, Gt. Marlow, Bucks.

GARDENER (UNDER).—Age 20; Inside and Out; five years in last situation, six months in present; good character.—F. WELLAND, Overdale Cottage, Wilmington, Dartford, Kent.

GARDENER (UNDER).—Age 21; Inside and Out; two and a half years' good character; bothy preferred.—G. H. POOK, Post Office, Shobrooke, Crediton, Devon.

GARDENER (UNDER).—Age 17. Three years in garden. Good character.—WM. NEWNHAM, Waterloo Place, Leatherhead, Surrey.

GARDENER (UNDER).—A GENTLEMAN can strongly recommend a young man as above in a situation where there is a good amount of Glass.—Rev. E. P. W., Sinclairs, Ashburton, S. Devon.

GARDENER (UNDER), Inside and Out, or otherwise.—Age 20; four years' experience. Good references.—J. PIKE, The Lodge, Whitestaunton, Chard.

GARDENER (UNDER), Inside and Out.—Age 22; good character.—C. ALLEN, Mr. Neighbour, Bickley Hall Gardens, Lower Camden, Chislehurst, Kent.

GARDENER (UNDER), Inside and Out.—Age 21; seven years' experience. Good character.—J. S., Avenue Road, Sunbury.

GARDENER (UNDER).—Age 21; willing and obliging. Good knowledge of Kitchen and Pleasure Ground. Good characters.—A. DIX, Woodside, Winkfield, Windsor, Berks.

GARDENER (UNDER).—Age 24; respectable young man. Good references. Total abstainer.—E. B., 2, Braziers' Cottages, New Park Road, Brixton Hill, S.W.

GARDENER (UNDER), Inside and Out.—Age 25; nine years' experience in large establishments. Good character.—G. E. COLLINS, The Gardens, Southwood, Bickley, Kent.

GARDENER (UNDER), Inside, or Inside and Out.—Age 19; abstainer. Can have good character.—C. J., Mount Pleasant, Burnham-on-Crouch, Maldon, Essex.

GARDENER, or FOREMAN (GENERAL).—Life experience in all branches of the profession at large places. Testimonials of ability. Abstainer.—T. COLLINS, Kinmouth Gardens, Bridge-of-Earn, Perth.

To Nurserymen, Seedsmen, &c.

MANAGER, or FOREMAN.—Has had a good all-round experience. Quite competent to either. Travel or attend Markets. Excellent references.—F. S. H., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

MANAGER, or FOREMAN (GENERAL).—Age 33; good general Plantsman; thoroughly understands the Growing of Orchids, and their value, up to date; also successful Traveller. Nurserymen and others, seeking a reliable business-like man, in any of the above capacities, will find this genuine —ACALYPHA, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C. Offers with view of Partnership preferred.

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PROPAGATOR (SECOND).—Well up in Conifers, Clematis, Roses, Rhododendrons, and General Stuff. Age 20; good references.—H. RICHARDSON, Mr. Street, Heatherside Nurseries, Camberley.

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To Nurserymen.

PROPAGATOR and GROWER.—Age 24; well up in Palms, Ferns, and all kinds of Hard and Soft-wooded Plants and Cut Flowers. Ten years' experience in leading London and Provincial Nurseries; good references.—P. B. H., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

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PROPAGATOR or GROWER.— Age 26. Eleven years' experience, six of which were in London Market and Trade. Good references.— H. P., Low's Nurseries, Clapton, London, N.E.

To Nurserymen.

GROWER and PROPAGATOR.—Age 27; twelve years' experience in Leading Market Nurseries, Cut Flowers, Plants, Fruit, &c. First-class references.—H. W., 41, Wellington Street, Strand, W.C.

GROWER, or PROPAGATOR and GROWER.—Age 25. Ten years' experience in Market and Trade Nurseries. Good references—P., Mr. Saltmarsh, nurseryman, 46, High Street, Chelmsford.

FOREMAN; age 27.—Mr. HUNTER, Lambton Castle Gardens, Fence Houses, would be pleased to recommend William Dryden as above.

FOREMAN, in the Houses.—Age 24. Nine years' experience in Stove and Greenhouse Plants, Cucumbers, Fruit, &c. Nearly five years in present place. Good hand at Wreath and Bouquet Making.— A. HIGGS, The Gardens, Cooper's Hill, Staines.

FOREMAN, or good SECOND.—Age 25; good experience both Inside and Out. Steady and trustworthy. Good characters as above.—W. BENNELLICK, The Gardens, Dalham Hall, Newmarket.

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FOREMAN (GENERAL).—Age 27, single; twelve years' thorough experience in all branches, Inside and Out. Three years' good character; well recommended.—A. B., 103, Lordship Lane, S.E.

FOREMAN, PROPAGATOR, and GROWER. —Thirty years' experience in Continental and London Nurseries, Stove, Greenhouse, and Bedding-out Plants, Palms, Ferns, Conifers. French and German Correspondence.—J. K., 1, Walpole Street, Chelsea, S.W.

FOREMAN.— Married; twenty years' experience in producing large quantities of Cut Flowers and Plants for Market, such as Chrysanthemums, Bouvardias, Double Primulas, Pelargoniums, Roses, Palms, Ferns, Eucharis, &c. Excellent references.—FOREMAN, 14, Hartfield Crescent, Wimbledon.

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FOREMAN.—Age 24. Height, 6 feet 2 inches. Experience gained at Carlton House, Byram Hall, Middleton Park, and present place. B. ASHTON, Gardener to Lord Howard of Glossop, Glossop Hall, Derbyshire, can highly recommend S. Johnson as above.

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FOREMAN, under Glass.—Age 29. Experienced in Fruit and Plant Growing. Good references. E. DAVIS, Clevedon Hall Gardens, Somerset.

FOREMAN, or good SECOND.—Age 25; twelve years' experience in good places. Both Fruit and Plant Houses, also House Decorations. Good testimonials.—J. G., Moor Park Gardens, Rickmansworth, Herts.

FOREMAN, or JOURNEYMAN (FIRST), in a large establishment; age 23.—D. MCINTOSH, Ashly Hall, Lincoln, can confidently recommend young man as above.

FOREMAN, Inside, where two or three are kept; age 25.—Mr. LEADBETTER, The Gardens, Tranby Croft, Hull, will be pleased to recommend Charles Gray as above.

JOURNEYMAN (THIRD), or good IMPROVER, Inside. Age 20. Six years' experience; good character.—R. ECKERSLEY, Water Gate Gardens, Middle Hulton, Bolton, Lancs.

JOURNEYMAN, Inside and Out.—Age 20; good character; abstainer; bothy preferred. — F. BIDNELL, The Folly, Wheathampstead, Herts.

JOURNEYMAN, in the Houses.—Age 20; two years in last place. Excellent character.—A. H. TUCKER, The Gardens, Wyke House, Trowbridge, Wilts.

JOURNEYMAN, Inside or Out.—Age 20; three years' good character from present and previous employers.— T. WILLIAMS, Hamptworth Gardens, near Downton, Wilts.

JOURNEYMAN (FIRST); age 24.—H. EDWARDS, Eagle Gardens, Highgate, can with confidence recommend W. Baker as above. Nine years experience.—W. BAKER, 4, Pond Square, Highgate, N.

JOURNEYMAN, under a Foreman, in a good Garden.—Age 21; seven years' experience in good Gardens.—Mr. GULL can confidently recommend E. Jones as above. Good recommendations from former places. Life abstainer.—Gardens, Hillside, Amwell, Ware, Herts.

JOURNEYMAN, in the Houses, in a good establishment; age 21.—Mr. BATLEY, Wentworth Castle Gardens, Barnsley, will have pleasure in recommending Henry Jenkinson as above. Three years' good practice here in the various departments.

JOURNEYMAN, Inside, or Inside and Out.—Age 19. Five years' experience; good references.—A. HARRIS, Belle Vue Villas, Tiverton Road, Bournbrook, near Birmingham.

JOURNEYMAN.—Age 19. F. BLACKITH, Gardener, Parkside, Ravenscourt Park, Hammersmith, can highly recommend A. Coggan as above. Five years' experience. Three years in last place.

JOURNEYMAN, Inside; age 21. Six years' experience.—Mr. PHILLIPS, Gardener, can highly recommend W. Aucock as above. Bothy preferred. — The Gardens, Taplow House, Maidenhead.

JOURNEYMAN, in the Houses; six years in present situation; good references.—Messrs. PRIOR & SONS, Myland Nursery, Colchester, can recommend J. Baines as above.

JOURNEYMAN; age 21. Inside preferred.—F. SINGLETON, Gardener to Sir Wm. Parke, would be pleased to recommend a young man, Sidney Smith, as above. Three years' recommendation.—Thornhill, Stalbridge, Dorset.

JOURNEYMAN, in the Houses.—Age 19; Six years' experience; two and a half years in last situation. Disengaged.—R. BYE, Northwood Hall Gardens, Rickmansworth, Herts.

JOURNEYMAN (FIRST), under a Foreman. —Age 24; six years' experience in the Houses. Good characters. Bothy preferred.— W. CLEMENTS, Upper Winslow, Bromyard, Worcester.

JOURNEYMAN (FIRST), Inside.—Age 23; nine years' experience. Good characters.—W. SEARS, Whatton Manor, Nottingham.

JOURNEYMAN; age 19.—Mr. HUMPHREY, Nash Court, Faversham, can highly recommend A. Mayfield, who has been with him four years, to any Gardener requiring a very steady obliging respectable young man.

JOURNEYMAN.—Advertiser wishes to correspond with the Head of a good Fruit Establishment. Six years' experience.—P., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

JOURNEYMAN, in a good establishment.—Age 19; six years' experience. Strong and willing.—E. HEARN, J. Heelas, Esq., Whiteknights, Reading.

JOURNEYMAN, in the Houses.—Age 20, eight years' experience. Excellent character.—H. WARREN, The Gardens, Frank's Hall, Farningham, Kent.

JOURNEYMAN, Inside or Inside and Out, in a good establishment.—Age 20; seven years' experience in Gentleman's Garden. Total abstainer. Highly recommended.—A. ALLEN, Cavendish, Suffolk.

JOURNEYMAN (FIRST).—Age 20; seven years' experience. First-class references.—GEORGE EVASON, The Oaks, Ledsham, near Chester.

JOURNEYMAN, Inside, or Inside and Out.—Age 25; ten years' experience in all branches. Good character. Bothy preferred.—J. H., 7, German Place, Alpha Road, Surbiton Hill.

JOURNEYMAN, in the Houses; age 24.—WILLIAM GODDARD, Blyth Hall, Rotherham, can with confidence recommend a strong, active, industrious young Man as above.

JOURNEYMAN, Inside, under a Foreman.—Age 22; four years' in present situation. Can be well recommended. Bothy preferred.—Mr. SHAW, The Gardens, Garendon Park, Loughborough.

JOURNEYMAN.—Age 18; four years' good character. Thoroughly respectable. — R. GILBERT, Burghley Gardens, Stamford.

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TO GARDENERS.—A young man (age 20) requires a situation; willing to assist, Inside or Out. Good references. — S. ROGERS, High Street, Whittlesey, Peterborough.

TO GARDENERS.—G. A. KEYWOOD, The Gardens, Cusworth Park, Doncaster, wishes to recommend a strong steady young man, age 21, for Outside Work.

TO GARDENERS.—Situation wanted by a young Man, age 21, in Kitchen Garden and Pleasure Grounds. Three years' good character.—H. BAKER, Buddington, near Midhurst, Sussex.

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TO NURSERYMEN. — Young man, age 23, seeks situation in Pot Plants. Good references. Nine years' experience in English and Continental Nurseries.—W. NIELSEN, Mr. Floyd, High Street, Cheshunt, Herts.

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USEFUL MAN, on an Estate.—Age 31; Painter, Plumber, Glazier, Paperhanger, useful at Carpentering and Rustic Work. Wife manage small Dairy. No family. Good character.—Address, E. PADFIELD, Mr. Best, Goff's Oak, Cheshunt, Herts.

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CONTENTS.

Apples, American and British 393
Bangalore Botanical Gardens 391
Barn Elms, Barnes ... 392
California 388
Chicory Witloof 387
Chrysanthemums for training 393
Cœlogyne Sanderæ ... 391
Cultural memoranda ... 386
Daffodils for market ... 383
Earl's Court exhibition 390
Fernery, the hardy ... 386
Foreign correspondence 397
Freesias 394
Grafting, natural, of Rhubarb 392
Gooseberry caterpillar ... 392
Hemerocallis, a new ... 394
Horticultural examinations 390
Kew notes 386
Lachenalia aurea gigantea 394
,, tricolor 394
New Zealand, native birds of 391
Obituary :—
McKenzie, A. 397
Treseder, Wm. ... 397
Orchids, scent of... ... 390
Orchid notes and gleanings :—
Dendrobium nobile and its varieties ... 386
,, Wardianum ... 386
Plants, new or noteworthy :—
Crocus luteus var. striatus 385
Iris atrofusca 384
Narcissus Fenzii × ... 385
,, Margaritæ × ... 385
,, Sprengeri × ... 385
Seakale 387
Snowdrops, date of flowering of 394
Societies :—
Crystal Palace spring show 396
Royal Horticultural ... 394
Spinach, round v. prickly 394
Squirrels and their mischief 393
Tecophilæa cyanocrocus 393
Tea Roses, hardiness of... 393
Traveller's notes, a ... 387
Vegetables, arrival and prices of 386
Week's work, the ... 388
Flower garden, the ... 389
Fruits under glass ... 388
Hardy fruit garden ... 389
Kitchen garden, the ... 389

ILLUSTRATIONS.

Bamboo, an artificially distorted 387
Barn Elms, Barnes, view of 391
Benary, Ernst 385
Gooseberry caterpillar 393

"GARDENERS' CHRONICLE."

LARGELY INCREASED CIRCULATION.

IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

Increased to the extent of 75 per cent.

Advertisers are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS *at home and abroad, and is preserved for reference in all the principal Libraries.*

TECHNICAL HORTICULTURE.

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MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION, on the Premises, Quorn House, Loughborough, on MONDAY, April 10, and THREE FOLLOWING DAYS, at 12 o'Clock precisely each day, the whole of this far-famed COLLECTION of ESTABLISHED ORCHIDS, splendidly grown, and containing many rarities.

Amongst the principal items may be mentioned:—

Dendrobium splendidissimum grandiflorum, 13 matchless specimens
,, Cooksonii, several plants
Phalænopsis Portei, in spike
,, leucorrhoda
Sobralia xantholeuca, dwarf-growing variety
,, ,, alba
Cypripedium insigne, yellow variety, no spots
,, Saundersianum
Lycaste Skinneri alba, 12 plants, grand varieties
Cattleya Mendeli alba, Quorn House variety, F.C.C.
,, Brymeriana
,, Phœnicoptera
Dendrobium seedlings
Cypripedium do.
Calanthe Stevensii and Williamsii
Cattleya gigas varieties and imperialis, one with seed-pods crossed with the Quorn House variety of the white Mendeli
,, Trianæ alba, 5 plants of the true white variety
,, aurea, many fine varieties
Cœlogynes received from the East, probably different from known varieties
,, cristata alba, specimens
Cymbidium Parishii
Dendrobium Leechianum
,, nobile nobilius
,, endocharis
,, Ainsworthii
,, Wardianum and nobile, selected for the past 15 years—perfect marvels of culture
Masdevallia Harryana, the red variety
Aërides Fieldingii, wonderful plant, and special variety
Dendrobium Phalænopsis Schroderæ, 200 plants, the finest lot in the country, comprising many splendid varieties
Cattleya Schroderæ, a grand lot of plants
Lælia anceps Dawsoni, and other fine white varieties
Cattleya Skinneri alba, selected varieties
,, aurea polychroma
Odontoglossum elegans
,, crispum guttatum
,, Ruckerianum magnificum
Cypripedium Wallisii
Lælia purpurata ponderosa
Dendrochilum glumaceum, a grand mass
,, Wardianum album
Cypripedium Morganiæ, big specimen
Lælia anceps Amesiana
,, Gouldiana
Dendrobium Robinsonianum
,, Venus hybrid
,, hybrid, a batch of plants, Juno was raised from similar parents.
Cattleya Mendeli, special varieties
,, labiata, with nearly 100 bulbs
Odontoglossum cuspidatum
,, Wilkeanum (Cook's var.)
Cattleya Mossiæ, with 100 bulbs
,, Warneri, with 100 bulbs
,, Mossiæ Reineckiana
Dendrobium nobile Sanderianum
Cypripedium Doris, specimen
,, macrochilum
Odontoglossum mulus splendens
Vanda suavis maxima
Disa grandiflora, 200 plants, including several special varieties, all being remarkably well-grown.

Catalogues may be obtained of Mr. G. COOKE, Estate Office, Quorn, Loughborough; of Messrs. MILWARD AND CO., Solicitors, 41, Waterloo Street, Birmingham; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

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,, NOBILE, fine dark var.
,, CRASSINODE
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VANDA CŒRULEA
,, PARISHII MARRIOTTIANUM
CYPRIPEDIUM VILLOSUM
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Also beautiful Flowering ORCHIDS.

MESSRS. PROTHEROE and MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, April 7, at half-past 12 o'clock.

On view morning of Sale, and Catalogues had.

The Langton House Collection of ESTABLISHED ORCHIDS.

IMPORTANT UNRESERVED SALE of this Extensive and VALUABLE COLLECTION of ESTABLISHED ORCHIDS, which is especially rich in grand and rare forms of CATTLEYAS. By order of G. R. Le Doux, Esq. Absolutely without reserve.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION at their Central Sale Rooms, in MAY NEXT, the above highly-important and extensive collection of ESTABLISHED ORCHIDS, comprising about 4000 plants, the whole being particularly well-grown and in splendid condition. Amongst the principal plants the following may be specially noted:—

Cattleya Schroderæ alba, true, as figured in *Reichenbachia*, 5 strong plants
,, Trianæ alba, best varieties, 3 plants
,, Wagnerii
,, Reineckiana
,, exoniensis
,, aurea, Le Doux variety, as described in *Gardeners' Chronicle*, 3 distinct grand forms flowered on same spike
,, intermedia Faustina
,, Mendelii grandiflora, 5 plants
,, Mossiæ aurea
,, Trianæ atalanta
,, ,, formosa
,, ,, Veitchii
,, ,, Miss Florence Le Doux
,, ,, Backhousiana
,, ,, Miss Ada Le Doux, splashed sepals and petals
,, Warscewiczi, delicate, the true old form
,, Percevaliana, Le Doux variety, according to Mr. Sander, grandest form ever flowered
,, labiata autumnalis perfecta
,, amethystina
,, maxima, Le Doux var.
,, Harrisoni violacea, true
,, Loddigesii (Le Doux var.), a superb form
,, maxima peruviensis, 24 large plants; some rare forms
Dendrobium nobile nobilius, the finest var.
,, ,, Cooksoni, the finest
,, ,, grandiflorum
,, ,, Wallichianum
,, ,, albens
,, segnatum, 3 plants
,, Ainsworthii
,, Leechianum
,, splendidissimum
,, Cassiope
,, Veitchii, 2 plants
,, Brymerianum, 12 large well-grown plants of the long-bulbed type
Odontoglossum vexillarium, Le Doux variety
,, ,, leucoglossum
,, ,, rubrum verum
,, ,, rubellum
,, excellens aureum
,, Wilckeanum superbum
,, ,, albens
Odontoglossum Andersonianum superbum
,, Ruckerianum magnificum, immense bold, well-blotched flowers
,, Jonningsonianum superbum
,, Halli cristatum
,, hystrix lyroglossum
,, crispum, finest type
,, ,, roseum
Lælia anceps, in great variety, and most robust plants
,, ,, Dawsoni*
,, ,, Stella*
,, ,, Williamsii*
,, ,, Sanderiana*
,, ,, alba, unflowered best types, twelve plants
,, ,, Schroderiana
,, ,, Protheroeiana
,, ,, Barkeri
,, ,, grandiflora Morada, four splendid large plants
,, autumnalis alba, large plant
,, elegans Turneri, a grand form
,, Præsiata, very large plant
,, Schilleriana, large plant
,, purpurata, some grand forms
Lycaste Skinneri alba, the finest large-flowered variety
,, rubellum
,, Bacchante, from Studley House collection
,, aromatica majus, very rare
Cymbidium Devonianum
,, Mastersii, fine plant
,, tigrinum, in flower, 2 plants
,, eburneum, 3 plants
Cypripedium Morganiæ
,, javanico - superbiens (Bleu)
,, grande
,, Schroderii
,, Schroderæ splendens (Linden)
,, Mrs. Charles Canham, the red variety
,, barbatum, choice vars.
,, insigne montanum Le Doux variety
,, candidulum
,, Seegerianum
,, Veitch's Demidof's var.
,, Lecanum superbum
,, œnanthum superbum
Miltonia Roezlii magnifica

* Mostly large pieces, from twelve to forty bulbs.

Catalogues are now being printed, and may be had in due course of the Auctioneers, 67 and 68, Cheapside, London, E.C.

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MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, April 6, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Hessle, near Hull.

UNRESERVED SALE of a particularly well-grown Collection of ESTABLISHED ORCHIDS, by order of T. E. Kirkness, Esq. (who is relinquishing the cultivation of all but Cool Orchids).

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, without Reserve, on the Premises, Oak Lodge, Hessle, near Hull, about 5 minutes' walk from the Hessle Station on the N. E. Railway, on WEDNESDAY and THURSDAY, April 26 and 27, at half-past 12 o'Clock precisely each day, by order of T. E. Kirkness, Esq., the particularly well-grown Collection of ESTABLISHED ORCHIDS, containing a grand assortment of Cypripediums, beautifully cultivated; a large quantity of Cattleyas, including autumn-flowering Labiata, Lælias, Vanda Sanderiana, a fine lot of Phalænopsis, Cœlogynes, Cymbidiums, Dendrobiums in variety, Angræcums, Sophronitis, together with an assortment of choice Stove Plants and Ferns.

May be viewed two days prior to the Sale. Catalogues may be had on the Premises; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

20,000 Seeds of Phœnix rupicola.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, April 6, at 12 o Clock, 20,000 SEEDS of PHŒNIX RUPICOLA now to hand, in splendid germinating condition. This species is one of the most elegant and graceful of Greenhouse Palms, being exceptionally valuable for every decorative purpose.

On view morning of Sale, and Catalogues had.

Wednesday Next.

1000 Choice-named ROSES, from English and French nurseries; Collection of EVERGREENS and SHRUBS, BEGONIAS, TUBEROSES, FREESIAS, PEARL TUBEROSES, PALM SEEDS, LILIUMS from Japan, a splendid assortment of BORDER PLANTS, &c.

MR. J. C. STEVENS will SELL the above by AUCTION at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, April 5, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

In Bankruptcy.

STUDLEY CASTLE, WARWICKSHIRE.

The VALUABLE COLLECTION of ORCHIDS, STOVE PLANTS, GARDEN IMPLEMENTS, &c.

MR. J. C. STEVENS has received instructions from the Official Receiver to SELL by AUCTION, on the Premises as above, on WEDNESDAY, April 19, at half-past 12 o'Clock precisely, the VALUABLE COLLECTION of ESTABLISHED ORCHIDS formed by T. E. Walker, Esq. Also the STOVE PLANTS, HARDY PLANTS, and a large quantity of GARDEN IMPLEMENTS.

On View day prior to Sale from 10 till 4, and morning of Sale, and Catalogues had on the Premises, and of the Auctioneer, at his Offices, 38, King Street, Covent Garden, W.C.

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NEWCASTLE-ON-TYNE SPRING FLOWER SHOW.
April 19 and 20, 1893. Entries close April 12. For Schedules, &c., apply to JAS. J. GILLESPIE, JR., Secretary, Cross House Chambers.

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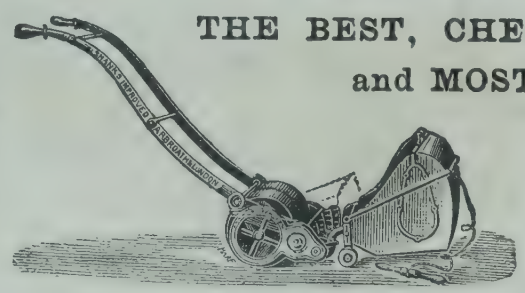

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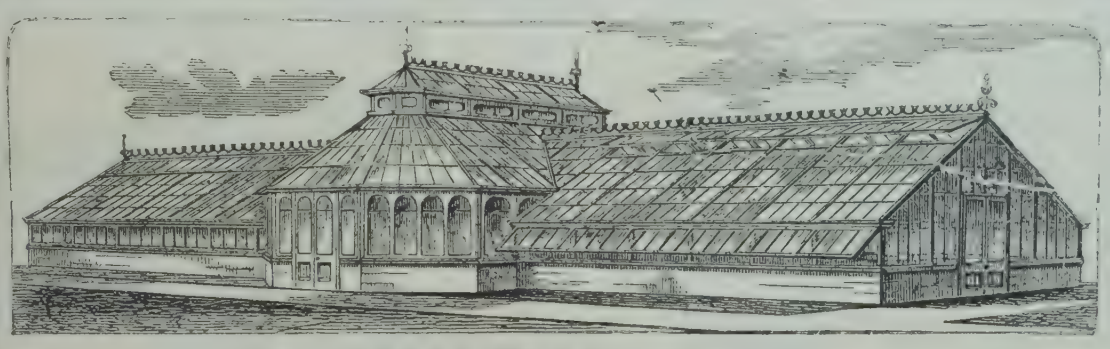

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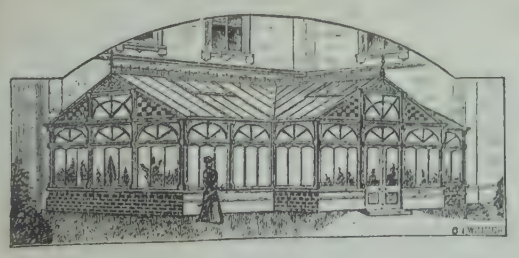

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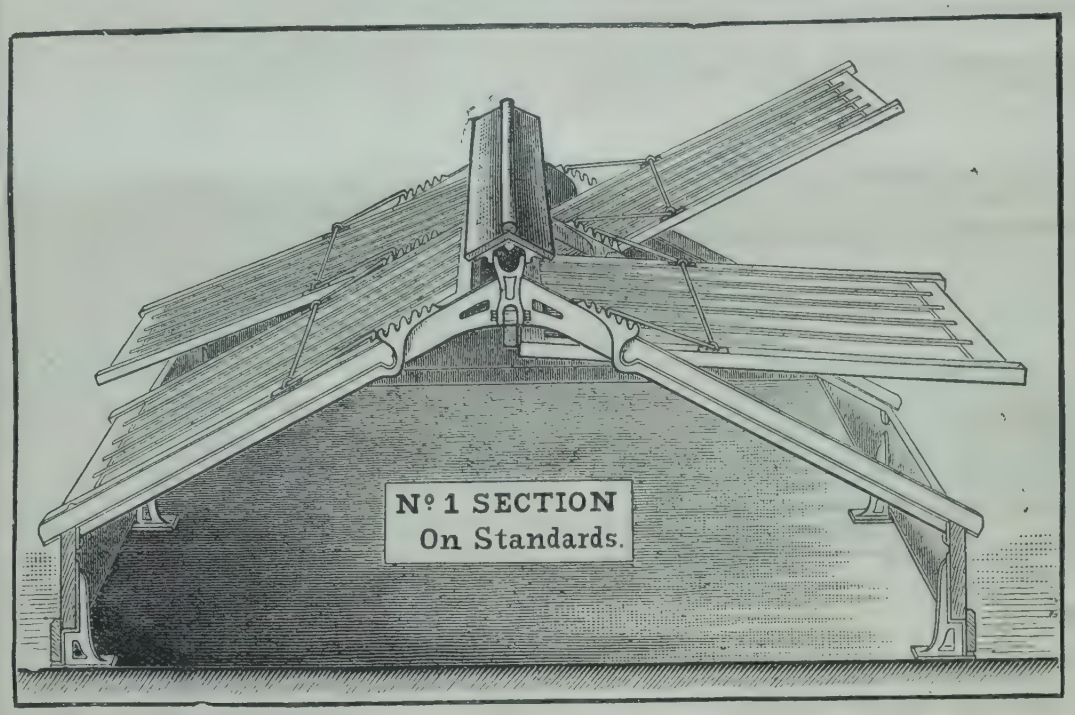

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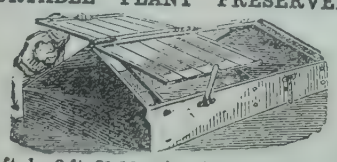

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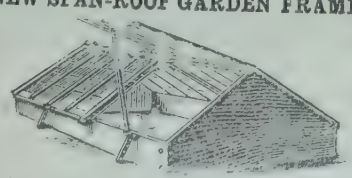

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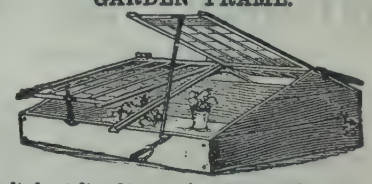

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THE

Gardeners' Chronicle.

SATURDAY, APRIL 1, 1893.

DAFFODILS FOR MARKET.

A GREAT market flower is the Daffodil. It is sent in tons from the sunny Scilly Isles, and in smaller quantities from the South of Ireland, to the London markets before those in England have shown much above the soil. Daffodil time lasts from mid-January until mid-May, but the most interesting season is April, when the flowers from such grounds as Mr. Barr's at Ditton, Mr. Hartland's at Cork, or Mr. James Walker's at Ham, fill the market with colour. A few hours spent in the last-mentioned Daffodil farm—one can call it nothing else—is interesting. Few of the thousands who purchase the splendid blooms at Covent Garden know that they were produced not many miles from London.

On the outskirts of the breezy Furze common at Ham, and adjoining an ugly church where lie the remains of the late Sir Richard Owen, Mr. Walker has many broad acres of rich land devoted to the cultivation of the Narcissus. Enter by a countryfied gateway just off the main road to Kingston, and you are in a veritable Daffodil farm, not entirely devoted to the culture of the bulb, it is true, but it is the chief "article" of industry. Immense glass structures are erected for the growth of Peaches, Tomatos, and other market fruits, and passing these Mr. Walker's residence is a conspicuous feature. From the drawing-room window the view extends to the town of Kingston on the right, and on the left the famous Richmond Hill and the glorious park give beauty to the landscape. A bright sunshiny April day, the air clear, and the flowers in their full beauty, such is the picture the artist would care to transfer to canvas. The noble trees in the park are a framework to the acres of flowers dancing to the soft wind, the glaucous growth glinting in the sunlight. Masses of each variety are grown in long raised beds, a blaze of yellow or a sheet of purest white, as if enshrowded in a mantle of snow, greeting the eye. The acres of bulbs in the low countries are a brilliant sight, but an English Daffodil farm is as beautiful, yet few know that the cultivation of the bulb is carried on extensively on the threshold of the smokiest and, to many, most unpleasant city in the world. Richmond is full of attractions to the lover of Nature—the winding Thames, the glorious view from the Terrace, but thousands of Narcissi flowers colouring the ground with yellow of all shades, form not the least interesting feature in the neighbourhood of this river town.

All who are ardent cultivators of the Narcissi, or take an interest in the flower, are acquainted with Mr. Walker, who has through

many years worked steadfastly and earnestly in the cultivation of the Narcissi for the market. He is the great market Daffodil grower, not a collector. Those who wish to see a collection would probably suffer disappointment, although in a sunny border near the house there is a choice series of the more important forms. Mr. Walker when he first commenced seized upon a few of the leading kinds, those of decided colours which are likely to please the critical taste of the British public, and grew those alone on a large scale. It is necessary to take many points into consideration when growing the Narcissus for market. The variety must be of strong vigorous growth, increase well, and bear freely its bold handsome flowers, of fine colour, as Empress, or the popular N. poeticus. Weakly kinds, with flowers of pale uninteresting colours, are valueless. They do not pay to cultivate. The visitor will observe this in a walk round the Narcissus grounds at Ham; and if he has seen the fine groups shown occasionally by Mr. Walker at the meetings of the Royal Horticultural Society—at the Daffodil Conference held at Chiswick in April, 1890, in particular—he will be prepared to find that the bulb is thoroughly well cultivated.

In Mr. Walker's interesting paper on "Daffodils for the London Market," read before the Daffodil Conference, he mentioned that the flower has increased greatly in popularity. One can well understand this, as in every house it is usual to see the flowers, oftentimes arranged with great taste. A bowl of Daffodils, with a few sprigs of the chocolate-bronzy-leaved Mahonia aquifolia, is a rare contrast of colour. Interesting information is vouchsafed to the question "Will the competition amongst growers prove too keen in the future to make the flowers pay?" Mr. Walker declares that, if we compare the prices which the blooms realised in 1885 with those of the present year, he is satisfied there has been a fall of 50 per cent. "Large quantities of outdoor English-grown Daffodils were sold last year (1889) as low as 9*d.* for a dozen bunches, with a dozen blooms in each bunch, a price that cannot pay; but when the grower has them in market, it is better for him to take even that price than throw them away. This may be taken as the minimum. On the other hand, as much as 12*s.* has been obtained for the same quantity."

There seems, however, no decrease in Mr. Walker's acreage of Narcissi, and each April the same beautiful picture of colour is presented to view. The varieties are few in number, and planted, as a rule, in long beds, five rows to each bed, the surface of the soil raised a little above the general level, to throw off rains, as a stagnant soil is hurtful. This may be noticed where the ground slopes away, the growth being less vigorous than in the more exposed and drier spots. No definite rule can be laid down as to the cultivation of the Narcissi, some varieties requiring different treatment to others, but Mr. Walker thinks cultivating all alike the best. He planted a bed in strong soil, and at the end of two years lifted the bulbs to discover what progress had been made, finding, however, that the forms known as Capax and Cernuus plenus had gone, whilst the robust varieties, Emperor and Empress, had increased fourfold. The plan is to grow the wild forms, or those supposed to be so, apart from the garden kinds, the latter not receiving manure. The ground for the Narcissi is first thoroughly well ploughed, as everything is done on a market scale, and the bulbs are lifted each season. This is a point of the greatest importance, and those who are troubled with Narcissi that refuse to flower are usually at fault, through permitting the bulbs to remain too long in the soil without lifting or dividing. Every two or three years, at the outside, they should be taken up and replanted. Mr. Walker dries and cleans the bulbs before planting, and commences to plant again in August, the first Narcissus to be dealt with being N. poeticus ornatus, the whole business being finished before September is over. The time of planting the various kinds is when the swelling appears around the base of the bulb. During the autumn, the beds are raked or harrowed once every ten days, and in spring hoed, this being done when the growth peers up through the soil. Annual lifting and replanting, in good free soil, with the manure when given not allowed to exactly touch the bulbs, and proper attention at all times, are the chief points in the culture of the flower for the market.

The two finest varieties for the market are Horsfieldi, raised by a Lancashire weaver named Horsfield, and Empress, which is considered the finer of the two. The flowers are very similar, but more robust, lasting longer, a great consideration, and the bulbs increase rapidly. The superb blooms of both varieties shown by Mr. Walker and to be seen at Ham, are a pleasure to witness, being fully twice as large as those usually grown in gardens. Empress may be considered the finest of all Daffodils, a noble flower for cutting, and delightful in broad borders, or in clumps on the rockery. Grandis, J. B. M. Camm, Maximus, the early-flowering Golden Spur, Countess of Annesley, Ard Righ, and Henry Irving, are also well spoken of, and represented by fine breadths at Ham. The N. obvallaris, usually called the "Tenby Daffodil," is one of the most popular kinds, the flowers of perfect shape, self yellow in colour, and sell by thousands in late March. The white or pale sulphur-coloured forms, of which N. cernuus is the type, are not good market flowers. The colour is against them, and the bulbs are fastidious, but Mr. Walker grows N. cernuus, its form called pulcher, and Mrs. F. W. Burbidge, in fair quantity.

A Narcissus that is in favour at Ham is Sir Watkin, which is grouped under the section N. incomparabilis. It is a bold telling flower, strong in both constitution and eye-pleasing colour. The varieties Gloria Mundi, Stella, and Princess Mary are also well thought of. One might enumerate a fairly long list, but it is Sir Watkin, Empress, and the varieties of N. poeticus that are grown more largely than any others; thus N. p. ornatus is cultivated in thousands; N. p. grandiflorus, N. p. poetarum, and N. p. recurvus following in succession. The great British public seem passionately fond of the white fragrant flowers. N. odorus and its variety N. angulosus are also never without purchasers. The double white form of N. poeticus, and such favourites as Orange Phœnix and Sulphur Crown are all cultivated on a good scale.

At this season of the year men and women are busy picking the flowers from the waving rows of foliage, and they are invariably gathered before fully expanded. Several houses are reserved for them, and here in pots of water, they open out fresh and fine, unsullied by the weather that would quickly destroy their beauty for the market. It is important to notice that all the varieties must not be treated alike, the form of N. poeticus called recurvus being gathered quite in the bud stage, before it has burst, but N. poeticus ornatus must be more developed, and the "trumpet" kinds almost open.

The flower-shed is a pretty sight in the height of the Narcissus season. Women are busily at work bunching the flowers, usually into twelves, and making them ready for the market. The air is redolent with the sweet fragrance, yet the whole tone of the place is one of business. England is a fine country for the Narcissus, everyone must admit, after a visit to the acres of flowers at Ham. This is Mr. Walker's experience, and bulbs of N. p. ornatus from the Riviera examined with those of this country, show that those of the latter are infinitely superior. It is pleasant to know that this great Narcissus grower's opinion is, that if the demand for bulbs for forcing goes on increasing at the present rate, it can be met, and that of America also. No competitors need be feared if the bulbs are lifted annually and replanted, and this important work done at the proper time. Seasons vary greatly, but the first weeks in April are usually the best time to see the flowery acres at Ham. *V.*

New or Noteworthy Plants.

IRIS (ONCOCYCLUS) ATROFUSCA,
*Baker, n. sp.**

This very distinct new species of the Oncocyclus section of Iris has been imported in a living state from the little-known region on the east side of the River Jordan in Palestine, by Messrs. Herb & Wulle of Naples, who have sent me a couple of specimens which they have flowered in the middle of March. It is as tall as Iris susiana, but the outer segments of the perianth are much shorter, and a concolorous brown-black. The inner segments are 1 inch longer than the outer ones, and twice as broad, and a mottled dark claret brown with black veins. Professor Foster, in an elaborate paper in the *Garden*, and in a lecture before the Royal Horticultural Society, has recently dealt fully with all that is known about this interesting group of Irises, including their root-structure and mode of growth. It is probable that many more species still remain to be discovered.

Leaves weak, ensiform, a foot long at the flowering time, and nearly an inch broad, pale green, slightly glaucescent. Peduncle stout, one-headed, nearly 1 foot long, hidden by two large sheathing leaves. Spathe-valves pale green, ventricose, much imbricated, 3½ to 4 inches long. Pedicel short, stout. Ovary oblong. Perianth-tube cylindrical, green, 2 inches long. Outer segments of the perianth obovate-cuneate, 3 inches long, 1½ inch broad, nearly black, and quite concolorous on the recurved face, with a broad cushion of concolorous velvety hairs at the base of the recurved portion, which extends all down the claw, where the brown-black hairs are mixed with yellow ones. Standards orbicular, unguiculate, nearly 4 inches long by 3 inches broad, dark claret-brown with radiating black veins. Style-branches 2 inches long, ½ inch broad, very convex on the back and acutely-keeled, with two large quadrate recurved crests. Anther white, ¾ inch long; filament short. *J. G. Baker.*

Dammann's New Hybrid Narcissi.

I have just received from Messrs. Dammann & Co., of Naples, specimens of three interesting hybrid Narcissi. They are all three crosses between forms of N. Tazetta and forms of N. Pseudo-Narcissus, and differ from the hybrids with which we are familiar in this country, such as incomparabilis, Leedsii, poculiformis, Sabini, Humei, Backhousei,

* *Iris* (*Oncocyclus*) *atrofusca*, Baker, n. sp. — Foliis ensiformibus pedalibus flaccidis leviter glaucescentibus; caule elongato monocephalo unifloro; spathæ valvis ventricosis pallide viridibus diu imbricatis, pedicello brevi; perianthii tubo elongato; segmentis exterioribus obovato-cuneatis facie atrofuscis concoloribus, medio barbâ diffusa præditis, segmentis interioribus multo majoribus orbicularibus unguiculatis atropurpureis venis nigrescentibus percursis; styli ramis magnis recurvatis.

and Macleaii, by the predominance of Tazetta characters, the flowers ranging from two to five, with long pedicels, and the large membranous Tazetta spathes. They all have rather glaucous leaves, half or three-quarters of an inch broad, with a flattish face, and a rather glaucous faintly two-edged scape. The Tazetta parent in each case is evidently one of the narrow acute-petalled Mediterranean forms, as is evidenced by the stellate character of the flowers. The differential characters are briefly as follows:—

N. Margaritæ, Hort. Dammann.—A cross between papyraceus and some Pseudo-Narcissus form, probably moschatus. Flowers in an umbel two or three; pedicels nearly an inch long; perianth tube obconic, a little under an inch long, half an inch in diameter at the top, milk-white in the upper half, tinged with green towards the base; perianth segments lanceolate from an ovate base, milk white; corona obconic, half an inch long, five-eighths of an inch diameter at the throat, milk-white at the base, faintly tinged with sulphur-yellow upwards, with an irregularly crenate rather crisped erect edge. Named after the Queen of Italy.

N. Fenzii, Hort. Dammann.—A cross between Pseudo-Narcissus and probably some corcyrensis form. Flowers in an umbel three or four; pedicels about an inch long; perianth tube subcylindrical, three-fourths to seven-eighths of an inch long, quarter of an inch diameter at throat, white upwards, greenish towards the base; perianth segments as long as the tube, linear oblong, whitish; corona campanulate, bright lemon-yellow, half an inch long, half an inch in diameter at the throat, with a spreading crenate margin. Named after Signor Fenzi, editor of the *Bulletin of the Tuscan Horticultural Society*.

N. Sprengeri, Baker.—Tazetta parent aureus, Pseudo-Narcissus parent presumably muticus. Flowers in an umbel five; perianth tube subcylindrical, three-quarters of an inch long, green at the base, yellow upwards; perianth segments lanceolate, pale yellow, as long as the tube; corona obconic, half an inch long, one-third to half an inch in diameter, bright yellow, with an erect truncate throat.

All the three flower at Naples early in March. *J. G. Baker, Herbarium, Kew.*

Crocus luteus var. striatus.

Colonel Trevor Clarke sends me a form of the ordinary Dutch Crocus, which he has raised, with three distinct black stripes on the back of the outer segments of the perianth. A similar form is figured (*Bot. Mag.*, t. 938) under the name of C. sulphureus striatus, but in this the ground colour is pale yellow, whilst in Colonel Clarke's plant it is orange. *J. G. Baker.*

Odontoglossum Ruckerianum splendens.

This is one of the very handsomest of the natural hybrid Odontoglossums. In the size of its flowers, and the breadth of its sepals and petals, it is equal to a good O. crispum, but the labellum, although larger than other forms of its class, has the true O. lanceans form. The sepals and petals are white, tinged with rose, after the manner of O. crispum fastuosum, both sepals and petals being profusely spotted with dark red. The labellum is yellow, with dark-rayed lines at the base, and with a single large irregular red blotch in the centre. It is in the possession of Sir Trevor Lawrence, Bart., and at Burford they are not much given to supplying distinguishing names to the variable forms of Odontoglossums and other Orchids, but it would not be right to allow such a noble form to remain without some indication of its quality. *James O'Brien.*

The Late ERNST BENARY.

ERNST BENARY.

There will scarcely be a seedsman in the United Kingdom to whom the name of Ernst Benary is not familiar as representative of one of the most extensive seed-growing industries in the world; and who will not have learned with regret, from our previous announcement, that the head and founder of this renowned Erfurt seed firm died of inflammation of the lungs on Sunday morning, February 19, after an illness of only two days.

Ernst Benary was born at Cassel on November 10, 1819. His far-reaching knowledge of everything connected with horticulture was attained by early diligence in the great nurseries of England, France, and Belgium. While in this country, he was for a time with Messrs. Hugh Low & Co., at Clapton. On April 1, 1843, he founded, in Erfurt, an establishment for seed-growing. Gradually his business grew, in consequence of Mr. Benary's industry and knowledge of commercial plants, which led him to the perfecting of every sort of vegetable and flower that he took in hand. He never deviated from the principle of introducing nothing which after repeated trials was not proved to be a real improvement. If anyone were to attempt to compile a list of all the novelties of sterling value, both in vegetable and flower seed which Mr. Benary has introduced, it would occupy a considerable space.

The business connection at Erfurt soon spread beyond the limits of his own country, and the effects of his labours are now evident in every department of horticulture, and in all parts of the civilised world. Mr. Benary was the most distinguished of those who, beginning half a century ago, have made the reputation which Erfurt now enjoys as one of the greatest centres of the seed growing industry.

One of the most remarkable developments of Mr. Benary's huge business in later years occurred when he took in hand the Carnation. A dozen or more years ago he sent to this country a number of plants of a singularly dwarf and robust strain, with large handsome double flowers, exhibiting tints of colour quite new to English lovers of the flower. Then came the glorious yellow self, Germania, still the finest yellow self in cultivation, and likely to be foremost for years to come. Later in time came such fine varieties as Theodore Van Dyck, Stadtralle Bail, Claude Lorraine, Cordula, Henrich Engal, Justus Meyer, Richard Tryan, Schlieben, and others, quite justifying the high opinion expressed of them by Mr. E. S. Dodwell in his new edition of his work on the Carnation. No such distinct fancy Carnations as Theodore and Van Dyck have emanated from any other raiser.

From Mr. Benary's achievements in his profession, and services thereby rendered to his town and native country, he was nominated by the Emperor "Geheimer Kommerzienrat," a title which has no equivalent in England, but which may be rendered "commercial privy councillor." It is the highest honour to which a merchant in Germany can aspire.

In 1891, Mr. Benary took a leading part in the reception and ceremonies of welcome which took place on the occasion of the visit of the Emperor to Erfurt, when he personally received as his guest the King of Saxony during the stay of the royal party. The town of Erfurt loses in the departed an excellent citizen, and the poor and afflicted of his neighbourhood a generous benefactor, whose liberality, while unstinted, was of the order that lets not the left hand know what the right hand doeth. Next to the bereaved family none feel his loss more than the numerous *personnel* of his business, for whose welfare he founded several funds which he liberally endowed.

The many British nurserymen and seedsmen who have visited Erfurt, and enjoyed the privilege of his

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personal acquaintance, will certainly remember with mingled pleasure and regret the amiable disposition of their host, and the kindly reception they met with.

We learn that by the death of its founder no change will be made in the firm, as the two sons, who have been for many years partners in the business, will continue it on the same lines and in the same spirit as heretofore.

ARRIVAL AND PRICES OF VEGETABLES.

It will be useful to give the following Table showing the dates of the arrival of vegetables from different countries, the prices made for them, and the average prices for English vegetables, with the approximate time of their arrival in market:—

IMPORTED VEGETABLES.

Name of Vegetable.	Date of Arrival.	Country from which Sent.	Price.
New Potatos ...	January to May	Algiers and South of France; Lisbon, Holland	2d. to 4d. per lb.
Asparagus ...	March to June...	Spain and France; Toulouse, Dijon, Paris	4d. to 1s. per bundle.
Cauliflowers ...	Feb. to April ...	North of France and Channel Islands	7d. to 1s. 6d. per doz.
French Beans...	April to June ...	France	9d. to 1s. per lb.
Peas	January to July	Africa and France; Algiers, Bordeaux, Toulon	3d. to 8d. per lb.
Lettuces ...	Dec. to June ...	France (Paris)	6d. to 1s. 2d. per doz.
Radishes ...	April	France (Paris)	1d. to 1s. per doz. bunches.
Endive... ...	Dec. to August...	France (Paris)	1s. to 1s. 9d. per dozen heads.
Onions	Dec. to February	Lisbon, France, Holland ...	5s. to 8s. per cwt.
Carrots... ...	April	France	1d. to 10d. per bunch.
Cucumbers ...	May	Holland	1s. 6d. per doz.

ENGLISH VEGETABLES.

Name of Vegetable.	Date of Arrival at Market.	Price.	Estimated Average Crop per Acre.
Potatos, New ...	End of June ...	Not quite 1d. per lb. ...	... 4 tons 10 cwt.
Asparagus ...	May	1s. 3d. to 3s. per 100 heads.	
Cauliflowers ...	End of April ...	8d. to 1s. 4d. per doz.	
Scarlet-runners...	July	2s. to 3s. per bushel ...	... 300 bushels.
Peas	End of June ...	2s. to 3s. 6d. per bushel ...	... 150 bushels.
Lettuces ...	End of May ...	6d. to 1s. per score... ...	... 1,400 score.
Radishes ...	May	4d. to 8d. per doz. bunches	... 1,200 doz. bunches.
Onions	May	1s. to 2s. 6d. per doz. bunches.	
Carrots	June	1s. 6d. to 2s. 9d. per doz. bunches	400 doz. bunches.
Cucumbers ...	July	6d. to 2s. 6d. per doz. ...	... 200 barrels.
Cabbages ...	End of April ...	1s. to 2s. 9d. per 5 doz. ...	... 1,000 dozen.
Coleworts ...	Feb., according to season	9d. to 4s. per doz. bunches	... 250 doz. bunches.
Marrows ...	August	6d. per doz.	

—*C. Whitehead, in "Hints on Vegetable and Fruit Farming."*

ORCHID NOTES AND GLEANINGS.

DENDROBIUM NOBILE NOBILIUS AND D. N. VARIETIES.

Of late, everybody seems to have good varieties of Dendrobium nobile from the later importations, and many think they have better forms than anyone else. But before the whole of the coloured varieties there stands the true D. nobile nobilius, which is up to the present unapproached and seemingly unbeatable. A flower of it sent by John Mills, Esq., Bisterne Park, Ringwood, Hants (gr., Mr. J. Cooper), presents it in all its glory. The flower is over 4 inches across, the petals 1¼ inch wide, the whole flower of the richest purplish-crimson except the base of the segments, and the rich maroon disc and white zone of the lip. It comes opportunely, for Mr. Nelson Campany sends from Thedden Grange Gardens, Alton, Hants, a very fine set of varieties of D. nobile imported from the Eastern Himalayas in 1888, asking if the richest coloured one is D. nobile nobilius. Comparison with that from Mr. Mills shows that beautiful though it be, it is not the least like the king of the nobiles. The No. 8 of Mr. Campany, is a charming light form tipped with carmine, and with a deep mulberry-coloured disc to the labellum. It, as well as the other forms sent, are characterised by the unusually long foot-stalks of the flowers, which, in this case, are 3 inches in length. The other varieties match best with the D. n. elegans and D. n. pendulum, which used to be so fine in the nurseries of Messrs. Rollisson before their decline. No. 6 has the tint of D. n. cœrulescens, but much larger flowers. The whole set are beyond the average in quality, and do great credit to the grower.

Dendrobium Wardianum.

What a magnificent thing Dendrobium Wardianum is, is displayed in the highest degree by flowers sent by R. B. Cater, Esq., Westfield House, Bath, and as they are otherwise interesting, it will be well to let his grower, Mr. W. Jansen, tell his own tale. He says, "I send you flowers of Dendrobium Wardianum 4¼ inches across, and I think you will say grand in colour. These flowers are off a small plant, from which every bulb was pruned, except the current year's growth. It carried three bulbs, of twelve flowers each. This was the only plant I pruned as an experiment, and the flowers are larger and better than on the seventeen unpruned plants, although some of them being large specimens are still very fine, some carrying six to seven dozen flowers each." A very pretty form of Cattleya Trianæ delicata also comes from the same gentleman.

THE HARDY FERNERY.

(*Continued from p.* 323.)

All Ferns in pots should now be overhauled; if overgrown with Marchantia or Conferva, this should be entirely removed, and if it be seen that worms are present, the plants should be shaken out and repotted twice; not only does the soil become soured, and the drainage impeded by worms, but the roots are apt also to suffer by the disturbance they cause, even if they are not actually devoured. If slugs are troublesome, a sharp look-out during these operations should be kept for their eggs, batches of which may frequently be found snugly ensconced in the pots, all ready to produce a little brood of marauders as soon as the spring warmth begins to be evident. Hardy Fern-spores, sown now and given a little warmth, will have the benefit of all the growing-season before them, when they throw their little plants in May, as they should do under such stimulus. If sown much later, or subjected to quite cold treatment, they frequently do not produce plants until late in summer, and hence are not fairly established before the growing-season ceases. They may be sown on small lumps of loam, scattered on the surface of an open, well-drained compost; but the whole must be previously saturated with quite boiling-water, to kill embryo worms and germs of fungi and confervoid growths, which otherwise will surely assert themselves. This done, the spores should be very thinly scattered over the surface, and the pan covered with a glass, and placed in a damp, warm corner of the greenhouse, where it gets plenty of light but no sun. The prothalli may be visible in about fourteen days. Should drought be threatened, the pot or pan should be dipped to the surface-level of the soil in clear tepid-water, until it is just seen to glisten between the lumps of loam; if watered overhead, failure is almost certain.

It should be borne in mind that many of the varietal forms of hardy British Ferns far transcend in beauty the common ones from which they have sprung, and which no Fern connoisseur would think of growing at all. Many a cool conservatory would be immensely improved by the introduction of these, which, though quite as hardy and easy to grow as their commoner progenitors, can hold their own with the finest exotics, if only the same care and attention be devoted to them. We have, however, only too often seen them delegated to quite unsuitable positions, under stages and elsewhere, instead of occupying the posts of honour to which they are justly entitled. *Chas. T. Druery.*

KEW NOTES.

Illicium floridanum.—This interesting plant is in bloom in the economic-house at Kew. The Illiciums are closely allied to the Magnolias, and the present species is the most beautiful of the genus—the only one, in fact, worth growing, unless for economic purposes. I. floridanum was introduced into England as far back as 1766, and is rare in English gardens. John Ellis, who introduced the well-known Venus' Fly-Trap, was the first to send it over from Florida, and a figure appears of this interesting species in the *Botanical Magazine* of the year 1799 (t. 439). Popularly, it is known as the Aniseed tree, and is of medicinal value. The shrub is of distinct beauty, compact in growth, the leaves ovate, bright green, and when bruised, exale a not unpleasant odour; whilst the flowers are carried in clusters in the axils of the leaves. The petals are narrow, intense crimson, and twisted. A shrub in full bloom is of rare beauty, the colouring of the flowers distinct and rich. It is well worth growing in a warm house, but is too tender for the open air, unless in sheltered spots in southern England. In a warm house, however, it reveals its true character, and as seen by the specimen at Kew, must not be kept in too sunny a spot, whilst abundance of water is also necessary. Moisture and shade are the two most important points in its cultivation, and it is under these conditions the plant is found in its native country, where it affects the banks of rivers. The most recent figure of it was the coloured plate in the *Garden*, August 17, 1889, which shows that the shrub is not only richly attractive, but blooms with great freedom. *V.*

CULTURAL MEMORANDA.

RHUBARB.

This, like so many other things, should not be grown too long on one plot of land. Young healthy crowns always force more readily, and give better produce than old ones. Fresh plantations on good ground, which cannot possibly be too rich, will soon make useful clumps, and where much has to be forced yearly, it is better to plant a few annually to meet the demand, as the old forced stools are of little or no use.

Mint.

One of the most useful of herbs. The roots, after being taken up and divided, may be planted in beds, and give every satisfaction; but the most suitable way of increasing the stock, is to pull up small pieces, when 3 to 6 inches long, and dibble them in beds at 10 inches apart. These soon make fine bushes, and produce strong roots for forcing next spring or winter, as may be required. *H. Markham.*

A TRAVELLER'S NOTES.

Yokohama, March 28, 1892.—Yokohama was but a small fishing village until selected by the Americans on account of its good anchorage as one of the treaty ports. It therefore follows that the fine temples, &c., and general objects of interest for which many Japanese towns are famous are here, I may say, entirely absent. The verdict is, and the professional guides second it, there is nothing to see in Yokohama.

It is very cold in Japan, and everything is very backward; Maples and other deciduous plants showing no signs of breaking yet, whilst many plants, such as Cycas, Rhapis, and Ferns are still kept in sheds.

I have been to a village known as Kawaski, accompanied by two fellow travellers—a great monthly *fête* was on, and the sight a very pretty and interesting one—especially in the Temple. On the road I saw the system of training fruit trees recently figured in the *Gardeners' Chronicle*. A flat trellis covering the entire orchard is laid on the heads of the trees—only a few feet high, and the branches tied to it. In the Temple—dedicated to Buddha—I bought a small medal of the figure, when a priest in return took us to a back court, and showed us a curiously trained Bamboo stem. The stem was tall and straight, and still growing, but between each node one side had been suppressed, and the other elongated (see fig. 56). A normal Bamboo has the nodes horizontal, forming a ring round the stem, whilst the one we saw had been made to grow, possibly by means of clay coverings, so that the nodes were oblique and directed alternately to the left and to the right; one side of each section is suppressed, and the other elongated and curved. The stem, quite straight, was some 8 feet high, with a small growing head. The garden was very pretty—little boats with sail set, made of Cherries and trained evergreens. Much Rice is cultivated round Yokohama, but I fancy in a different way to what is usual in the East—not from seed, but rather as a perennial. All one sees now are bunches of black stumps.

The private residences are prettily surrounded with Conifer hedges, and occasionally they possess small gardens. The hedges are chiefly Retinosporas, and sometimes Cryptomeria japonica, though I have seen several good ones of Citrus trifoliata, a Pinus, which I think there can be little doubt is densiflora, is also largely represented both wild and cultivated in porcelain jars trained into curious shapes.

The principal nursery is the Gardeners' Association, to which I think all the smaller nurserymen belong, and to which they send their things.

In the association grounds, were many Conifers, among which I recognised many old friends. The deciduous plants, Maples, Magnolias, Azaleas, &c., were only so many sticks at present. I saw, and have seen, with one exception, and that in a private garden, but few Abies. To the other nurseries I have only paid one visit each so far; they are very small places, containing usually mere trained, or rather deformed plants, in large porcelain jars than anything else. The plants most usually thus treated are Cherries, Plums, Retinosporas, and Pines. The first two named have often a very old stump several inches in diameter, and from 1 to 2 feet high, from which several young shoots, now clothed with buds, have been allowed to spring. The last two are dwarfed round specimens. Plant combinations, all growing, are also occasionally indulged in. Thus a small Cryptomeria, two or three shoots of Bamboo, and a sprig of Nandina domestica, now bearing its red seeds, may all be seen growing in a small jar. These combinations are a particular study, and I have purchased a book showing many such, and which I will send home when I leave Japan. Another plant much used for dwarfing is Podocarpus macrophyllus. A frequent sight is a specimen with a stem 2 to 2½ inches in diameter, and a perfectly formed pyramidal head some 18 inches high. A very common plant in the nurseries is Nandina domestica, now profusely bearing last season's red seeds; it sometimes grows from 6 to 7 feet high. A larger leaved variety, with pure white seeds, is also common, but its leaves lack the bronzy tinge of the true domestica.

Daphne odora is now splendidly in flower, compact oval bushes, 3 to 4 feet high, and as much through; in some instances they are covered with the reddish-white powerfully-scented blossoms, the white being also frequently represented. This plant is to be seen in the gardens of most private residences.

I have seen two fine trees of Magnolia Halleana one nearly 30 feet high, with a large round, evenly-shaped head, the tip of nearly every shoot—many hundreds in number—bearing a bud just emerging from the hirsute calyx. As these blossoms will all be open with not a leaf on the tree, it will be a remarkable sight. I came across the tree one afternoon on an embankment in a hedge bounding a private place on the very outskirts of the town, and have noted the place to return and see this tree in flower.

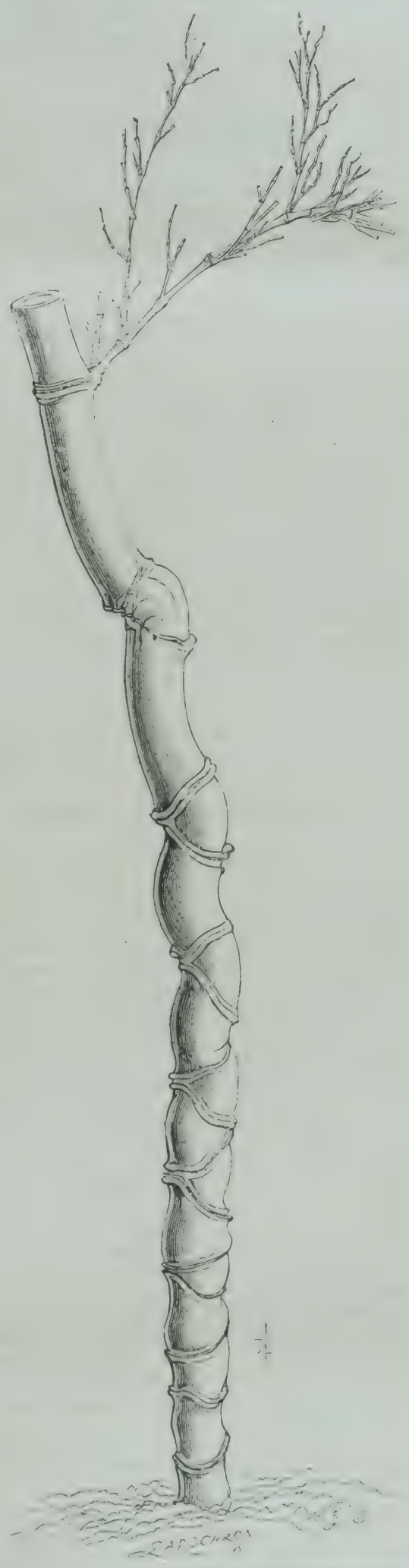

Fig. 56.—Artificially-distorted Bamboo, now in cultivation at Combe Wood.

One of the best private gardens in or near Yokohama belongs to a great silk merchant, by name Nozawaya. This garden is only thrown open to the public twice a year, but I managed to get in, and was well repaid. It is a large place, full of little hills, little forests, a little river, very little summer-houses, little paths, all covered with mats, about 2 feet wide, which wind round the little hills, and by little bridges over the little river. The whole big garden is little, and most curious; one cannot help smiling in going round. In this garden are clumps of Cherries, on short stems; from a little hill you look down on them, whilst a few yards' walk places you beneath them. A path with a Bamboo fence, 1½ feet high, runs round the clump, and leads to another little hill, covered with Pines, 2 to 3 feet high. Clumps of an Abies, which on examination I took to be firma (bifida), are opposite some Bamboos; whilst Retinospora, and some really fine trees (some 50 to 60 feet high) of Cryptomeria japonica were well represented—the only thing large in the garden (for I was a foot higher than anyone in the place). Here I saw many clumps of the yellow-edged Bamboo, the only place in which I have seen it so far; it here possesses the same peculiar characteristic as with us. This garden was very curious, but I believe that of the Prince at Tokio is still more so. To see this I shall require the Ministers' assistance. *James H. Veitch.*

(To be continued.)

VEGETABLES.

SEAKALE.

It is at this time of the year that the principal points of culture demand attention. Seakale, it may be safely said, is one of the most valuable winter vegetables, requiring but little care and trouble at that season of the year to produce fine heads when good stout and well-matured crowns are to be had, and to secure these no time should now be lost in getting the sets planted. Good strong and thoroughly enriched soil, fully exposed to the sun, and broken up to a fair depth, is one of the most important items to be considered; and if this is properly done, young pieces of the roots without eyes should be cut up in lengths of from 4 to 5 inches, dropping them into holes a couple of inches below the surface. These holes should be made with a dibber, in rows about 14 inches apart, always filling up with fine soil or coal-ashes. This plan I have found to answer the best, when the roots are intended for lifting and forcing; but for forcing under pots, they should be planted in clumps, according to the size of the pot. The beds should be gone over at intervals, and all the buds removed from each set, with the exception of one to form the crown for forcing; the beds should be kept free from weeds, and in very dry weather they should be thoroughly soaked with manure water. With such management extra fine plants may be had to force next autumn. In cold parts the pieces may be put thickly in boxes, and brought forward in a little warmth, which gives them a longer season of growth, but this is not required in the south. The roots should be tied up in bundles when lifting them up for forcing the tops, being cut straight across, and the bottom slantingly, so that there be no confusion when planting. The best and thickest should be kept to themselves, and the thinner ones for stock-raising. All those heads which have not been forced, and which are now pushing into growth, should be cut off a couple of inches under the ground, which will prevent them seeding, and then treated with regard to disbudding as above. *H. Markham.*

Chicory Witloof.

This estimable winter salad-plant has large, erect leaves, with white veins, but not indented at the edges, and the root and crown are much better formed than those of the ordinary Chicory. Sow the seeds in drills at the end of the present month, allowing 10 inches between the rows, and thin the plants to 5 inches apart. Keep the ground clean.

and water once or twice in rainy weather with manure-water. This is all the treatment required in its cultivation. In October or November select a dry and rather raised position in the garden; then open a trench about 30 inches deep by 15 inches in width, put in the bottom a thin layer of leaves or straw, and cover with 2 or 3 inches of light soil. Take the roots, cutting off the extremities of the longest, so that they should all be of about the same length. Place them in an upright position, with their heads close together, shaking in a little soil to fill up the crevices level with the crowns. Then cover the crowns with about 6 or 8 inches of sandy soil, after which cover with hot stable manure, according to quantity required. The warmth will speedily cause the roots to vegetate. By raising the manure slightly, one can see when the points begin to come through the soil. Then is the time to commence the cutting, which can be done by drawing away the soil with the hand, and cutting just below the crown. As the growth has received a certain pressure, the crown of leaves remains compacted, which gives it somewhat the appearance of the heart of a Cos Lettuce. In this manner an excellent vegetable can be obtained without much trouble or risk. It may be cooked whole and served with a sauce, or pulled to pieces and eaten raw.

The above is a French method, described in a recent number of the *Journal de la Société Regionale d'Horticulture du Nord de la France. W. E. G.*

CALIFORNIA.

Mr. W. Laing Malcolmson of Aberdeen, whose experiences as a fruit-grower in California we gave in our issue of March 11, sends us the following supplementary details:—I mentioned that I had known "many instances of men landing in California without any other capital than their own labour, and working themselves (with the aid of a wife) up to such a position as to be able, through their savings and economy, to own an orchard or a vineyard within a few years of their arrival." These instances (which I could enumerate in detail) are cases of men who had been brought up to field-work, and who within a few hours of their arrival in California could command immediate work at from £5 to £6 per month and their board; whilst, if they had a wife, she could command from £4 to £5 per month as a domestic servant. For the ordinary clerk, artisan, or mechanic, there is practically no work in California, as there are more labourers of this class in that State than there is work for.

From the correspondence I have received from those with a little money, and who, I think, would form splendid colonists, let me select a letter received a day or two ago; and in answering it, I will cover much of the ground of other inquiries which have and may be made of me. The writer says:—

1. "In what condition is the unbroken land?
2. "What can the waste land be bought for?
3. "What could land stocked with fruit trees, and bearing a fair return, be bought at?
4. "Could you advise a person (who has money) to buy a going orchard that has had no experience in fruit-growing?
5. "Would persons who have a young family and a few hundred pounds be successful settlers in California?"

I shall now answer for the benefit of your readers these questions as follows:—

1. "In what condition is the unbroken land?" The answer to this is, that generally the land in California suitable for fruit growing is level and of the richest description; no stones, shrubs, or trees; soil usually alluvial deposits, easily worked, and splendidly adapted for irrigation purposes.

2. "What can waste land be bought for?" Land suitable for fruit growing cannot be got for much less than £20 per acre, and may be as high as £50 per acre, according to situation and other facilities, although there might not be probably much difference in the quality of the land itself.

3. "What could land stocked with fruit trees, and bearing a fair return, be bought at?" This depends on the position of the property, its improvements, and its age; also the class of orchard. Orange groves bearing a net annual return of £200 per acre would, in proportion, be more than a young orchard or vineyard only a few years old; this question is difficult to answer.

4. "Could you advise a person to buy a going orchard that has had no experience of fruit growing?" Hundreds come out to California who have money, and rather than wait until an orchard comes into bearing, purchase an orchard or vineyard right out, and derive a handsome return from their investment. It is not necessary to have any experience in fruit-growing, as experienced help or assistance can be easily procured.

5. "Would persons who have a young family and a few hundred pounds be successful settlers in California?" There is only one answer to this. Most decidedly, yes.

I should like to mention also that I know of a property in California, situated in, perhaps, the best position of the State, known as Chino. The owner of this property, Mr. Richard Gird, has had lately erected on his property—which extends to some 55,000 acres—one of the largest sugar beet factories in the world. The settler on this property can, after he has planted his orchard, utilise the space between his trees for Beet growing, so that he can commence earning a return from his orchard, say, £6 to £8 per acre, within six months from his taking up the land, and this advantage cannot be attained in any other portion of California.

Mr. Malcolmson's address is 102, Union Grove, Aberdeen, and he will be happy to answer all enquiries addressed to him regarding California.

The Week's Work.

PLANTS UNDER GLASS.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

STOVE FLOWERING PLANTS.—Plants of Allamandas, Clerodendrons, Ixoras, Rondeletias, &c., that are required for flowering during the autumn months, and have been kept back for that purpose, should now be pruned in, repotted, and started into growth. Those that were started in January for early summer flowering are now growing apace, and will require vigorous treatment to bring them to condition at that time. Pay careful attention to the watering of specimen plants when they require it, and give thorough soakings of well-diluted liquid-manure. Keep up a brisk temperature of from 65° to 85°, and syringe twice daily. Stephanotis, Gardenias, Posoquerias, and Pergularias, that are growing freely, will take good waterings of weak liquid-manure and frequent syringings during bright weather, also a little shade from bright sunshine, but not very much till the days are longer. Rondeletias, Clerodendrons, Allamandas, and Bougainvilleas will do best placed in a situation where they will get plenty of air and light to make them strong. Attend to the training of these, but do not tie them down too soon; it is better done when the growth is a little matured.

Aphelandra cristata should now be pruned in, and started to grow. Strike cuttings, if required, in bottom-heat, and repot old plants in good loam, peat, and sand.

Clerodendron fallax and *C. fragrans pleniflorum* may now be cut back, and started afresh. The latter variety is worth growing for its delicious perfume. For soil, use peat and loam, with a little rich manure. Water well when growing, and place in the lighest part of the stove.

The Honey Plant, Hoya carnosa, and the smaller growing varieties of Hoyas, will want attention. H. carnosa will grow and flower for many years in a large pot, trained to a wire trellis, or planted in a border, and trained to the roof of stove, or against a wall. They like plenty of heat and light, a good rough open soil of peat, loam, and sand, with broken slate and charcoal, and good drainage, not much water during the winter, but a plentiful supply during the summer. The smaller varieties, H. bella and H. Paxtoni, are suitable for smaller pots or baskets.

Hibiscus.—The double and single varieties are worth growing in 6 and 8-inch pots to place about for decorative purposes. Cut back old plants, let them break, then shake out the old soil and repot into loam, leaf mould, peat, and sand. Also strike cuttings in peat and sand.

Pancratiums are among the most useful of stove-flowering plants for decorative or cutting purposes. They like a large well-drained pot, good loam, leaf mould, and plenty of sand; they will grow for many years in the same pot with good top-dressings. They like abundance of heat when growing, but when in flower they will stand for a long time in a cool house or room.

Passion-Flowers.—Where there is available space, the stove varieties of these should always find a place. They require plenty of room both for roots and branches, and grow well in a light rich soil of peat, loam, and sand, with good drainage. The shoots should not be allowed to become too crowded on the plants. The following are good varieties—P. amabilis, P. Buonopartea, P. edulis, P. princeps, and P. quadrangularis.

Thyrsacanthus rutilans.—This is a very useful plant, grown in 4 or 5-inch pots, for table or house decoration. It should be grown in leaf-mould, turfy loam, sand, and a good portion of broken crocks, shells, and small charcoal, with careful attention to drainage and top-dressing. It will grow for several years in a small pot, and is easily increased by cuttings.

Vinca rosea and V. r. alba.—These grow well in turfy loam and leaf-mould, some dry cow-dung, and plenty of sand. Prune and repot old plants that require it. Cuttings taken from the young shoots will strike well at the present time, and soon make good plants. They are all very showy, free-flowering plants, and easy to cultivate.

FRUITS UNDER GLASS.

By M. Temple, *Gardener, Carron House, Stirlingshire.*

VINES.—Those which are intended for early crop must have careful attention in regard to watering inside borders, and those outside should be kept covered by boards, tiles, or thatch, to throw off rain. If red-spider should appear, sponge the affected foliage with a weak solution of Gishurst Compound, keeping the bunches free from touch from the liquid. The foliage must not be crowded, and stop young growths before they are large enough to cause a check by removal—this is one of the reasons for shanking. When colouring begins, give air freely, with a gentle heat in the pipes, but much front air must be avoided during cold winds. Muscats and other shy setters should have extra warmth and rather dry air until they are set; shake the bunches or touch the pistil with a camel's-hair brush at mid-day, to circulate the pollen. A little ventilation during warm nights will aid setting; a heat of 75° by fire, with 10° increase with sun, need not be exceeded. Examine the late crops, and remove all shoots not required, but see that enough bunches are left; those nearest the rods are generally the most compact and best formed, but not always so large as those further from the Vine. To ensure a crop upon shy-fruiting varieties, well-selected shoots, made from each side of the Vine, about 4 feet apart, may be trained out to supply fruit next year. This is more certain than the long-spur system, and not so unsightly. All surfaces not cleared and renewed with fresh soil should have prompt attention, without disturbing the roots. Do not exceed 70° with fire.

ORCHARD-HOUSE.—Care is very necessary at this season with trees in pots. Apricots will be set, or setting, and they require much air, but cold, frosty winds must be avoided. Peaches, Cherries, Pears, and Plums, coming into flower, must not be unduly excited, and watering should be done by judicious hands. The atmosphere may be kept rather dry till the fruits are set, and give the shoots a gentle tap in the middle of the day to assist in the distribution of the pollen. If aphis appear, dust with tobacco-powder; but where trees are not in flower, they may be fumigated with tobacco, or tobacco-paper, which should be continued the following day. Use no liquid manure until the fruits are set, and do not allow the temperature to rise above 55° in absence of sunheat.

FIGS.—Trees in a growing and fruiting condition require much water, and to those in pots liquid manure may be given at every alternate watering. Syringing may be freely done when shutting up on warm afternoons, and the water used should be of the same temperature as the house, which may run from 60° to 70° without sun. Stop shoots at fourth leaf; on the long-shoot system enough young wood may be

trained-in for future supplies of fruit. Crowding means failure. Trees for late crops should move slowly; fluctuation of temperature is apt to cause the fruit to drop.

THE ORCHID HOUSES.

By W. Holmes, *Gardener, Pickering Lodge, Timperley.*

GENERAL REMARKS.—The mild weather we have had during the last two months or so has been all that an Orchid-grower could desire. With the absence of cold winds more or less air has been admitted both night and day. This has kept them sweet and free from the evils arising from stagnant atmosphere. Our bottom ventilators are seldom closed, unless it be a few hours in the early morning, when the night has been colder than was expected when banking up the fires. Any Dendrobium required to flower in May must still be kept in a cool, airy, and shady house at about 50°, but the bright sun we are now having will make it more difficult to keep them back. Do not let them suffer for want of water, or the buds will not be fine. Cattleya labiata vera and C. Bowringiana having been carefully rested as advised in previous Calendars, will now be starting into new growth. Keep a good look-out at night for snails, woodlice, and cockroaches, as they are very destructive to the tips of the roots, when they make their appearance from the base of last year's pseudobulbs. Give more water both at the root and in the atmosphere, also a few degrees higher temperature. Any Cattleya Trianæ, or C. Percivaliana, which have finished flowering, and need potting or top-dressing, should be treated at once, and as they are now swelling their new growth, a little more water will be required to keep them from shrivelling. Odontoglossum Roezlii and O. Phalænopsis, having been wintered as advised, will now be flowering freely, and must not be neglected. They may be syringed twice a day, and given plenty of water at the root. This will tend to keep down thrips and green-fly. O. Phalænopsis, having been grown in the stove during the winter months, should now be taken back to the intermediate-house, where it will flower freely. Water and syringe Miltonia vexillaria freely once or twice a day, according to the weather, well damping the stages, paths, &c. Ada aurantiaca should be coming nicely into flower by this date, if it is in a healthy condition, and has received proper treatment. This is a grand Orchid to arrange in a house with Odontoglossum crispum, Masdevallia Veitchii and M. ignea, O. Pescatorei, &c. Lælia anceps and Cœlogyne cristata, having finished flowering, they must now receive a good supply of water at the roots and in the atmosphere. Where these Cœlogynes are grown in quantity for cut flowers, the variety C. cristata Trentham and C. c. alba should be grown. C. cristata has finished flowering three weeks ago, but the varieties Trentham and alba are just at their best, and will be good for cutting until Easter. Any Cœlogynes that need potting or breaking up to increase the stock may be treated now. A good compost for potting is peat, loam, sphagnum moss, broken crocks, and silver sand. The Lælia anceps are making new roots fast, and must be well looked after, that they are not eaten off. L. anceps, L. autumnalis, L. albida will all take copious supplies of water, after being kept quite dry during winter. We have just potted our Thunias Bensoniæ and Marshalliana in compost of equal parts peat, loam, and moss, with a good sprinkling of broken crocks and silver-sand well mixed, filling the pots three-parts full of clean crocks, and making each bulb secure. They have been started into growth about a month, and have made growth an inch or so long, with new roots, which take to the new compost at once, and soon fill the pots. We used 10-inch pots, placing ten plants in each.

THE FLOWER GARDEN.

By T. H. Crasp, *Gardener, Canford Manor, Wimborne.*

GENERAL WORK.—All shrubberies should now receive a good hoeing, removing any dead branches that have been killed by the frost, and if the work of cutting back and thinning has been neglected till this date, the work should be brought to a speedy completion. In trimming the edgings of turf, be careful not to cut the beds or walks out of shape, nor to reduce the surface of the turf. Place the line along the margin, beat the edge out if it requires it, and then cut off any part which is out of proper bounds. Where the edging has been unduly cut along gravel paths, the earthy margin may be taken away, and a quantity of gas-lime strewn along, and the gravel made firm over it, thus causing worms and weeds to be less troublesome. The regravelling of walks should be finished as early as possible. In the case of old gravel paths that are weedy and mossy, they should have a good sprinkling of waste salt, and if applied during fine sunny weather at this season of the year it cleanses them, and brings into prominence the colour of the gravel, beside killing many seedling weeds now about to become visible. All lawns should have a thorough good rolling and sweeping preparatory to the use of the scythe or mowing machine. The preparation of beds for Stocks, Asters, Dahlias, and other summer flowers that require good rich soil, should now be done. It is not advisable to use much, if any, manure in the beds that are to be occupied by Pelargoniums, unless dug in very deep, so as to be out of the reach of the roots until later in the summer, when the plants are properly established. The florist-seedling varieties of Gladioli should now be planted about 3 inches deep, and unless the soil is of a dry sandy nature, drop a little sand in the bottom of the holes, as excessive moisture after being kept dry so long is apt to cause them to rot. If very late blooms are required, plant them in shallow boxes of rich soil, and keep them in a cool shady situation for a time.

HERBACEOUS PHLOXES, ASTERS, ETC.—These plants are forming strong young growths abundantly, and it is a good plan to thin them out, leaving the strongest for flowering. The cuttings taken off, if dibbled into pots of sandy soil, and placed under glass slightly shaded, will root very readily, and make useful plants for the border or wherever required next autumn or spring. All hardy plants that have been wintered in pots should be planted without delay, and if the ordinary soil is not rich enough for any particular plant, make holes, and fill in with good soil suitable to the plant. The plants may be arranged in groups of three or five, and should be placed about 1 foot apart, according to their growth and strength. The best way to plant such plants as Canterbury Bells, Aquilegias, &c., is to put them singly into the border at intervals, as they then have greater effect than when in groups. All bulbs of Hyacinths, Tulips, Narcissi, that have been forced may be planted in spare places. They will come in useful next season to brighten up odd corners, as well as for cut-flower purposes. The forced clumps of the old, beautiful, and very useful Dielytra spectabilis, if gradually hardened-off, and planted in good rich moist soil, will make strong clumps for forcing in about two years hence.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maiden Erlegh, Reading.*

AMERICAN BLIGHT.—Trees which have been infested with this troublesome pest should be carefully examined, and where there are any signs of its reappearing, advantage should be taken of every opportunity before the trees come into bloom to kill the same. We have found the "Stott Patent Syringe" of much use in this matter, as a number of trees can be gone over in a short time. To do the same with a painter's brush took so long that at this busy season the matter too often was neglected, and so the pest got established again early in the season. Any favourite remedy, as "Killmright," and Bentley's Insecticide, or Gishurst Compound, with which is used a wineglassful of petroleum to every 3 galls. of the mixture, can be used, and it should be kept well mixed together as directed in former Calendars. For the benefit of those not acquainted with the above syringe, I may state that it is provided with a nozzle with which any part of a branch can be got at, and it can be used with such force as to dislodge any insects. If sufficient courage could be commanded to destroy any young tree or trees bought in from nurseries directly the above blight is observed, and procure the desired kind or kinds from another source, it would save much after trouble, and would result in the possession of more healthy trees.

GENERAL REMARKS.—In dry weather, keep the hoe well at work among Strawberries, this being important, as the time is now approaching for placing litter amongst them, before which the ground ought to be quite free from weeds. All late-planted fruit trees, including Raspberries, should now be pruned, and afterwards staked and mulched. The best mulching is spent hot-bed manure, that portion procured from the middle of the bed which has not become too much rotted. Push on with grafting, as directed in former Calendar, as quickly as possible, as the season being exceptionally early, the sooner it is finished the better, thus affording a longer season for the scions to mature their growth.

THE KITCHEN GARDEN.

By H. C. Prinsep, *Gardener, Buxted Park, Uckfield.*

GENERAL WORK.—No better weather could be had for getting on with the work than that experienced during March in this district. The sun's heat, together with the accompanying drying winds, have reduced the soil into good working condition, so that it will not be difficult to sow any kind of seeds still remaining unsown. Advantage should be taken of such weather to run the hoe through all growing crops, to keep down weeds. Where any digging remains to be done, push forward with the work without delay. Cabbage that was planted in the autumn will be greatly benefited by a dressing of nitrate of soda between the rows.

ONIONS.—Where those sown in the autumn still remain in the seed-bed, they should be thinned. Such varieties as The Queen should be allowed to stand 4 inches apart. We find this one of the best for sowing in the autumn, as it turns in quickly, being ready for use long before any other kind. The thinnings may be transplanted, if required, as they will give a succession. Those that were sown in heat, and have been growing in hot-beds, may be transferred to the open ground, for it is better that they should be transplanted before they have grown too large, especially if the weather be showery. The distance allowed between these must greatly depend on the variety, and the purpose for which they are intended.

SMALL SEEDS.—Brussels Sprouts, Savoys, and Borecole — make a sowing of these in the open ground. Here, we seldom sow such things before the first week in April, except for the purpose of getting a few early plants. For if the ground be well tilled and the plants properly attended to, Sprouts from the April-sowing will be ready when required. We prefer sowing the seed thinly in drills about 6 inches apart, as by this means a hoe can be run between the rows to keep down the weeds. This also prevents any necessity for pricking off the plants; for if overcrowded, they become weakly, and seldom give satisfaction. Large Sprouts are not desirable unless for special purposes, therefore, compact growth should be the aim.

LETTUCE.—Those that were raised in hot-beds may now be planted out, choosing a dull showery day for the purpose, if possible. If not, the work should be done towards evening, so that the plants do not flag before being watered. In lifting them, preserve all the roots possible, for it will save much time if they are taken with a ball containing the fibrous roots. It is much the best plan to plant such things with a trowel on heavy land, for a dibber presses the sides of the hole, so that the tender roots cannot penetrate the soil.

BROAD BEANS.—This is not a vegetable in general demand for gentlemen's tables, so that only those of the best colour and finest flavour should be grown for that end, and as the Green Windsor possesses both these qualities, it is the most suitable. For a succession it is as well to make another sowing as the former one appears above the soil.

GLOBE ARTICHOKES.—Plants in pots that have been protected in frames may now be planted out. If planted singly, 3 feet apart each way should be allowed, but if in clumps of three, 4 feet between the clumps will not be found too great, as they will make rapid growth if the ground be in good heart.

SHALLOTS.—The soil should be removed from round these to the base of the bulbs, and if the ground be at all heavy, give a slight sprinkling of sulphate of ammonia between the rows. But if the land be light, and contain a quantity of lime, then nitrate of soda should be given in preference. Do not let either of these stimulants come in contact with the foliage, or they will burn it. Garlic may be treated similarly.

LEEKS that were started in pans or on hot-beds should be transplanted when large enough. In order to get good bulbs early, it is necessary to bring the plants forward by artificial means; but should they be subjected to a severe check, they will run to seed.

EDITORIAL NOTICES.

Letters for Publication.—*All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for contributions, or to return unused communications, or illustrations, unless by special arrangement.*

Plants, &c., to be Named.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be carefully packed and numbered, and not more than six should be sent at one time.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Illustrations.—*Photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c., are particularly solicited; but the Editor cannot be responsible for loss or injury.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Advertisements should be sent to the PUBLISHER.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

THURSDAY, April 6—Linnean Society.
FRIDAY, April 7—Dundee Horticultural Association.
SATURDAY, April 8—Royal Botanic Society.

SHOWS.

WEDNESDAY, April 5 { Royal Caledonian Horticultural (two days). Birmingham Spring Flower Show (two days).

SALES.

THURSDAY, April 6 { Plants, Roses, and Hardy Bulbs at Protheroe & Morris' Rooms.
FRIDAY, April 7 { Imported Orchids at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—44°.8.

Horticultural Examinations.

We are requested to publish the following letter relating to the examinations proposed to be held by the Royal Horticultural Society in May next. Presumably, the examinations will be conducted on the same general lines as were followed last year, when the examiners were informed before setting their questions as to what opportunities had been afforded to the candidates to gain the desired information. For the most part, the candidates had only attended the very short courses of practical lectures and demonstrations given by the instructors appointed by the several County Councils. The information given by these gentlemen was for the most part strictly practical. Considering the circumstances of the case, and the tentative character of the whole matter, no other course was open, and probably it will be found that this year the conditions have not greatly altered. The scheme by no means fulfils the ideal, but it is the only one that can be adopted at present. An ideal scheme cannot be translated into practice forthwith. It must grow, or in the language of the day, it must be evolved. Practical instruction is indeed necessary, and for the class of men who attend these lectures, considering the very limited time at their disposal and the special requirements of the case, it is difficult, if not impossible, to devise a better method. Nevertheless, the one great requisite in modern horticulture is a better understanding of general principles and their application to practice. Practical horticulture can only be learnt in the garden, but there under present conditions routine only can be taught. No doubt, a very high degree of proficiency is attained, but if it be not leavened with intelligence and knowledge of principles, progress and adaptation to new circumstances can hardly be expected. We do not want our young men merely to be as good as their fathers, we want them to be better, or in any case better equipped to meet the altered circumstances of the time than their predecessors could possibly be. An examination such as now proposed cannot make a gardener, nor can success in it be taken as evidence that the examinee is a competent gardener. All that it can do is to indicate broadly what are the most important subjects to be studied and to afford some guarantee of intelligence, some evidence that the pupil has profited by what he has heard and read, and some reasonable forecast that he is on the right road to become a well-trained and intelligent gardener.

"Royal Horticultural Society,
"117, Victoria Street, S.W.
"March 23, 1893.

"I trust that the importance of the subject may be my excuse for troubling you. Our Society, in compliance with numerous requests from county councils, directors of technical institutes, lecturers, and others, is going to hold an examination in the elementary principles, and in the practice of horticulture. The date fixed for the examination is Thursday, May 4.

"Being anxious that everyone in the United Kingdom who desires to sit for such examination, may have the opportunity of so doing without unreasonable difficulty, we are prepared to institute such examination in any village or town in the kingdom where any magistrate, or clergyman, or schoolmaster, or other responsible person accustomed to the conduct of examinations will undertake to act as our representative, and see that our rules are strictly observed, and that no copying or consulting of books, &c., takes place. Anyone, therefore, wishing to sit for such examination can do so close to his own house, if he will, by the end of the first week in April, put me in communication with any such responsible person who is willing to act as our supervisor of the examination. Obviously, we must leave this part of the work to the candidates themselves, as we cannot know the names of suitable and willing persons in every village and town in the country.

"Three scholarships of £26 a year, tenable for two years, are offered in connection with the examination; and I am already in correspondence with a very large number of persons in all parts of the country with reference to it.

"A fee of 3*s*., payable in advance, will be charged to all persons entering for the examination, and all letters on the subject requiring an answer, should contain a stamped and directed envelope. I need hardly say that the fee of 3*s*. will not nearly cover the necessary expense of the examination, which will, therefore, entail considerable loss on the Society's general funds, but the council are of opinion that by putting the fee as low as possible they are promoting the best interests of horticulture, and they trust that their action will commend itself to all lovers of gardens. The entrance fee should in all cases be sent to me before the date of examination. *W. Wilks, Secretary, Royal Horticultural Society.*"

The Linnean Society of London.—An evening meeting will be held on Thursday, April 6, at 8 p.m., when the following papers will be read:—1. "On a Collection of Plants from the Region of Lhassa, made by Surg.-Capt. W. G. Thorold in 1891; and a further collection from the Kuen-Lun Plains, made by Capt. H. P. Picot in 1892," by W. Botting Hemsley, F.R.S. 2. "Subterranean Crustacea of New Zealand," by Chas. Chilton, F.L.S. 3. "Various Marine Animals, mounted as transparent Lantern Slides," exhibited and described by Dr. H. C. Sorby, F.R.S.

Tadcaster Paxton Society.—On March 23 the members held their first annual meeting, for the election of officers and for hearing the first report. Although in its infancy, there are already fifty-seven members, and the Society is doing some useful work. During the year thirty-seven papers have been read, the greater part of which have dealt with practical horticulture. An illustrated lecture by Mr. Callum, B.A., on "Chemistry of Soils," was greatly appreciated.

Gardening and Forestry Exhibition at Earls' Court.—The following are the dates of the flower shows to be held in connection with the above exhibition:—May 13, opening day, special flower show; May 18 and 19, Orchids, &c.; June 28, early Rose show, &c.; July 12, late Rose show, &c.; July 26 and 27, Begonias, Carnations, Picotees, &c.; August 9 and 10, flowering and foliage plants, &c.; August 23 and 24, Gladioli, Dahlias, &c.; September 13 and 14, autumn flowers, &c.; September 27, 28, and 29, great show of hardy fruit, &c. In order to encourage high class culture in plants, flowers, fruits, &c., a limited number of valuable Gold Medals will be awarded to exhibits deemed so worthy by the judges appointed to adjudicate on their merits. It is not necessary that such exhibits be displayed at the competitive shows; they may be arranged at intermediate dates.

Scent of Orchids.—In the *Comptes Rendus de l'Académie des Sciences* for March 6, there is a paper by M. Eugène Mesnard on the "Perfume of Orchids," detailing the results of experiments made in the botanical laboratory of the Sorbonne. The author sums up his notes in these terms:—"The flowers of scented Orchids have no peculiar anatomical structure, rendering them markedly different from other flowers which emit perfume. The essence is usually found in the epidermal-cells of the inner-surface of the petals or sepals. Nevertheless, in flowers which contain in their cells a sufficiently large quantity of fatty oil and vegetable-sugar, there is also perfume essence in the cells of the outer-surface of the same parts. If the relative importance of the cellular contents, and the larger or smaller proportion of tannin compounds in the flowers of Orchids be remembered, this will explain some of the remarkable peculiarities discovered in the mode of production of the perfume, such as the modifications in the intensity, and even in the character of the perfume at different periods of the day, principally in the morning and evening."

The Floods in Queensland.—The *Daily Graphic* of March 29, has an illustration, showing a large steamer stranded in the Botanic Garden at Brisbane, and the Bunya-Bunya trees (Araucaria Bidwillii).

Beckenham Horticultural Society.—The Committee of this excellent suburban society having arranged for a course of six lectures, to be given to the members at the Public Hall, the two first were given by Mr. A. Dean, of Kingston, on March 17, on "The Potato;" and on the 24th on "The Tomato." At the first lecture the Rector of Beckenham presided, and at the second Dr. Kirby. This latter gentleman challenged all present to indicate a longer knowledge with the Tomato than he possessed, having met with it in great abundance forty-five years ago in Corfu, although then the samples were poor indeed as compared with the splendid fruits found to-day. The lecturer covered wide ground in connection with the Tomato, referring to its gradual development in quality, its popularity as a food product, its encouragement at exhibitions, though strongly advocating that prizes be given for clusters of fruits rather than for a few large fruits, which

were not so useful, or indicative of cropping qualities, as were good clusters. Very cordial votes of thanks were given at the close of each lecture. Some capitally-flowered Amaryllis were exhibited by Mr. Beck, gr. to Mr. W. Stevens. Very beautiful cut Tea Roses, The Bride, Catherine Mermet, Annie Hoste, &c., were shown by Mr. Crosswell, gr. to Mr. W. H. Bullivant; and a bunch of the charming Staphylea colchica came from Mr. Webster, gr. to Dr. Kirby. Other subjects of lectures are "Bees and Bee-keeping," "Violets," "Chrysanthemums," the latter by Mr. H. J. Jones. The attendances are large, and much interest is taken in the lectures.

THE NATIVE BIRDS OF NEW ZEALAND.—At a recent meeting of the Royal Geographical Society, the Council announced that they had passed the following resolutions relative to the protection of native birds in New Zealand: "The Council of this Society have learnt with great satisfaction the steps that were proposed to be taken by the Earl of ONSLOW, when Governor of New Zealand, and by the Houses of General Assembly, for the preservation of the native birds of New Zealand, by reserving certain small islands suitable for the purpose, and by affording the birds special protection on these islands. The Council much regret to hear that difficulties have been encountered in carrying out this plan as regards one of these islands (Little Barrier Island), and trust that the Government of New Zealand may be induced to take the necessary steps to overcome these difficulties, and to carry out this excellent scheme in its entirety. The Council venture to suggest that besides the native birds to be protected in these reserves, shelter should also be afforded to the remarkable Saurian, the Tuatera Lizard (Sphenodon punctatus), which is at present restricted to some small islands on the north coast of New Zealand, in the Bay of Plenty." It will be remembered by our readers that a brief description of Barrier Island from the pen of Mr. HUGH BOSCAWEN was given in a recent number.

BANGALORE.—From the official report on the government botanical gardens and parks of Mysore, we learn that Mr. JOHN HORNE STEPHEN has been appointed curator of the garden. With a view to the supply of practical gardeners, a course of training has been laid down and scholarships instituted. The following is the syllabus of practical work to be taught to the apprentice-gardeners during a three years' course of training in the botanical gardens:—*First year.*—Two apprentices in flower garden for four months—culture of flowers; Two apprentices in fruit garden for four months—culture of fruits; Two apprentices in vegetable garden for four months—culture of vegetables. The boys will alternate in pairs from one department to the other, and thus complete their course for the whole year. *Second year.*—Two apprentices in the propagating and potting department for four months; Two apprentices in Rose garden and attending to florists' flowers in pots, four months; Two apprentices in fernery, and attending to fine foliage and bulbous plants in pots, four months. *Third year.*—Two apprentices engaged in rotation of crops and season for cropping, &c., four months; Two apprentices in cultivation of special crops, such as cotton, tobacco, coffee, &c., four months; Two apprentices in collecting, storing, and preserving seeds. Also taking final lessons in tree planting, artistic gardening, and making up bouquets, &c.

CŒLOGYNE SANDERÆ.—A correction. By an oversight, the beautiful Orchid figured at p. 361,

FIG. 57.—VIEW OF BARN ELMS, BARNES, SURREY. (SEE P. 392.)

fig. 52, was called in the legend beneath the cut C. Sanderiana, though in the text, p. 360, the name was rightly spelt Sanderæ. It is most unfortunate that there should be two different plants of the same genus with names so nearly alike. C. Sanderiana was described in the *Gardeners' Chronicle*, June 11, 1887, by Prof. Reichenbach. C. Sanderæ was published by Dr. Kränzlin in the last number of *Reichenbachia*, t. 56, which had not reached us when our woodcut was published, or we should of course have mentioned the name of the author. Objection also is properly taken to the description "deep purple," as applied to the lip in the legend, and to the use of the word "maroon" in the context. Rolfe, in *Reichenbachia*, *l. c.*, says, "disc of the lip deep orange in front, much paler behind, and with three parallel keels, covered with long dark hairs." Mr. Moon's drawing shows their colour to be brownish-crimson. Others say, the hairs are simply brown. In any case, deep purple is incorrect.

Hartlepools Gardeners' Society.—This Society has been recently established to promote a better knowledge of horticulture among the gardeners of the district, by means of mutual help. The first essay was one on "The Potato," by Mr. J. Wood; then Mr. S. A. Taylor, gr. to Mr. C. Brown, Woodlands, gave an essay upon the Vine, entitled "Extention *v.* Restriction," the lecturer favouring the extension system. The last lecture was one upon "The Fuchsia," by Mr. J. Hall, gr. to Alderman Pyman, The Willows.

Lee, Blackheath, and Lewisham Horticultural Society. — The last of the winter evenings in connection with the Lee, Blackheath, and Lewisham Horticultural Society, was held at the Institute, Lee, on Friday evening last, there being a good attendance to hear a paper entitled, "Begonias and their Culture," by Mr. J. Laing, which, through the illness of that gentleman, was read by Mr. Hunt, his Begonia grower, who answered any questions that arose in debate. The chairman, at the close of the proceedings, complimented the Society upon having had better attendances and discussions during the last six months, and he hoped to see even better results next season. Mr. Judge, gardener to J. C. Geiselbrecht, Esq., of Eltham Road, Lee, was awarded a First-class Certificate for a magnificent seedling Cliveia, Beechdale; the two trusses contained seventy-six blooms of a deep orange tint.

Testimonial to Mr. Robert Smith.—To commemorate the appointment of Mr. Smith, late head gardener at Kenward, Yalding, in Kent, to the position of horticultural lecturer to the county of Salop, he has been presented by his numerous Kentish friends with a handsome dressing-case, and other articles. This testimonial, too, is intended to exhibit the appreciation shown by the supporters of cottage gardeners' societies of Mr. Smith's valuable labours in their popularisation and extension.

Devon and Exeter Gardeners' Association.—At the usual fortnightly meeting of the Association, held on the 21st ult., a paper on "Roses" was read by Mr. W. Connett, Rose grower to the Messrs. Veitch at the Exeter Nurseries. Mr. Connett's paper dealt with the subject in an efficient and exhaustive manner, and gave rise to considerable discussion as to the best time to prune, and many cultural details.

Natural Grafting of Rhubarb Leaves.—Mr. T. Brown, of Carlisle, has sent us a very singular instance of the adhesion of the blades of two Rhubarb leaves from opposite sides of the stock, the two leaf-stalks being separate, so that the section of the leaf might be thus represented λ. Although the two petioles are perfectly separate, the blade is quite simple, and presents no trace of its dual origin.

Royal Visit to the Quinquennial Exposition at Ghent.—The Administrative Council of the Société Royale d'Agriculture et de Botanique of Ghent have received official intimation that the royal visit to the Exposition will be paid on Tuesday, April 18, next.

Mr. Moon.—We are sorry to announce a serious misfortune which has befallen this well-known floral artist. Some pictures of his, on their way to the Royal Academy, were swept off the platform by a passing express train, and were of course destroyed.

Procession in Brussels symbolising Agriculture and Horticulture.—The Belgian capital has organised for the Fêtes Nationales, to be held in July, a procession of eleven cars of costume groups and musicians. The arrangement of the cars will be designed by special commissions, and submitted for the approval of the Commission of the Fêtes Nationales. The procession should prove an exceedingly interesting one.

BARN ELMS, BARNES, SURREY.

The Manor of Barn Elms was given by Athelstane (925–940) to the canons of St. Paul's, and has been held by them ever since, with the exception of its temporary alienation in the time of Cromwell. The name, according to Lysons, is the Saxon *berne*, a barn, and it has been suggested the canons may have had a *spicarium*, or great barn, here, but others think that barn was the patronymic of a family or tribe, as in Barnsbury, &c., and no doubt the parish of Barnes takes its name from the same origin.

In the taxation of Pope Nicholas, about 1291, the manor was valued as the property of the canons at £12. In the reign of Edward II., the canons obtained from the king a charter of free warren, and an exemption of the burthensome charge of purveyance.

From the Patent Rolls of the tenth year of Henry IV. (1409), it appears that the Archbishop of Canterbury was entitled to a sparrow-hawk (espervirium), or 2*s.* in money annually, and also £2 every twentieth year, for ever, from the lords of the manor of Barnes, belonging to the canons of St. Paul's, that they might be excused from serving from the office of reeve in his manor of Wimbledon. Barn Elms, like most estates belonging to ecclesiastical bodies, has been generally let on lease for long terms.

In the fifteenth century, the manor was again leased to laymen, for in 1467 (temp. Edward IV.) Sir John Saye and others were lessees of the manor, which they held with the advowson, and presented to the living in that year, and again in 1471 and 1477.

In 1579 it was held by Richard Martin, Alderman of London; in the same year he sold his interest to Queen Elizabeth, who bought it for Sir Francis Walsingham and his heirs for ever, as a reward for good services rendered to the Crown. Sir Francis entertained the Queen in 1585, 1588, and 1589. On the last of these visits Lord Talbot, who was appointed to attend the Queen at Barn Elms, wrote to his father, the Earl of Shrewsbury, May 26, 1589, as follows:—

"This day Her Majestie goeth to Barn Elms, where she is] purposed to tarry all day to-morrow, being Tuesday, and Wednesday to return to Whitehall agayne. I am appointed among the rest to attend Her Majestie to Barn Elms. I pray God my diligent attendance here may procure me a gracious answer to my suit at her return, for while she is ther, nothing may be moved but matter of delyghte, and to content her, which is the only cause of her going thither."

Barn Elms is now tenanted by the Ranelagh Club. The grounds, some 100 acres in extent, having at points pretty views of the Thames, contain some very fine examples of tree growth. Planes are especially fine. As was recently noted in these columns, P. orientalis is particularly noteworthy, having attained a height of 100 feet, with a girth of 20 feet at 4 feet 6 inches from the ground. There is a good avenue also of Planes, the trees of which have been "pollarded" down. Many Cedars of Lebanon are scattered about, one a stately specimen, is about 80 feet in height, the branches giving a spread of 30 yards. Elms, too, are conspicuous features. The Beeches and Oaks have attained large dimensions, and add considerably to the attractions of the place. Gerard mentions planting a Phillyrea in the gardens of Barn Elms, which at that time belonged to the Earl of Essex.

The famous Kit Kat Club was once established here, and in the old rooms of the club may be seen the portraits of its thirty-nine members, all men of the first rank and learning, most of whom were at times employed in the highest State offices or in the army. [A series of Kit Kat portraits is also in the possession of Mr. Baker, of Bayfordbury, Herts. Ed.]

I am indebted to Mr. C. J. Barrett and to Mr. M. Mitchell respectively, Secretary and Steward of the Ranelagh Club, for information respecting Barn Elms, the grounds of which are well managed by Mr. J. Wheeler. *J. B.*

THE GOOSEBERRY CATERPILLAR.

(See fig. 58, p. 393.)

It unfortunately happens that most of our choicest fruits have formidable and troublesome enemies in the form of fungus, insects, or birds, or, very frequently, of all three.

The Vine frequently suffers from mildew, red-spider, mealy-bug, &c.; the Apple from canker and American blight; the Plum from aphis or green-fly; the Cherry, whether under glass or on the open wall, from the black-fly; while the useful Black Currant is said to be in danger of total destruction from the ravages of the Black Currant-mite (Phytoptus ribis).

The still more useful Gooseberry, in its many varieties, has possibly fewer enemies than some other hardy fruits, still, in common with other out-of-door fruits, it has to contend with the ravages of birds, notably the bullfinch, and for which the gun, although a harsh remedy, is probably the only effective one. The other, and possibly the most formidable enemy to the Gooseberry, is the caterpillar, and few, I think, will experience any scruples in trying to exterminate this troublesome pest.

The caterpillars are supposed to descend, and to bury themselves in the soil under the bushes towards the end of the summer, where they change into the chrysalis state, and so remain until the following spring, when it becomes a fly, and finally deposits its numerous eggs on the under-side of the leaves, where, in little more than a week, the caterpillars are hatched, and immediately commence to feed voraciously upon the leaves. Some very clumsy remedies, if they may be so called, are very frequently applied, with a view to destroy, or to check the ravages of this destructive pest; but many of them are by no means effective, such as the dusting of the bushes with quick or gas lime, or soot, which has the effect of disfiguring the bushes for the greater part of the season, as well as of soiling the fruit, and at the same time fails to have the desired effect. Possibly a much better plan is that of covering the surface of the soil under the bushes with a good dressing of fresh dry soot during the early part of the month of March, or, when the bushes have been pruned. This dressing should be a liberal one, and can do no harm, but will, on the contrary, act as a valuable fertiliser, and will, to some extent, at least, have the effect of preventing the development of the fly. At all events, whenever I have practiced this plan, I have no recollection of ever being seriously troubled with the Gooseberry caterpillar. It is possible that a similar dressing with gas-lime might have a similar effect, but this I have not tried.

In cases where bushes are already attacked by the caterpillar, Hellebore powder, which can be obtained from all chemists at a reasonable rate, will be found to be an infallible remedy; and this may be applied in the form of a decoction with a garden syringe, of about the strength of a pound of the powder soaked in some ten gallons of rain water, which should be allowed to stand about twenty-four hours before being applied; or, possibly a better plan is to apply the powder, which should be perfectly dry, by means

of a common dredger, selecting a still evening for the purpose, and a pound of the powder will be found sufficient for the purpose of dressing a plantation of considerable dimensions, and it is not always that a second dressing is found necessary. It is not necessary that the powder should come into actual contact with the caterpillar, neither does it appear to at once kill it when it does so, as I have known them to be still alive after having been experimentally covered with the powder during several days. It is, however, certain that when a Gooseberry bush, however infested it may be with the pest, is well dusted with the powder, the caterpillar will at once cease to feed on the leaves, and will soon disappear. *P. G.*

HOME CORRESPONDENCE.

SEDUM EWERSII?—In my note on early spring flowers, p. 302, I recommended using Sedum pulchellum as a carpet in which to plant *Leucojums*. I was not sure of the name, and so consulted a first-class authority, who looked at his books, and named it. Some time, I showed pieces of the Sedum to another authority, who believed it to be S. Ewersii; but as there still seemed some doubt, a third was appealed to, who provisionally named it S. hybridum, but required to see the flowers. These Sedums are very puzzling, and, with permission, I will send the name when finally settled. While my note another lovely Iris—I. Rosenbachiana—bloomed on March 10 in our bulb-garden; and about the same time several plants of Tecophæa cyanocrocus, both the blue and blue-and-white forms, all very beautiful. We succeed better with both of these plants in the open air than under glass. Rhododendron præcox superbum, shown in the Kew collection at a recent Horticultural Society's meeting, lasted well this year for some time, but then the hard frost caught the blossoms. This plant should, I think, be grown more, and be placed both in sun and shade, so that some would escape the short frosts so common at this season, owing to the different times of flowering. Our largest plant is 5 feet high, and 5 feet wide, and owing to the habit of free flowering, was very beautiful. Shortia galacifolia in light peaty soil in shade has grown and flowered well. *George F. Wilson, Weybridge.*

SQUIRRELS.—I quite agree with your correspondent, Mr. A. O. Walker, on p. 363, that the squirrel is one of the prettiest of our wild animals, but they are more destructive than he seems to think they are. I have not had much experience as to the damage done by them to Conifers in general, but have watched them feeding on the young growths and cones of the Scotch Fir. In a garden where I lived, they got so numerous, that we were obliged to resort to rather strong measures to lessen their number, such as shooting and trapping them. Round the garden in question stand three or four Scotch Firs overhanging the walls; on these the squirrels were very fond of feeding, and would make quite a litter on the ground beneath the tree of young shoots and the axis of green cones—perhaps they may bite off the shoots to get the more readily to the cones. From these trees they found their way into the garden, and finding plenty of good things to help themselves to, did a lot of damage to fruit and Peas. They will eat Apples, Pears, Apricots, Peaches, Strawberries, &c. Rows of Peas we have had to net to protect from the squirrels. They will do as much damage to Peas as Jay birds, but are more particular in eating them, for they take off the skin of the Peas, leaving them with the pods at the foot of a standard Apple or Pear tree. Some have been caught in the nets, and also in the nets covering Strawberry-beds, which appears to be a favourite fruit with them, for when they are netted, I have seen them jump upon it, and pull the fruit through the mesh. Several have been caught in steel-traps on the top of the garden-wall on their way to the Apricots. I do not wish it to be thought that I am in favour of the wholesale destruction of these pretty little animals, but they should not be allowed to get too numerous in woods and plantations in close proximity to the garden. *J. S. Upex, Wigganthorpe.*

—— I have seen squirrels many times gnawing the leading buds of Conifers over the whole tree, which Mr. A. O. Walker seems to doubt (p. 363); and A. O. W.'s uncle, the late Sir Ed. Walker, had many trees damaged from the same cause at Berry Hill, and I had orders from Sir Ed. to shoot every one I saw, as he too had seen them do so frequently. When the sap begins to rise, and their winter store is getting low, is the time when they are most destructive. *Jas. Hamilton, Berkely Gardens, Burton-on-Trent.*

—— I cannot agree with Mr. A. O. Walker (p. 363), that squirrels do no harm to the leaders of Conifers. I know from actual experience that they do. I have had the leader from several trees of Abies Nordmanniana nibbled off 6 inches from the point, having found them a few minutes afterwards at the foot of the trees, the teeth-marks clearly indicating who was the cause of the mischief. I have watched them, when particularly active, among the succulent flower-buds of Horse-Chestnuts, and have seen remains of the shoots drop from the trees. There is a vast difference between the loss of a leader of any of the Pine tribe by disease, and from the teeth of the active squirrel, which any one can determine. I admire the squirrel for its antics and appearance, but cannot see trees denuded of their leaders and bloom-buds to satisfy a sentimental fancy, and I, therefore, shoot all I can find without the slightest pang of remorse. *E. M. Molyneux, Swanmore.*

COMPARATIVE HARDINESS OF TEA ROSES.—The notes of Mr. Jas. Simpson, on p. 366, are a valuable addition upon this matter; but I believe that it is the experience of a large majority of Rose growers that they lose more Teas than Hybrid Perpetuals in severe weather. At Broughty Ferry we are told that Teas and hybrid perpetuals withstand severe frost; but we must remember that, owing to the nearness of the sea, changes of temperature would be more gradual than they are in many localities. Here in the valley of a great river, there is often late in spring a great variation of temperature between 3 P.M. and 9 A.M., and this at a time when the vital cells twixt bark and wood are flushed with sap, seems to me to be the chief cause of death. Starting buds and old trees are then, in some winters, as in that of 1889-90, killed; but the injury is always greater amongst the Teas than amongst the hybrid perpetuals. If, then, one's Rose garden must be beyond the neutralising effects upon changes of temperature which the ocean exercises, an inland site with a fair altitude should be sought. *Will Tayler, Hampton, Middlesex.*

FIG. 58.—ABRAXIS GROSSULARIATA: THE GOOSEBERRY CATERPILLAR. (SEE P. 392.)

BRITISH AND AMERICAN APPLES.—I see in Mr. Thomas's reply (p. 333) to my note, the word "Impossible!" and that no such sudden fall took place in Apples as I mentioned at the dates named, and that there must have been a blunder on the part of the salesman or his clerk. He suggests that the Apples were sent in bushels, and that the error was entering a half-bushel instead of a bushel. That cannot be, for I have never sent an Apple in bushel baskets, only half-bushel ones. Assuming that it had been a clerical error in some way or other, how is it that on December 13, Blenheims, 3*s.*, Cox's Orange, 2*s.*; December 17, Cox's Orange, 3*s.*; December 21, Cox's Orange, 3*s.* per bushel (exactly the same sample as sent to you, Mr. Editor). These are the exact facts, and not easily explained. Mr. Thomas says the buyer "or myself" was taken in by paying 40*s.* per barrel for Americans. I should not think of buying these fruits when I had plenty of home-grown Apples of far better quality. Why does he not put this down to a clerical error? Thus, 14*s.* per barrel instead of 40*s.* He says the public disputes the fact that 1 lb. of home-grown equals three of imported ones. That brings me to my remark that the public hankers after foreign fruit, and that there must be a training and cultivation of taste, and when these desirable consummations take place, I will venture to say that we shall then soon checkmate the foreigner, and having done so, we can take the offensive, and invade his markets. It is simply a question of time before the superior products of our hot-houses and fruit gardens will be seen on sale in New York, Paris, Berlin, Vienna, St. Petersburg, and Madrid. This, of course, will be when the railway and shipping companies do for us what they have already done for the foreigner, namely, run special trains, fast steamboats, and give preferential rates for our productions. I am sorry Mr. Thomas still asserts that old trees cannot be made to produce fine fruit. I should be pleased to show him bushels of fine and well-coloured fruit of Blenheim Orange which came from trees at least forty-five years old, and I should advise gardeners to pause before condemning old trees, if healthy, just for the sake of planting new ones, as they may depend upon it, the returns will be much larger if they are treated in the manner that I advocated. Further on, he says, if I depend on the grafted trees, I am not alive to the requirements of the times. Allow me to inform Mr. Thomas that I have planted here 176 varieties of Apples, also 125 sorts of Pears, in various forms, such as cordons, pyramids, espaliers, dwarf and tall standards, for comparisons as to quality, suitability to our soil, aspect, and elevation. Many out of this number have proved worthless and many more I have found are synonymous; so that now the selection has brought down the list to about twenty-five varieties—and these we have planted in quantity, and now cover twelve orchards, some in full-bearing, others coming on. As time rolls on, in good years, there will be Apples to gather, not by hundreds of bushels, but by thousands. This, I think, is a proof that we are somewhat alive. Fashions change in fruit as well as in flowers and clothes. A gentleman said to me some years ago, what is the use of growing Nectarines? very few ladies eat them, but everyone eats Peaches. A few years after he remarked that it was fortunate that the Nectarines were not cleared out, people's taste had changed, and everyone wanted Nectarines—that is not the only case in point. Melons, Pines, &c., are the same. In some seasons there is a greater demand than in others, even when the seasons are but alike as regards temperature, &c. But I contend that if people will only study the qualities of house-grown as well as hardy fruit and buy them on their merits, British products will always hold their own, and permit us to successfully compete with foreigners in their own markets. It is utterly absurd to compare any fruits raised in any other country with those grown in the United Kingdom. The imported Tomatos are simply bags of tasteless seeds and skin, compared with those grown in quantities in the districts of Worthing and other places in the south. Apples from France, Germany, and Spain, are already at a discount. The pale, watery, flavourless Strawberry, sent from Russia, will not compare with Paxton, President, and British Queen, grown in Kent. *A. Evans, Homewood.*

TECOPHILÆA CYANOCROCUS.—This is one of the prettiest spring plants in flower here now. Though not generally supposed to be hardy, it is perfectly so. It has been planted out here for three years, and has come on stronger each year. The bulbs were planted about 4 inches deep, in ordinary garden soil, on a slope facing the south, in full sun. In winter they have had the protection of a slight mulching. The flowers, which usually come up in pairs, are about 4 inches high, of an intense blue, and a clump, with five or six of them expanded, at this time of the year makes a very beautiful picture. The plant seeds freely, and it may easily be increased in this way. *T. E. D., Norwich.*

CHRYSANTHEMUMS FOR TRAINING.—If "A. G. B." has not the plants already established in 4-inch pots, success cannot be obtained this season. Striking the cuttings early in December is the practice generally adopted in cultivating Chrysanthemums in the manner required by your correspondent. During all stages of their growth the plants should enjoy cool quarters. Heat renders the growth weak, and the leaves thin in substance, and as the foliage is of the utmost importance in

specimen plants, care ought to be taken to have it in good condition. For standards the growth should be restricted to one stem until the desired height is attained—3 feet or 3 feet 6 inches—when it should be topped. If the plants grow to this height before making their natural first break, so much the better, but if a break occurs earlier the shoots must be reduced to one, which is allowed to grow till the necessary height is reached. The topping induces other side shoots to form, which makes the foundation of the future head. Reduce these shoots to four, and when they have grown 6 inches long again stop them, continuing the stopping until the requisite number of branches is obtained to cover the trellis, but topping should not take place later than the middle of June. The number of flowers each plant is expected to produce must guide the cultivator as to the number of times the shoots should be stopped. It is a mistake to attempt to produce too many blooms on one plant. Plants of the small-flowered varieties of incurved, such as Mrs. G. Rundle, if the heads are grown, say, about 2 feet in diameter, and about 1 foot 4 inches deep, fifty blooms will be enough, but in the case of larger sorts, like Prince Alfred for instance, thirty flowers would be ample. The best varieties for standards in the incurved section are Mrs. G. Rundle, George Glenny, Mrs. Dixon, Prince Alfred, Lord Wolseley, and Jardin des Plantes; Japanese:—Roseum superbum, Fair Maid of Guernsey, Maiden's Blush, Bouquet Fait, and Hiver Fleuri. Pyramids require a long season of growth also. The leading shoot should be stopped at about 9 inches, the best shoot following being taken as a leader again, and the side branches trained out regularly. All topping should be done before the first week in July. Plants 3 feet high, and 2 feet through at the base, are large enough if furnished well with good foliage and blooms. As to varieties, the Rundle family are the best for this form of training. Pompons are also well suited, being free both in growth and flowering. The treatment required for dwarf plants is applicable to those trained flat, excepting that the latter should have the shoots depressed more to keep the plants dwarf. The same varieties will be suitable. The first stopping should take place when the plants are 4 inches high, to induce the production of side-shoots, to form the basis of the future specimen. Stopping ought not to be continued after the middle of June. A limited number of blooms to each plant, so as to have them really fine, is preferable to a larger number of inferior quality. Of great importance is the timely attention to, and destruction of, insect pests, such as green and black-fly, the Celery-leaf maggot, and a species of green caterpillar that infests the young shoots. Mildew is at times troublesome; the leaves affected should be at once dusted with flowers-of-sulphur. The three varieties of the Rundle family, Lord Wolseley, Prince Alfred, John Salter, Prince of Wales, Lord Derby, and Mrs. Sharpe are suitable sorts in the incurved section; while Mdlle. Lacroix, Hiver Fleuri, Bouquet Fait, Peter the Great, Fair Maid of Guernsey, Madame Bertier Rendatler, Maiden's Blush, Mons. Bernard, and Elaine will represent the Japanese section very well. *E. Molyneux.*

LACHENALIA TRICOLOR.—This Cape bulb is worthy of more extended cultivation than seems to be at present accorded to it. Recently, when there was a large house-party here, we had a few pots on the dinner-table. The next day I was requested to write the name down for the general information of the guests, not one of whom had ever seen it before. Its cultivation is very simple. Anyone in possession of a greenhouse may have a display of its beautiful flowers from the middle of January on through February and March. We place six bulbs in a 5-inch pot, using a compost of two parts loam to one of leaf soil, with the addition of a little decayed manure and sand. The potting material should be in a medium state of moisture, so that watering may not be required until the pots are removed from the plunging material. After potting, they are plunged in leaf soil in an open shed, or in a cold frame, from which they are taken when they have made half-an-inch of growth; they are then gradually inured to the light, and kept in a cold frame until the approach of frost, when they are placed in a cool structure. From here they are taken in batches to a temperature of 45° to 50°, in which they soon push up their flower spikes. After flowering, place them in the full sun, and feed them liberally until the leaves show signs of ripening, when the feeding must stop, and water be afforded more sparingly until the leaves ripen off thoroughly; afterwards they may be stored away in a cool dry shed until the beginning of August, when they should be potted again. *J. Tunnington, Ripley Castle Gardens.*

FREESIAS.—I was pleased to see Mr. Ward's note on the above. There can be no doubt as to their beauty, fragrance and usefulness—neither is there any doubt that their cultivation is not so extensive as it deserves to be. I was not aware, until perusing the article in question, that they would yield their lovely flowers so abundantly in 3-inch pots, especially with so many as seven corms in each, and shall certainly try a few in pots of the dimensions recommended in future, and if I am as successful as Mr. Ward appears to be, shall adopt the practice. Well-flowered pots of the size named might be used to advantage in dinner-table decorations. At present we grow ours twelve corms in a 6-inch pot, using similar compost to that recommended at p. 174, but instead of plunging the pots in ashes out-of-doors, they are plunged in leaf-soil in a cold frame. The time of potting is end of July or beginning of August. I find F. Leichtlini major a better doer than F. refracta alba, the flower-spikes are stronger, and throw out lateral sprays more freely, thus a few pots give a long succession of bloom. In potting, only the largest bulbs are placed into the flowering pots, the smaller ones being sown rather thickly in pans to increase in size for flowering another season. *J. Tunnington, Ripley Castle Gardens.*

SPRING FLOWERS IN REGENT'S PARK.—The early spring flowers are very beautiful in this park, more so than in any other of the London parks. Chionodoxas, Scillas, Narcissi, Crocuses, and other early-flowering bulbs are planted freely, each kind in large breadths, the flowers hiding the grass. The whole park seems full of colour, even at this early season, and a fine display of Hyacinths and Tulips may be anticipated, judging by the healthy aspect of the bulbs. *V.*

BROCCOLI.—I have a bed of Broccoli containing 284 plants, which are about equally divided in the following varieties, Veitch's Main Crop, Late Queen, Ledsham's Latest of All, Veitch's Model, Penzance, and Dilcock's Bride. Only eighteen plants have been destroyed by the frost; they are planted on a border on the west side of a wall, and my experience is they stand the winter best in that position, as the frost is off the plants before the sun shines on them powerfully. I have two other varieties planted in an exposed place, and nearly half are killed. *R. Edwards, Beechy Lees, Otford, Kent.*

EARLY-FLOWERING SNOWDROPS, ETC.—The enclosed is our record of early-flowering of Snowdrop, Crocus, and Winter Aconite for the years from 1888 to present date. Is the blue Crocus always earliest? [No.] It is so here, and it is planted on all sides with white-striped and pure yellow. But the blue ones are at least a fortnight before the others. These are all planted in a grass bank under trees, and where the earliest Aconite and Crocus grow it is kept mown as any other part of the lawn, except in early summer, when the grass is allowed to grow till such time as the foliage of the Crocus and other things are ripe; then it is cut and kept short the rest of the year. I notice that among the list of plants given by Mr. May he has omitted two very fine things—the double white Wood Anemone and the Dog-tooth Violet; we have both naturalised here, and beautiful they are, especially the Violets. We also have a beautiful white (double) Saxifrage, which is quite at home under Beech trees, where so few things will exist in any shape, much less flower; but here the ground is quite white with the beautiful large double-white flowers.

Description.	1888.	1889.	1890.	1891.	1892.	1893.
Snowdrops ...	Jan. 10	Dec. 15	...	Jan. 25	Jan. 20	Jan. 23
Crocus	Jan. 26	Dec. 17	...	Jan. 25	Jan. 28	Feb. 3
Winter Aconite ...	Jan. 21	Jan. 27	Jan. 15	Feb. 4	Jan. 25	Jan. 27

The dates of Snowdrop and Crocus were not taken in 1890. *John Page, Monteviot.*

ROUND *versus* PRICKLY SPINACH.—I can fully endorse all "A. D." says of the round variety for winter sowing. When at Steventon Manor, Micheldever, Hants, nine years ago, I happened to be short of seed of the prickly variety, and just for experiment I made up the winter bed with six drills of the round variety, and to my surprise after a severe winter, it was by far the better of the two. For six years since I had charge of a market establishment in Surrey, where I found it to supersede the prickly in the open field both for hardiness and quality; so much so, I have entirely discarded the prickly variety for all purposes. *F. Kneller, Studley Royal, Ripon.*

A NEW HEMEROCALLIS.—At the exhibition in June last of the great York Gala and Horticultural Society, I was much struck with one or two seedling Hemerocallis staged by the Rev. G. Yeld, Clifton Cottage, York. I was so greatly pleased with it that I drew the attention of Mr. Potter, of Messrs. Backhouse & Sons' nurseries, to it as being of marked merit and in advance on all other Hemerocallis as to deserve acknowledgment, and a special Certificate of Merit was awarded to it. It was named Hemerocallis Apricot, and was a seedling from H. flava, crossed with H. fulva or Middendorfii, but deeper in colour than H. fulva, with much broader sepals, of good substance and much better form, and in size intermediate betwixt flava and fulva. I recently wrote to Mr. Yeld to ask him if there was any probability of its getting into commerce, and if he had any other seedlings, and in his reply he states, "I have been working at the Hemerocallis for some time, and have one seedling besides Apricot, which I consider very good. I should have exhibited it last year had it been in blossom at the time. H. Apricot is probably from H. flava crossed with H. fulva, but I have unfortunately lost the details of my crosses. I have a good many seedlings, some very good in habit, with large flowers on stems not much higher than the stem of H. graminea. I shall probably let them go into commerce eventually, but not for some time, as I am anxious to see what the second and third generations will do. I have seed of the second generation already." Mr. Yeld is also devoting attention to the hybridisation of Irises, and exhibited also at York last June blooms of a very lovely seedling, named Sincerity, a seedling from pallida, variety Queen of May, the standard short and well formed, curving gracefully inward, and a beautifully-formed flower. Other seedlings were also shown. Mr. Yeld informs me that these came from a pod of seed; he believes, the seed-bearing parent was I. pallida Queen of May, but the pollen parent he has no note of. Mr. Yeld states also in his letter, "I have had sad disappointment this winter. I had three big bulbs of Lilium cordifolium giganteum from seed, which should have flowered this year. They had been watched for about ten years, but the severe frost of the past winter has taken them. Possibly they were crossed with Lilium Parryi." *W. D.*

LACHENALIA AUREA GIGANTEA.—The remarks of Sir C. Strickland in your issue of the 25th inst., are evidently made under a misconception. My plant is certainly not connected with L. luteola, its foliage and habit being precisely that of L. aurea, only much stronger. No doubt Sir C. Strickland's plant is the same as another I had from Mr. O'Brien at the same time. This has very narrow dark green upright leaves, and has not yet flowered. There can be no doubt that my plant is an exceptionally robust variety of L. aurea, which, by the way, flowered with me simultaneously, L. luteola being rather earlier. *R. A. Todd, Honeyden, Foots Cray.*

SOCIETIES.

ROYAL HORTICULTURAL.

March 28.—The Drill Hall was again filled with exhibits of flowers in season on Tuesday last. We think the general public is at last beginning to appreciate these fortnightly gatherings, for the attendance seems to increase on each occasion.

Floral Committee.

Present: W. Marshall, Esq., chairman; the Rev. H. H. D'Ombrain and Messrs. J. D. Pawle, Owen Thomas, H. Herbst, R. Dean, C. T. Druery, G. Stevens, R. B. Lowe, C. F. Bause, F. Ross, G. Gordon, W. Furze, C. Jefferies, Chas. E. Shea, H. Turner, Chas. Noble, G. Paul, H. B. May, John Fraser, J. Jennings, R. Owen, Geo. Nicholson, and Jas. Walker.

An interesting group of Roses and other flowers was exhibited by Messrs. Paul & Son, Cheshunt. Of Roses, excellent plants of the varieties Heinrich Schultheiss and Innocente Pirola were shown; and such types as Rosa Andersoni, soft pink; R. arkansana, very

pale rose; and R. indica, Miss Lowe's var., the flowers rich rose. The comparatively new Bourbon, Mrs. Paul, was in fine character. The same firm had also the beautiful Polyantha vars., Epiphyllum Russellianum Gaertneri, scarlet; Cannas, and a large basketful of alpine plants in bloom, Narcissus Bulbocodium, Draba Aizoon, &c.; also the seedling Genista Andreana. Of the Amaryllis exhibited, the variety Lightning was of merit, the flowers of fine colour and form (Award of Merit). Lilac Alphonse Lavallée is a variety worth growing. It was well shown (Award of Merit). A First-class Certificate went to Aucuba japonica fructu albo, which is distinguished by its large whitish berries. For the group a Silver Flora Medal was awarded.

A miscellaneous group came from Messrs. J. Laing & Sons, Forest Hill, and comprised a number of very choice plants, such as Rhopoloblaste hexandra, a graceful Palm of fine colour (Award of Merit).

Cliveias were shown in variety, the brightly-coloured Boronia heterophylla, Cyclamens, and fine-leaved plants, as Leea amabilis, Bertolonia Madame A. Van Geert, beautifully spotted and veined with a pinkish colour; B. Ed. Pynaert, and a number of excellent Caladiums (Silver Flora Medal). Messrs. H. Low & Co., Upper Clapton, had also a miscellaneous collection of much interest, principally hard-wooded plants. Eriostemon pulchellum, Acacia Drummondii, Pimelea spectabilis, Chorozema Lowi, a delightful free and beautiful flower; and a very pleasing display of interesting New Holland plants. (Silver Flora Medal).

The immense group of Cyclamen persicum from the St. George's Nursery Co., Hanwell, was showy. The strain was spoken of in our issue for last week. An Award of Merit was accorded the strain, and a Silver Flora Medal to the group.

A large collection of Ferns came from Mr. H. B. May, Dyson's Lane Nursery, Edmonton, and included a number of kinds raised in this nursery, as the distinct and valuable Pteris Mayi, whilst we also noted P. regina cristata, P. serrulata densa, P. cretica nobilis, P. tremula elegans, Adiantum Weigandi, A. Mariesi, Osmunda palustris, and Microlepia hirta cristata. Such fine groups as shown by Mr. May make a welcome contrast to the gay masses of flowers (Silver Banksian Medal). Messrs. E. D. Shuttleworth & Co., Peckham Rye, S.E., had a variety of plants. One group was composed of remarkably well grown examples of Azaleas, the variety Deutsche Perle in particular, and Lily of the Valley, whilst they also contributed to the meeting a collection of hardy flowers, comprising the Prophet's Flower, Arnebia echioides, hardy Primulas, Daffodils, and a fine mass of the richly-coloured Iris persica. We have seldom seen this exhibited in finer character. A Silver Banksian Medal was awarded to the indoor flowers, and a Bronze Medal to the hardy plants. Messrs. Cutbush & Son, Highgate, had a collection of indoor plants and Epacris Lady Panmure, the flowers pinky-white; also Ghent Azaleas in variety, and other interesting plants (Silver Banksian Medal). Messrs. J. Peed & Sons, Roupell Park Nurseries, Norwood, showed fine-foliaged plants in variety, including Dracænas and Crotons, etc., all thoroughly well-grown (Silver Banksian Medal).

Of Cinerarias two groups were exhibited. The finest was from Messrs. J. James & Son, Farnham Royal, near Slough, the plants remarkably well-flowered, dwarf, a conspicuous feature of this strain. It is needless to write further, as the Farnham Royal Cinerarias are famous (Silver Banksian Medal). Mr. W. M. Bullivant, Homewood, Beckenham (gr., Mr. Thos. Cresswell), had a very creditable display, the plants well grown, and the flowers of bright colours (Silver Banksian Medal).

A large display of hardy flowers was made by Messrs. Barr & Son, Covent Garden. Narcissi were the chief things, and comprised the finest forms now in bloom, also Scilla bifolia alba, one of the prettiest hardy bulbs in flower at this time, an interesting series of forms of S. sibirica, showing the variability in colouring of this type; Muscari conicum, Fritillaria aurea, Primula rosea, Chionodoxas in variety, and Androsace coronopifolia, the flowers white and small, a very interesting species. Primroses of varied colours, &c. (Silver Banksian Medal).

Apart from the groups there were many important exhibits, Messrs. J. Veitch & Sons, Chelsea, had several interesting things. Chionanthus virginicus is a delightful subject for pots, the specimens shown being wreathed in the white flowers, its narrow petals having the aspect of a fringe. Magnolia stellata, or M. Halleana, as it is also called, was shown. It is the earliest species in bloom, and the rare pink variety, the flowers similar to those of the type, but of a distinct pink tone; a very charming form (Award of Merit). Rhododendron Yellow Gem is a distinct acquisition; the flowers are borne on a good truss, and individually are almost 2 inches across, robust and vigorous in expression, the colour clear self yellow, of a refined shade (Award of Merit). Several Hippeastrums were shown. The Moor, dark crimson self; Gaiety, white, barred and suffused with purple; and Syren, which is a variety of great beauty, the flowers large, segments broad and even, the colour of a distinct salmon-scarlet shade (Award of Merit).

Messrs. B. S. Williams & Son, Upper Holloway, had a number of beautiful Hippeastrums, as Ophelia, a distinct, handsome, and valuable flower of fine colour (Award of Merit); Curiosity, white veined with scarlet, and President Harrison, scarlet with broad band of white, very distinct. One of the most interesting plants shown was Ranunculus cortusæfolius, which was shown and certificated last year, and figured in our columns. The specimen exhibited, which was a very fine one, came from Lord Hylton, Merstham, Surrey (gr., Mr. C. Wood). From the same place came also the pretty Pea-flowered Psoralea pinnata, the flowers blue in colour.

Mr. Moore, Glasnevin Botanic Gardens, sent Hoya cinnamomifolia, Brownea grandiceps, and B. ariza, conspicuous for its full, large heads of exceptionally brilliant scarlet flowers (First-class Certificate).

Of unusual interest was the panful of Schizocodon soldanelloides, from Captain Torrens, Baston Manor, Hayes, Kent. It may be compared to Shortia galacifolia, and was introduced by the exhibitor from Mzyanoshta, Japan, in 1891, and shown at the spring show of the Crystal Palace in 1892. But the plants were nothing like those at the Drill Hall on Tuesday, which were remarkably fine. The flowers are fringed, of a pleasing rose colour, paler towards the margin, and borne freely on stems about 3 inches in height, the leaves bronzy-green, touched with crimson at the edge. It has long been known to science, but Capt. Torrens was the first to introduce the plant alive into England (First-class Certificate).

Cereus Hoveyi from Messrs. F. Ross & Co., Merstham, Surrey, is a brilliant flower. It is very compact, neat, and scarlet shot with a peculiarly bright satiny-magenta shade of colour, glistening in the sun, as if burnished (Award of Merit).

Cliveia Beechdale, from Mr. J. C. Geiselbrecht, Lee, Kent, has a compact head of red self flowers, very numerously produced. The colour is bright, and the whole plant very robust (Award of Merit).

Messrs. de Graaf and Bros., Leiden, had Scilla sibirica alba, a very beautiful white variety of the species, pure and free, judging by a few stems (Award of Merit).

Messrs. R. Veitch, of Exeter, exhibited Rhododendron gloxiniæflorum, which has neat, even trusses of flowers, white, freely spotted with lake on the upper portion; and Olearia stellulata, a neat little type, almost hidden by its white Daisy-like flowers —a charming and valuable plant for decorations (Award of Merit).

Mr. G. F. Wilson, Weybridge Heath, brought from his Wisley garden, flowers of his lovely blue Primroses, and a blue Polyanthus. It is noticeable that the flowers, if not exactly blue, at least, not the Gentian blue, are yet of a rich, warm, inviting colour, very effective and delightful.

A new seedling Auricula, of little worth, was shown by Mr. E. W. Underhill, Ealing. A bank of Stocks, named Model White, the flowers very pure, and produced on bold spikes, came from Mr. W. R. Newport, The Model Nursery, Hillingdon Heath, Uxbridge. Mons. H. de Vilmorin, Paris, showed flowers from the Riviera—Anemones, Daffodils, &c.

A very interesting feature of the meeting was constituted by the hybrid Narcissi, from the Rev. G. H. Engleheart, Appleshaw, Andover. One group consisted of pale coloured early flowers, the result of crossing N. albicans with some of the earlier yellow trumpet kinds, such we presume as N. pallidus præcox. A very beautiful series of colours was the outcome of this cross, varying from the palest primrose to richer yellow, one flower being like a pale N. obvallaris. A seedling from N. Horsefieldi, was of merit for its splendid corona and bold perianth. Hybrids of N. Empress ♀ and N. triandrus ♂ were shown, two flowers on a scape, and we get a finely intermediate result; also flowers from a cross made between trumpet Daffodils in variety and N. poeticus, to illustrate the origin of N. incomparabilis. One bloom was very much like N. Barri conspicuus, the corona margined with quite an orange scarlet colour. N. moschatus ♀ × N. poeticus ♂ gave a flower intermediate in form, but dead white, without a trace of the colour in the latter parent. N. cernuus ♀ × N. triandrus ♂ resulted in a very fine flower, the corona long, stout, and like the segments of a white tone. Two blooms were borne on the scape, and there is every hope that this will prove a vigorous growing and useful hybrid. It should be given a distinctive name. A potful of N. triandrus (the Glénan's var.) was shown. Flowers were fertilised with pollen of N. albicans and of the wild Pyrenean N. moschatus. Both crosses were effected. N. triandrus ♀ × N. corbularia citrina ♂, resulted in a neat, exquisite little flower, forming the good points of both parents. N. triandrus ♀ × N. poeticus ♂, was also interesting, the segments reflexed somewhat, and the small corona, pale yellow. N. triandrus ♀ × N. monophyllus ♂, gave a very small but beautiful flower.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. Jas. O'Brien, Dr. Maxwell T. Masters, F.R.S., Thos. Statter, Sydney Courtauld, J. B. Haywood, De B. Crawshay, A. H. Smee, J. Jacques, E. Hill, Jas. Douglas, J. I. Gabriel, H. M. Pollett, H. Ballantine, R. Brooman-White, C. J. Lucas, W. H. White, and T. W. Bond.

There was a fine show of Orchids, and a leading feature was a group of rare Orchids from Messrs. F. Sander & Co., St. Albans, to which was awarded a Silver Flora Medal. Special plants in it were a magnificent form of Cattleya Trianæ alba, fine in shape, and of the purest white; a noble white form of the St. Albans type of Odontoglossum crispum, the finely-shaped O. Pescatorei Model, the purple-tinted O. P. picturatum, the singular Cypripedium Chamberlainianum platytænium, with broad labelloid petals; Cattleya Schroderæ varieties, both handsome and fragrant; Dendrobium nobile albiflorum, Cypripedium Burberryanum × (Boxalli × plunerum), some extra-fine Dendrobium Dalhousianum, showing great variation, and including the clear yellow with purple-spotted labellum, called D. D. luteum; Restrepia antennifera, and various fine hybrid Odontoglossums.

Sir Trevor Lawrence, Bart., Burford, Dorking (grower, Mr. W. H. White), showed a fine plant of the beautiful Dendrobium micans × (Wardianum × lituiflorum), the fine blush-white D. superbum Burkei, D. s. anosmum, D. Venus × (nobile ♀, Falconeri ♂), the pretty D. cretaceum, a fine form of Cochlioda Noezliana, and a curious Angræcum with a spike of small yellow flowers.

Philip Crowley, Esq., Waddon House, Croydon (gr., Mr. King), staged a pretty group, in which well-bloomed plants of Ada aurantiaca and Cypripedium villosum were the chief features; with these were a very fine pan of scarlet Sophronitis grandiflora, a very fine form of Cattleya Lawrenceana, some good Odontoglossums (Silver Banksian Medal). Thos. Statter, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson), showed Dendrobium nobile Storerii, a pretty form with nearly white sepals and petals, the lip having a dark blotch at the base, surrounded by a pale yellow zone; D. splendidissimum Statterianum ×, with very large flowers for the size of the plant, and Cypripedium exul Annamense, which seems broader in leaf and darker in the colour of the flower than the type.

Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr., Mr. Murray) sent a small lot of hybrid Dendrobiums, the best of which were D. "Bryan" × (luteolum ♀, Wardianum ♂), which in habit of growth and flower somewhat resembled a strong D. luteolum. The flowers were clear yellowish-white (nearly white), with some slight indication of the rose-coloured tips to the segments, as in D. Wardianum. The base of the lip has rayed brown lines on a yellow disc, which is clad with hair-like protuberances. Equally beautiful was Dendrobium "Sibyl" × (Linawianum × bigibbum). In the growth and manner of producing the flowers, there was no indication of D. bigibbum, except that the leaves on the new growths were thicker than in D. Linawianum. The flowers were produced in pairs, equal in size to those of D. Linawianum, bright dark rose-coloured, with the base of the segments white; lip white, with bright rose tip, and a yellow disc at the base, on each side of which runs a few brownish lines, ending in a small blotch. Mr. Cookson also showed forms of D. Ainsworthii and D. nobile, Oakwood var. (Cooksoni × nobile), which much resembled D. n. Sanderianum.

Mr. H. J. Elwes, Colesborne, Andoversford, R.S.O., Gloucestershire, exhibited a very interesting

and pretty group of specimens of terrestrial Orchids, the prettiest ofwhich was Calypso borealis, a handsome dwarf Arctic American species, which extends to Lapland. The specimen exhibited was from Alaska. Other kinds were Ophrys speculum; Orchis tridentata, cream-white; and Brownlea cœrulea, a South African species.

W. R. Lee, Esq., Beech Lawn, Audenshaw, showed a very fine and profusely-flowered plant of the true Dendrobium Wardianum album, in which the dark blotches seen at the base of the lip in many other white forms is nearly absent.

From the gardens of Earl Cowper, Panshanger, Hertfordshire (gr., Mr. Joseph Fitt) came four fine spikes of Vanda suavis, the edges of the petals being handsomely tinged with crimson.

Messrs. Jas. Veitch & Son, Royal Exotic Nursery, King's Road, Chelsea, showed Cypripedium microcheilum × (niveum ♀, Druryii ♂), and Dendrobium Alcippe × (lituiflorum Freemanii ♀, Wardianum ♂?) with flowers resembling in a great degree those of D. lituiflorum, but with some yellow in the lip.

G. R. le Doux, Esq., Langton House, East Molesey (gr., Mr. B. Bowyer), sent a fine plant of Cattleya intermedia Faustiana, a large and distinct form, Odontoglossum Andersonianum, Cypripedium barbatum nigrum and Odontoglossum triumphans.

W. C. Walker, Esq., Percy Lodge, Winchmore Hill (gr., Mr. G. Cragg), sent a form of Odontoglossum Andersonianum and Cypripedium Boxalli.

Thomas Gabriel, Esq., Elmstead, Leigham Court Road, Streatham (gr., Mr. H. Guyatt) showed a good example of Dendrobium Devonianum.

Baron H. Schroder, The Dell, Egham, sent another plant of Lælia × vitellina, and some fine spikes of a yellow Odontoglossum and O. Pescatorei Veitchianum.

Messrs. W. L. Lewis & Co., Chase Side, Southgate, staged a very fine group of Orchids of great merit, especially fine being the varieties of Odontoglossum Pescatorei, one of which, O. P. Lewisii, had the labellum of each of the flowers decorated with a wedge-shaped purple blotch. Also in the same group were some good Cymbidium Lowianum, one of which had greenish-yellow flowers, without the usual red colour on the lip; fine varieties of Cattleya Trianæ, Oncidium Marshallianum, O. sarcodes, O. lamelligerum, Trichopilia suavis, Aërides Fieldingii, Phalænopsis, Lycastes, Dendrobiums, &c.

Messrs. Heath & Son, Cheltenham, showed Odontoglossum excellens Tresederiana, a home-raised hybrid between a purple-spotted O. Pescatorei and O. triumphans. It is a grand form, showing more white than the usual run of O. excellens.

Messrs. Pitcher & Manda, The United States Nurseries, Hextable, Swanley, Kent. showed Cypripedium Greyanum × (ciliolare × Druryii), a strange variety with massive greenish flowers spotted and shaded with black; C. macropterum × (Lowii × superbiens), with greenish upper sepal with dark stripes; petals long and broad at the tips, rose colour, greenish at base and spotted on the lower halves with dark red, lip tinged with reddish-brown. Messrs. Pitcher & Manda also exhibited varieties of Cypripedium caudatum, C. orphanum × C. Druryi, C. Godseffianum ×, and Cattleya Luddemanniana. Manda's variety, with an enormous flower, of fine shape; the trumpet-shaped labellum rich crimson, veined in the centre with white.

Reginald Young, Esq., Fringilla, Linnet Lane, Sefton Park, Liverpool, sent cut spikes of Odontoglossum luteo-purpureum hystrix, O. Andersonianum, O. Rossii albens, and other forms of O. R. majus; a brightly-coloured Cattleya Trianæ, Dendrobium nobile Sanderiana (?), and two forms of Odontoglossum triumphans.

From the Royal Botanic Gardens, Glasnevin, Dublin, came a cut specimen of Physosiphon Moorei, n. sp., a near ally to P. Loddigesii.

C. L. N. Ingram, Esq., Elstead House, Godalming (gr., Mr. T. W. Bond), exhibited his Cypripedium × T. W. Bond (Swanianum ♀, hirsutissimum ♂), a noble variety, with some of the aspect of C. Curtisii. The ground-colour of the flower is dull light green, the base of the dorsal sepal is profusely dotted with black, and blackish lines radiate from the base. The petals are greenish at the base spotted with black, the outer halves being dark rose colour. The lip greenish, obscurely netted with pale brown. The same exhibitor sent Cypripedium compactum × (Sedeni candidulum × calurum), a dark rose-tinted form of the much-worked Sedeniform Cypripediums.

J. W. Temple, Esq., Leyswood, Groombridge (gr., Mr. Bristow), sent Lycaste plena and L. p. Templeæ, in the latter of which the flowers were very showy—the sepals green, spotted up the middle with brown.

Messrs. Fred. Horsman & Co., Colchester, sent Epidendrum varicosum. H. Shaw, Esq., Stamford House, Ashton-under-Lyne (gr., Mr. J. Cliffe), sent a fine flower of Dendrobium Wardianum, stating that it was one of thirty-four borne on the same pseudobulb.

Official List of Awards.

ORCHID COMMITTEE.

MEDALS.

Silver Flora.

To Messrs. Sander & Co., for a group of Orchids.

Silver Banksian.

To Philip Crowley, Esq., for a group of Orchids.

First-class Certificates.

To Dendrobium Wardianum album, from W. R. Lee, Esq.

To Dendrobium × Bryan, from Norman C. Cookson, Esq.

Awards of Merit.

To Cypripedium × microcheilum, from Messrs. Jas. Veitch & Son.

To Cattleya Luddemanniana, Manda's var., from Messrs. Pitcher & Manda.

Dendrobium Sybil ×, from Norman C. Cookson, Esq.

To Cochlioda Noezliana, from Sir Trevor Lawrence, Bart.

To Cypripedium × T. W. Bond, from C. S. N. Ingram, Esq.

Botanical Certificate.

To Calypso borealis, from Mr. H. J. Elwes.

To Angræcum sp., from Sir Trevor Lawrence.

Cultural Commendation.

To Messrs. Heath & Son, Cheltenham, for a fine home-raised plant of Odontoglossum excellens ×.

Fruit Committee.

Present: P. Crowley, Esq., in the chair; Dr. Hogg, and Messrs. G. Woodward, F. Francis Rivers, G. Bunyard, Arnold Moss, G. Taber, T. Saltmarsh, Harrison Weir, W. Warren, J. Wright. A. Dean, W. Bates, J. A. Laing, G. Wythes, J. Hudson, F. Q. Lane, H. Balderson, C. H. Pearson, and J. Willard.

The largest exhibit was one of Mushrooms, from Mr. Hardy, Ash House, Parson's Green. Mr. T. Lockie showed examples of his now well-known Cucumber, the fruits from seed sown January 9, 1893; thus it is good for very early work. Mr. Wythes, Syon House Gardens, Brentford, had splendid fruits of Strawberry Vicomtesse Héricart de Thury, bright in colour, of excellent size, and altogether deserving high praise (Cultural Commendation); also Figs St. John, to show its excellent early forcing qualities. Mr. Osman, The Gardens, Ottershaw Park, Chertsey, showed fruits of Strawberry Loxford Hall, very good; and Mr. H. Bannister, Cole House, Westbury-on-Trym, Apple Standard Bearer, and Mushrooms. Mr. Crook, Forde Abbey Gardens, Chard, had several varieties of Apples.

Lecture.

FLOWERS OF THE RIVIERA.

An interesting paper written by Mons. Henry Vilmorin was read by the Rev. W. Wilks the secretary, owing to the absence of M. H. de Vilmorin through illness, who had, however, sent his son, Philippe de Vilmorin, to represent him. Dr. Hogg was in the chair, and there was a large attendance. M. H. de Vilmorin wrote of the climatic conditions of the Riviera and its flowers. He spoke of the sheltered situation of the Riviera, where there is three times more sunshine than in England; little artificial heat is used in the plant-houses, hot-water pipes being laid flat on the ground, and are only required in case of sudden emergency. He wrote at length concerning the Acacias, which grow splendidly in the Riviera. A. dealbata is the sweetest and most graceful of all Acacias, and flourishes round Cannes, but on calcareous and heavy soils it sickens and dies. Several species were mentioned, as A. retinodes, and the Eucalypti were alluded to as E. cosmiphyllus, which has medium-sized white flower heads and greyish leaves, and is a great favourite in the Paris markets. E. globulus is another important kind, the flowers large and attractive. M. de Vilmorin here paid a warm tribute to the garden of Mr. Hanbury, La Mortola, and of the Villa Thuret. Roses are everywhere on the Riviera, on trees, railway banks, and Safrano was especially referred to, as it is not like other varieties, often crippled in the winter. The flowers are very variable in size, and the long conical buds are known as Nice Roses. The single Gloire des Rosomanes is more perpetual in bloom than even Safrano, but the flowers are too perishable and short-lived for the trade. Lamarque will succeed in the open air, or on a wall, flowering in the winter, but even the hardier kinds are better for a light screen to keep off frost. Gloire de Dijon is not a success; its flowers are too full. Marie Van Houtte, Perle de Lyon, La France were mentioned. White and yellow Marguerites, Chrysanthemum lutescens are grown largely on the Mediterranean coast, and the yellow variety is the more valuable, and supposed to have originated as a chance seedling. It grows into large bushes, 3 feet or so high, and as much in diameter, and the flowers keep fresh in water for seven days. Perpetual Pinks are grown, and the Marguerite variety will probably be very largely cultivated. M. de Vilmorin made interesting remarks about the dyeing of flowers, white in particular, but the practice soon died. The revival, however, as applied to white Roman Hyacinths and Lilacs, appears to be successful. Narcissus poeticus is found in Provence, which dots the land with dazzling white; and Gladiolus Colvillei alba was also mentioned as a market flower; and Allium neapolitanum is grown in increasing quantities, but the stems must be handled carefully, as if bruised they give out a Garlic smell. Freesias are in increasing demand, and M. de Vilmorin also described the Anemones, so familiar in London markets now. Violets and Iberis gibraltarica are grown largely, and the Neapolitan Violet is cultivated by acres at Grasse and Cannes for perfume. Many other interesting plants were mentioned, but want of space prevents mention of them. The lecture was illustrated with a selection of Riviera flowers.

CRYSTAL PALACE.

March 25.—A very fine display of spring flowers was to be seen at the Crystal Palace on Saturday last. There was an unusually keen competition in the several classes, especially in those for bulbous plants. Unlike last year, the spring show is to be the forerunner, we hope, of an interesting series of exhibitions, and it is satisfactory to find them again restored.

Hyacinths, Tulips, and other bulbous plants were the finest feature, but the flowers are not remarkable this year. Mr. Jas. Douglas, gr. to Mrs. Whitbourne, Great Gearies, Ilford, was a successful competitor. He was a good 1st for thirty-six Hyacinths, the spikes showing good culture; Messrs. H. Williams & Son, Fortis Green, Finchley, 2nd; Messrs. B. S. Williams & Son, Upper Holloway, 3rd. There were five competitors, very creditable for a spring show. In the corresponding class for Tulips, Mr. Douglas was again 1st, the flowers very clean, large, and varied. We may mention that the varieties Joost van Vondel, Proserpine, Duchesse de Parma, Rose of Holland—white feathered with rose, and Keizer's Kroon well deserve a note. The order was reversed as to the other places, Messrs. B. S. Williams & Son being 2nd. A good show was made by Mr. Jas. Douglas in the class for twenty-four pots of Polyanthus Narcissus, the plants very compact; whilst for twenty-four Daffodils Messrs. H. Williams & Son were 1st. One of the most interesting features was the class for twelve pots of Lily of the Valley, and the twelve plants shown by Mr. T. Jannoch, Dersingham, King's Lynn, Norfolk, were a mass of bloom, compact, and remarkably well grown; Messrs. H. Williams & Son, 2nd. Cyclamens were a feature of importance, the plants very fine, especially the thirty-six from Mr. Thos. Pestridge, Boston Road Nursery, Brentford; the St. George's Nursery Co., Hanwell, 2nd; and Mr. May, Gordon Nursery, St. Margaret's, Twickenham, 3rd. In the class for twelve, the 1st prize went to Mr. W. Slogrove, Gatton, Reigate; and Mr. John Hughes, gr. to G. R. Higgins, Esq., 2nd.

Chinese Primulas were in good character from Mr. Ford. Cinerarias were extensively shown. Mr. Jas. Ford, gr. to Sir C. Pigott, Bart., Wrexham Court, Slough, was 1st, for twelve plants, all remarkably well-flowered.

There was close competition in the class for eighteen pots of Mignonette, the 1st prize going to Mrs. A. H. Morle, who had very compact plants, well-flowered; Mr. A. White, Stanmore Park Gardens, Stanmore, 2nd.

Messrs. Paul & Son, Cheshunt, were 1st for twelve Amaryllis, the specimens of fine culture; and Mr. James Douglas, 2nd; whilst in the amateur classes for bulbs, as twelve Hyacinths, Tulips, and so forth, Mr. H. Shoesmith, gr. to M. Hodgson, Esq., Shirley Cottage, Croydon, was the most successful; Mr. F. Batt, West Norwood, a good 2nd; but we may mention that Mr. James Gibson, gr. to Mrs. Berkeley James, The Oaks, Carshalton, had the best twelve Narcissus.

Not the least important feature of the show was the group of twenty-four Azaleas from Mr. Robert Wells, Longton Nursery, Sydenham, which won the 1st prize; such varieties as Camille Vervaene, bright rose-purple; Comtesse de Flandre, rose; and

Madame Bafinger, white, and tinted with lemon at the base, were of note.

Three competed in the class for a group of miscellaneous plants, the 1st prize being awarded to Messrs. J. Laing & Sons, Forest Hill, S.E., for a fine arrangement, comprising Cliveias, and such Orchids as Cypripedium Elliottianum, Cymbidium Lowianum, and fine-foliaged specimens.

Messrs. J. Peed & Sons, Roupell Park Nursery, Norwood, S.E., were 2nd, but their group was too lumpy, although consisting of fine plants.

Miscellaneous collections were numerous and interesting. The Cyclamen was, as usual at this season, the principal flower, and a large collection came from the St. George's Nursery Company, Hanwell. It was the finest group we have seen, finer even than at the Royal Botanic Show on the previous Wednesday. An excellent group also came from Mr. Thos. Pestridge; and amongst other miscellaneous contributions may be named a collection of varieties of Primula Sieboldi from Messrs. Ryder & Son, Sale, Manchester. This firm always exhibits tastefully, the flowers appearing to advantage rising from a surface of green moss, also pleasing table adornments.

Messrs. Wm. Paul & Son, Waltham Cross, had several boxes of Camellia flowers, representing a choice collection of varieties; one seedling, unnamed, having a large flower of a fine rose-colour; also a group of new Roses, a very interesting display. Such exhibits as these are the life of a show.

A large group of Lily of the Valley from Mr. T. Jannock, showed how well this grower cultivates this familiar flower.

Messrs. Paul & Son, Cheshunt, had Lilacs in pots, and Roses. Pauls' Early Blush is apparently a beautiful novelty, the flowers of good form, very sweetly scented, and of a pleasing rose colour. It will prove, we think, a favourite, but it is difficult to judge a new Rose from a plant at an exhibition. Hardwooded plants were shown well by Messrs. W. Cutbush & Son, Highgate; and dinner-table plants by Messrs. J. Peed & Sons. A very charming exhibit was two basketsful of Violets from Mr. W. Slogrove; and a large collection of Mushrooms, packed for market, came from Mr. Hardy, Ash House, Parson's Green.

Foreign Correspondence.

PRETORIAN PLANTS.

Trichodesma angustifolium.—Named and figured by Harvey more than thirty years ago in his *Thesaurus Capensis*, t. 40, this interesting plant came under my notice lately. A herb, 18 inches high, with many spreading stems and narrow rough leaves. Roots tuberous. Flowers borne in racemes, blue and red in colour, half an inch across, reminding one of Comfrey. Not such a showy plant as Trichodesma physaloides, yet worthy of note.

Gazania pygmæa.—Seed of this has been sent to Mr. Max Leichtlin, who pronounces it to be a new species. A very pretty little dwarf plant, hardly 6 inches high, and blooming in early spring in dry loamy soil. Flowers pure white, rather more than an inch across; leaves long and narrow, not lobed. It will probably make a fine bedding or border plant.

Dombeya rotundifolia.—A shrub, 10 feet high; a mass of snow-white flowers in early spring, before the leaves have expanded, when it is a very showy object.

Helichrysum cæspititium.—Surely the most humble of its race, appearing like patches of snow on dry hill sides in early spring. Flowers white, very small, and closely set, almost hiding the small Heath-like leaves, which form a green, moss-like cushion. A very pretty object for a rockery.

Erythrina Zeyheri.—In its wild unprotected state hardly a foot high, but shrubby when cultivated, and it then sends up a spike, about 2 feet long, of the most splendid crimson flowers.

Celastrus buxifolius.—Only attractive when in bloom; at other times it is a most formidable plant, armed with very long sharp spines. In early summer the rigid shoots are clothed with thousands of small ivory-white flowers, very sweet-scented, and attractive to bees and flies. A good hedge plant.

Lyperia multifida.—One of the Scrophulariaceæ. A herb some 6 inches high, bearing very many rosy flowers like a miniature Achimenes, and growing in company with a blue Lobelia, literally painting the veld with bright colours in October just before the grass begins to shoot.

Vellosia equisetifolia.—Imagine a stout Dracæna-like stem 2 feet high, crowned with long drooping grass-like leaves, interspersed with many solitary pendents, pale and blue Zeyphranthes-like flowers, 4 inches across. No one at first sight would take this fine plant to be an Amaryllid, since root, stem, and leaves have the habit of a Dracæna. It is a very rare plant in Natal and the Cape, and only found here in the driest and most rocky places, at great elevations, generally about 6000 feet. About six years ago, I collected a quantity of seed of this plant, and sent it to Prof. McOwan of the Cape Town Botanic Gardens, who in turn forwarded it to Kew. It is a plant that transplants very badly.

Gomphocarpus.—Of these beautiful and interesting Asclepiads, of which we have many species, G. eminens is a many-stemmed herb, with green and white flowers, and a remarkable ascending corona. Another species has large very handsome creamy-white flowers, 1¼ inches across. The corona is marked with deep maroon or rosy spots. It is a beautiful plant, well worthy of cultivation. And another bears a compact umbel of a dozen greenish flowers, most strongly honey-scented. The seed-vessels of these species are wonderfully varied, and are a study in themselves. *R. W. Adlam, Pretoria, Transvaal.*

Obituary.

Alexander McKenzie.—We regret to hear of the death, on the 27th ult., of Mr. A. McKenzie, the bailiff of Epping Forest. Alexander McKenzie, who was in his sixty-fifth year, was a native of the north of Scotland, and commenced his gardening career on the Deeside, Aberdeenshire, having been apprenticed in the gardens of Learney, subsequently he went to Fife, where he married. Eventually coming to England, he established himself in the nursery business for a short time at Brighton, and it was during that time that there arose between him and Mr. Thomson, of Clovenfords, a question as to who could produce the better Grapes during the month of January. From the Tweed Nurseries old Grapes were sent, while McKenzie showed newly-grown bunches, but the general result of the contest was a draw.

Giving up the nursery business, McKenzie again went into a gentleman's garden in the neighbourhood of London, whence he went to the Alexandra Palace, the grounds of which place were laid out by him; and among other places which he had to lay out, in association with Mr. Merston, was the Victoria Embankment Gardens. Shortly after the completion of these works, he was appointed Bailiff under the Corporation of London for Epping Forest and Burnham Beeches, which position he held till his death, which took place at The Warren, Epping. At City meetings and functions Mr. McKenzie was a familiar figure, and he had for some years been known publicly as Major in the Honourable Artillery Company. He was a zealous supporter of the Gardeners' Royal Benevolent.

Mr. William Treseder, the well-known Cardiff nurseryman, died at his residence in the Cowbridge Road, Cardiff, on the 22nd ult. The deceased gentleman was highly respected by all who had dealings with him, and has for the past forty years been the leading florist and nurseryman in the neighbourhood of Cardiff. The funeral, which took place on the 27th ult., was largely attended by the gardeners and nurserymen of the district, and also by a great number of the older residents of the town.

Threatened Extermination of the Alligator.—We learn from the *Bulletin de l'Association pour la Protection des Plantes*, that the high market value now set upon the skin of the alligator or cayman, causes the creature to be so recklessly hunted down that it is likely shortly to become extinct in Southern and Central America. To obviate such a contingency, the Government of Florida has recently passed a law protecting the alligator for three years, and threatening with severe penalties all who may molest it during that "close" time. It is added that this regulation is not passed in the interests of science, but from economical motives. The alligators feed on rats and other vermin, which, if not thus kept in check, would soon destroy the harvests, and ruin the agriculturists.

The Weather.

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees — a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (−) the Mean for the week ending March 25.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1893.	Below 42°, difference from Mean since January 1, 1893.	Rainfall. More (+) or less (−) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1893.	Total Fall since Jan. 1, 1893.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1893.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	4 +	46	23	+ 39	+ 14	8 —	62	12·8	36	19
1	5 +	64	31	+ 31	+ 19	5 —	50	5·9	66	28
2	4 +	57	25	+ 61	— 35	4 —	43	4·6	68	29
3	1 +	56	35	+ 86	— 10	4 —	49	5·1	76	30
4	2 +	70	39	+ 99	— 24	4 —	47	4·9	75	30
5	1 +	49	24	+ 67	— 16	4 —	48	6·1	77	29
6	3 +	50	25	+ 49	— 17	8 —	55	9·6	51	27
7	4 +	56	17	+ 73	— 48	5 —	48	6·3	62	25
8	3 +	52	15	+ 73	— 39	6 —	48	8·7	82	33
9	5 +	51	8	+ 43	— 56	6 —	57	7·7	53	24
10	3 +	49	6	+ 53	— 66	6 —	49	8·6	60	26
*	4 +	53	0	+ 111	— 43	5 —	55	7·3	91	35

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.: 3, England, E; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; (* Channel Islands.)

THE PAST WEEK.

The following summary record of the weather for the week ending March 25, is furnished from the Meteorological Office:—

"The *weather* during the week was extremely fine, bright, and dry over the whole of the kingdom. In London, however, the sun was frequently obscured during the early part of the day by low fog or haze.

"The *temperature* during the daytime was very high for the time of year, low at night; the diurnal range during the latter part of the period was unusually large, amounting to between 40° and 42° at some of the central English stations. The average for the week was only a little in excess of the normal over eastern, southern, and central England, but exceeded it by 4° over the northern counties, and by 4° or 5° in most parts of Ireland and Scotland. The highest of the maxima (which were recorded either on the 24th or 25th) ranged from 63° in 'Scotland, W.,' and 64° in 'Scotland, N.,' to 69° in 'England, E.,' the 'Midland Counties,' and 'England, S.W.' The lowest of the minima occurred at most stations at the beginning of the period, when they ranged from 17° in 'Scotand, E.,' and 19° in 'Scotland, N.,' and the 'Midland Counties' to 32° in 'Ireland,' and to 38° in the 'Channel Islands.'

"The *rainfall* was entirely absent from the greater part of the kingdom, the only exceptions being some localities in the west and north of Ireland, and the north and east of Scotland, where some small amounts were measured either at the beginning or end of the week.

"The *bright sunshine* was unusually prevalent, and greatly exceeded the mean. The percentage of the possible duration ranged from 36 to 66 in Scotland, from 52 to 60 in Ireland, and from 62 to 82 in the English districts; in the Channel Islands the percentage was as high as 91. These weekly percentages are in nearly all districts far higher than any previously recorded in the month of March since the sunshine recorders were first established in 1881; that for the Channel Islands is higher than any hitherto obtained during any part of the year."

Answers to Correspondents

Asters Diseased: *J. G.* We cannot see any trace of fungus. Can the mischief have arisen from watering when the plants were exposed to the sun?

Books: *R. M. Tobacco, a Handbook for Planters*, by C. G. Warnford Lock, and published by E. & F. N. Spon, Strand, London, price a few shillings. Messrs. Carter, of High Holborn, conducted some experiments a few years ago, and issued a pamphlet which might be useful to you.

Carpet Bedding, &c.: *X.* You will find what you want in *Cassell's Popular Gardening*, now being re-issued in monthly parts.

Chrysanthemums for Training: *A. G. B.* Answered in Home Correspondence column.

Detached Hyacinth Spikes: *F. N.* For some reason or other, which we cannot explain, the flower-spike grows too fast, and the enveloping bulb scales do not yield in unison. The consequence is, the scales by not expanding constrict the flower-spike, and, as it were, pinch it off.

Manure for Grass Land: *R.* The continuous application to a pasture of any kind of forcing manure, whether natural or artificial, is certain to cause the coarse, gross-feeding, and deeply rooting species to get the upper hand, and to drive out those of finer and better quality. If farm-yard manure has been applied in any considerable quantity during recent years, stop the application altogether, and give a dressing of 5 cwt. basic slag, and 2 cwt. kainit-salt per acre at once. This mixture will be cheap, and will supply in the slag, phosphoric acid, and lime, and in the kainit, potash, magnesia, and sodium chloride (common salt), but no nitrogen. It is the nitrogenous constituents in a manure that more particularly favour the stronger growing Grasses. Fish manure would supply nitrogen and phosphate of lime. It would be better adapted for meadows that have to be mown for hay, than for pastures intended for grazing. A bone superphosphate applied at the rate of from 2 to 3 cwt. per acre might permanently improve a pasture that had previously been treated with farm-yard dung. *J. J. W.*

Names of Plants: *H. Y.* 1, Prunus Pissardi; 2, Prunus triflora.—*T. W.* 1, Kerria japonica; 2, Hepatica triloba, double-flowered; 3, Saxifraga cordifolia; 4, Adiantum Farleyense; 5, Cotyledon.—*T. D.* Gynura aurantiaca.—*D. R., Edinburgh.* 1, Odontoglossum triumphans; 2, Bifrenaria Harrisoniæ; 3, Brassavola Perrinii; 4, Anthurium margaritaceum; 5, Rudgea macrophylla.—*S.* Oncidium trulliferum, the yellow, and Epidendrum lanipes.—*T. H. Moffat.* Next week.

Removal of Fruit Bushes, &c.: *F. W. W.* If you are not a nurseryman you cannot legally remove the bushes without permission, neither can you do so if you are in the service of your landlord. We do not think you could claim compensation from the incoming tenant. Try and arrange matters with the landlord, and if you cannot come to terms then consult a solicitor.

Rose Pruning: *A. M.* As a general rule, it is best to prune the weakly shoots hard back. We agree with you, rather than with the lecturer, but perhaps you misunderstood him. Was he alluding to Tea Roses? which, though weakly, do not require hard-pruning.

Scilla bifolia: *T. Smith.* They are attacked by a fungus Ustilago Vaillantii, Tul. I think this must be the first British record of the species. *M. C. Cooke.*

Communications Received.—H. de V., Paris.—W. L. M., California.—G. F. W.—E. C.—C. Ford, Hong-Kong.—A. W. H.—C. H. G.—P. B.—D. T. F.—W. J. B.—C. W. C. H.—R. W. M.—W. E., Leipsig.—T. B., Carlisle.—W. S., Bishop's Stortford.—J. W.—Rev. E. H.—J. G.—W. B.—L. L., Brussels.—W. G.—T. R.—H. W. W.—J. J. W.—E. T. C.—A. E.—J. G. B.—H. R.

Drawings and Photographs Received.—C. Ford, Hong-Kong (with thanks).—C. H. G.—J. A.

Specimens Received.—P. MacOwen.

DIED.—On the 25th ult., at St. Martin's, Chichester, James Wylie McRonald, aged seventy-six.

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Sold in Tins, at **1s., 1s. 6d.**, and **2s. 6d.**; and in Bags, 28 lb., **6s. 6d.**; 1 cwt., **21s.** Carriage Paid.

VIGOR & CO.,
120, MARYLEBONE ROAD, LONDON, N.W.
Works:—KENT and NORFOLK.

NATIVE GUANO.—Best and Cheapest Manure for Garden Use. Price £3 10*s.* per ton, in bags. Lots under 10 cwt., 4*s.* per cwt.; 1 cwt., Sample Bag, sent Carriage Paid to any Station in England, on receipt of P.O. for 5*s.*

Extracts from 16th Annual Collection of Reports:—

NATIVE GUANO, for POTATOS, VEGETABLES, &c.

H. Brinkworth, Potato Grower, Reading, used for Potatos, Onions, and Carrots, results:—"Very good; never had better crops."—J. Butler, Sittingbourne:—"Used for Potato, Celery, and other Market Garden Crops, with very good results; Potatos large, clean, and free from disease. Best and Cheapest Manure in the Market."

NATIVE GUANO, for FRUIT, ROSES, TOMATOS, &c.

J. Peed & Sons, Streatham, used for Fruit Trees and Roses, results:—"Very satisfactory; we use no other Guano now; consider yours preferable to Peruvian."—J. Finch, Orrell Gardens:—"Used for Vegetables, Tomatos, Grapes, Cucumbers, and Flowers, with satisfactory results. Most excellent for Potatos, and many other things. The Cheapest Manure in the Market."

Orders to the **Native Guano Co., Ltd.**, 29, New Bridge Street, Blackfriars, London, where Pamphlet of Testimonials, &c., may be obtained. AGENTS WANTED.

BONES! BONES!! BONES!!! Any size from dust to 1 inch. Dissolved Bone Compound, for Top-dressing. All at 10*s.* per cwt.; less quantity, 1½*d.* per lb. Carriage paid on 1 cwt. Terms, Cash with Order. Special quotations for large Buyers.

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RICHARDS' WEED DESTROYER

Every Gallon Guaranteed above the usual Standard Strength.

As at Present Used in the ROYAL GARDENS.

☞ **PREPARED IN LONDON IN THE LARGEST POISON MANUFACTORY IN EUROPE.**

Full Directions for Use printed on each Package. To be used in the proportion of 1 gallon to 25 gallons of water.

In strong Drums of 2 gallons, **3/8**; 4 gallons, **7/-**; 6 gallons, **10/-**. In Casks, 12 gallons, **18/6**; 18 gallons, **27/-**; and barrels, 40 gallons, **50/-**.

Special Quotations Given for Large Quantities.

Six Gallons or more sent Carriage Paid to any part.

Full Invoice Price allowed on Empties, when returned in good condition carriage paid.

The reports from Customers who have used it during the past year (and tried it side by side with others), afford ample proof that it is the QUICKEST IN ACTION and the most PERMANENT WEED KILLER in the Market.

G. H. RICHARDS, Sole Manufacturer, Old Shot Tower Wharf, Lambeth, London, S.E.
Trade Supplied on Best Terms.

BENTLEY'S INSECTICIDE.

Awarded Prize Medal (only award),
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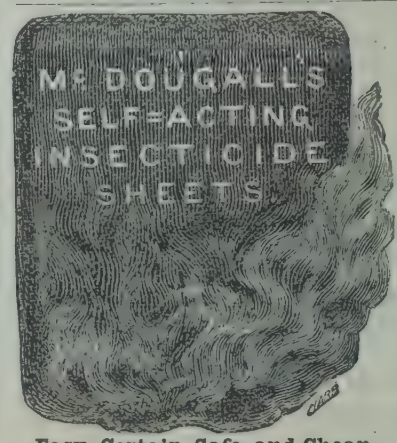
International Horticultural Exhibition, Earl's Court, 1892.

Sole Manufacturer—
JOSEPH BENTLEY,
CHEMICAL WORKS,
BARROW-ON-HUMBER, HULL.



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Exterminate all Insect Pests *without Injury to Foliage.*

No HOT COKES.

Vastly Superior to Tobacco Paper

And Adopted by

Sir Trevor Lawrence, Bt.; Baron Schroder; Rt. Hon. Jos. Chamberlain; Sir Leopold Rothschild, Bart.; Messrs. Veitch, Chelsea; Sutton, Reading; Carters', Holborn.

Easy, Certain, Safe, and Cheap.

Sheets, 9d. *(for 1000 cubic feet in parcels of 1 dozen, also ¼, ½, and 1 gross.)* **9s. per Dozen,** *at 13 to Doz.*

McDougalls' Liquid Insecticide.—For *Use under Glass.*
" **Garden and Fruit Tree Wash.**—For *Outdoor Use.*
" **Plant Food or Manure.**—For Vines, Fruits, & Plants.
All Free from Poison. *Patentees and Sole Makers—*

McDOUGALL BROS. { London: 10, Mark Lane. Manchester: 68, Port Street. Glasgow: 70 to 78, King Street.

FROM NURSERYMEN AND SEEDSMEN.

GISHURST COMPOUND, used since 1859 for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water, 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in lather from cake, for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1*s.*, 3*s.*, and 10*s.* 6*d.*

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6*d.* and 1*s.* from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

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For ORCHIDS, STOVE PLANTS,

Hardwood do., Ferns, and Rhododendrons, by sack, yard, ton, or truckload. **SPECIAL ORCHID PEAT,** in sack only. Rich fibrous LOAM, superior LEAF-MOULD, Coarse, Crystal, and Fine SILVER SAND, CHARCOAL, C. N. FIBRE REFUSE, fresh SPHAGNUM, Patent MANURES, FERTILISERS, INSECTICIDES, and all other Garden Requisites. **Peat Moss Litter.**

The Original Peat Depot, RINGWOOD, HANTS.

ORCHID PEAT.

PREPARED, ready for use, all fibre, 10*s.* per sack; 5 for 47*s.* 6*d.*
SELECTED, in blocks, very fibrous, 8*s.* per sack; 5 for 37*s.* 6*d.* SECOND QUALITY, 5*s.* per sack; 5 for 22*s.* 6*d.*
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Send Postal Order for Sample Sack.

Special terms to the Trade. For Price List apply to THE FORESTER, **Joyden Wood**, near **Bexley, Kent.**

IMPORTANT PLANT PROTECTION.
—Send for samples of SHAW'S TIFFANY and NETTING. No. 3 and 5 Netting are essential to Early Wall Fruit, &c.
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COCOA-NUT FIBRE REFUSE,
4d. per bushel; 100 for 25s.; truck (loose, about 2 tons), 40s.; 4-bushel bags, 4d. each.
SPECIALLY SELECTED ORCHID PEAT.
LIGHT BROWN FIBROUS PEAT, 5s. 6d. per sack; 5 sacks, 25s.; sacks, 4d. each.
BLACK FIBROUS PEAT, 5s. per sack; 5 sacks, 22s.; sacks, 4d. each.
COARSE SILVER SAND, 1s. 9d. per bushel; 15s. per half ton; 26s. per ton, in 2-bushel bags, 4d. each.
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SPHAGNUM MOSS, 8s. 6d. per sack.
MANURES, GARDEN STICKS, VIRGIN CORK, TOBACCO CLOTH, RUSSIA MATS, &c. Write for Price LIST.—H. G. SMYTH, 21, Goldsmith Street, Drury Lane, W.C.

WARE and SONS' ARE THE FLOWER POTS BEST.
THE SUSSEX POTTERY WORKS, UCKFIELD.
Quotations given for quantities. Carriage paid to any Railway Station.
The Best are Cheapest.
SAMPLES and LISTS FREE. Crates packed.

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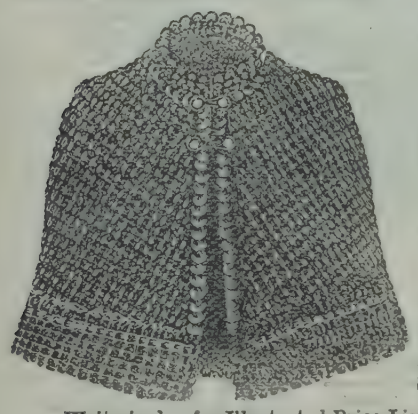
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WOOL OR CHENILLE CAPES.
They do not Slip off like Shawls, nor do they Hinder the Movements.
The Best Article to be Worn in the House, GARDEN, Theatre, &c.
Write to-day for Illustrated Price List, sent Gratis.
KNITTED CORSET CO., NOTTINGHAM.
MENTION "GARDENERS' CHRONICLE."
This Advertisement should be kept, as it may not appear again.

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BUY DIRECT FROM
THOS W. ROBINSON, STOURBRIDGE,
DENNIS PARKIRON WORKS
PRICE LISTS FREE
"THE MANUFACTURER"
THE IMPROVED "EXPANSION JOINT" HOT WATER PIPES
"THE BEST OF ALL"

HOT WATER JOINTS
TELEGRAMS:—"ALPHA" BRETTELL-LANE

THE GARDENERS' HAND SEED-DRILL has an established reputation. Six Silver Medals awarded. Over 16,000 in use in all parts of the globe. Extensively used by the French and German peasantry. Sows in rows, Onions, Turnips, Carrots, Mangolds, Veitches, Parsnips, Barley, and Wheat. Simple and easily adjusted. Price, No. 1, 10s. 6d.; No. 2, large hopper (for field or garden), 12s. 6d. Send P.O.O. and name of station to J. LE BUTT AND CO., South Works, Bury St. Edmunds, Suffolk. Drill leaves same day, Invaluable for filling up blank places left by Horse Drill.
Beware of imitations.

BOULTON & PAUL, Manufacturers, NORWICH.

WROUGHT-IRON ASHES or OFFAL BARROW, Garden Barrow & Cinder Sifter combined.
CASH PRICE.
Painted 30/-
Body galvanised ... extra 7/6
If fitted with registered Cinder Sifter 5/-
Portable Sanitary Dust-Bins and Swing Barrows.
Send for Illustrated CATALOGUE, post-free on application.

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SHEET
STOCK SIZES
14×12 20×15
16×12 20×16
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21-oz. and 15-oz FOREIGN, of above sizes, in boxes of 100 feet & 200 feet super.
ENGLISH Glass, cut to buyers' sizes, at lowest prices delivered free & sound in the country, in quantity.
LEADED LIGHTS for CONSERVATORIES & PRIVATE HOUSES
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LEAD, GLASS, OIL, and COLOUR MERCHANTS,
34 St JOHN Street WEST SMITHFIELD. LONDON. E.C.
Stock lists and prices on application. Please quote *Chronicle*.

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FOR WINTER GARDENS AND FERNERIES; WATERFALLS, STREAMS, LAKES, &c.
PULHAM & SON, 50, Finsbury Square, London.
VASES FOUNTAINS, KERBING, BALUSTRADES, TERRACES, &c., IN TERRA COTTA,
Durability Guaranteed.

THIS GREENHOUSE erected and heated complete, in any part of the country, best materials only, workmanship guaranteed, 25 ft. by 12 ft., £50; 30 ft. by 15 ft., £70. Brick-work excepted. For particulars, see our Catalogue, post-free.

Superior Portable Frames, large stock ready for immediate use, well made, painted four coats, glazed with 21-oz. glass, carriage paid:—1-light frame, 4 × 6, 36s. 6d.; 2-light frame, 6 × 8, 58s.; 3-light frame, 12 × 6, 85s. 6d.
Span-roof Frames, 9 × 5, £3 15s.; 12 × 6, £5; 16 × 6, £7 10s. Can send off same day as ordered.
HARDY BRUIN & CO., Graham Street, LEICESTER

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THE SPHINCTER HOSE and ENGINEERING CO. LIMITED,
9, MOORFIELDS, LONDON, E.C.
New PRICE LIST for this Year's GARDEN HOSE SEASON, Now Ready,
POST-FREE ON APPLICATION.
To all who will anticipate their requirements, and *Order at Once*, a large reduction from List Prices is offered. This advantage will have to be withdrawn when the Season opens in April.

"FRIGI DOMO" CANVAS.
Made of prepared Hair and Wool, a perfect protection to all Plants and Blooms. Cheaper than any kind of mat, and will last for years.
To be had from all Nurserymen and Seedsmen.
FOR PRICE LIST & PARTICULARS ADDRESS
BENJAMIN EDGINGTON
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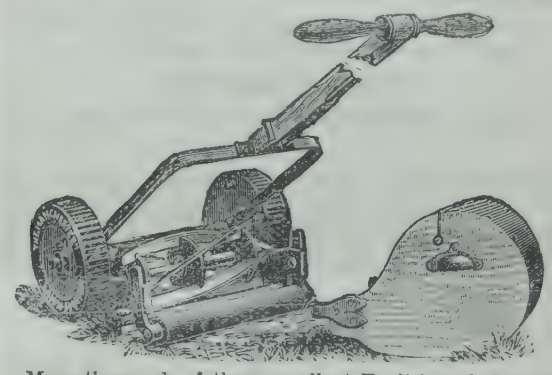
USE THE PATENT
"MANCHESTER" LAWN MOWER.
Awarded numerous National & International Prize Medals.

Many thousands of these excellent English-made Machines in use, giving unqualified satisfaction. Easy to work on uneven ground, and cut long or short grass, wet or dry, and give the turf a beautiful velvety appearance.
FOLLOWS & BATE, LTD., ENGINEERS.
GORTON, MANCHESTER.
Patentees and Manufacturers of the New Patent "RUNAWAY," Royal "ANGLO-AMERICAN," "TENNIS," and "CLIMAX" LAWN MOWERS.
85,000 SOLD SINCE 1869.
☞ *To be obtained promptly from all respectable Ironmongers and Seedsmen. PRICE LISTS POST-FREE.*

W. H. LASCELLES & CO.,
HORTICULTURAL BUILDERS,
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CONSERVATORIES, GREENHOUSES, ORCHID HOUSES, VINERIES, PEACH HOUSES, &c.
Plans and Estimates Free.

AUTOMATIC DAMPER
FOR GREENHOUSES.
Dr. GEORGE WALKER, Inventor of Chrysanthemum Cup Tubes, Wimbledon, says:—"I have used your Automatic Damper for some weeks, and am perfectly satisfied with it. A most ingenious and useful invention."
Mr. H. J. JONES, Hither Green, Lewisham, who uses the Damper in a house 100 feet long, says:—"I find this damper is in every way economical. Its saves both fuel and labour, and keeps the house at a more even and better temperature."
PATENT AUTOMATIC DAMPER CO.,
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THE GARDENERS' CHRONICLE

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Head Line charged as two.

4	Lines ..	£0	3	0	15	Lines ..	£0	8	6
5	„ ..	0	3	6	16	„ ..	0	9	0
6	„ ..	0	4	0	17	„ ..	0	9	6
7	„ ..	0	4	6	18	„ ..	0	10	0
8	„ ..	0	5	0	19	„ ..	0	10	6
9	„ ..	0	5	6	20	„ ..	0	11	0
10	„ ..	0	6	0	21	„ ..	0	11	6
11	„ ..	0	6	6	22	„ ..	0	12	0
12	„ ..	0	7	0	23	„ ..	0	12	6
13	„ ..	0	7	6	24	„ ..	0	13	0
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Advertisements for the current week must *reach the Office not later than Thursday noon.*

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements, 41, Wellington Street, Strand, W.C.

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All Subscriptions payable in advance. The United Kingdom, 12 *months,* 15*s.*; 6 *months,* 7*s.* 6*d.*; 3 *months,* 3*s.* 9*d. All Foreign Subscriptions, including Postage,* 17*s.* 6*d. for* 12 *months. Post-office Orders to be made payable at the Post-office,* 42, *Drury Lane, W.C., to* A. G. Martin.

Subscribers who experience any difficulty in obtaining their copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint).

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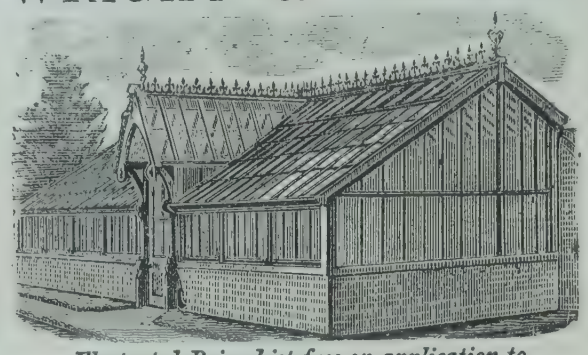


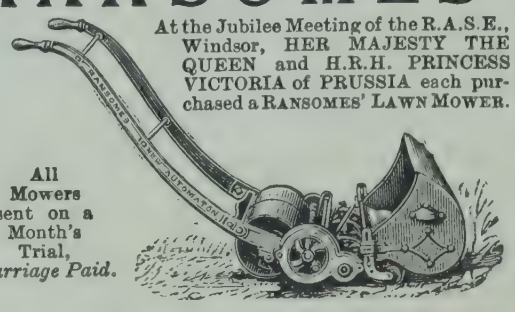
Illustrated Price List free on application to

WRIGHT & HOLMES,

Horticultural Builders & Hot-water Apparatus Engineers,

MOSELEY ROAD, BIRMINGHAM.

RANSOMES'



At the Jubilee Meeting of the R.A.S.E., Windsor, HER MAJESTY THE QUEEN and H.R.H. PRINCESS VICTORIA of PRUSSIA each purchased a Ransomes' Lawn Mower.

All Mowers sent on a Month's Trial, *Carriage Paid.*

LAWN MOWERS,

The Best in the World.

In all sizes to suit every requirement.

"NEW AUTOMATON," the Best Gear Machine.
"CHAIN AUTOMATON," the Best Chain Machine.
"NEW PARIS," the Best Small Machine.
"EDGE CUTTER," the only one of real service.
"BANK CUTTER," the Best for Cutting Slopes.

THE BEST PONY and HORSE-POWER MOWERS.

Orders executed promptly by all Ironmongers.

RANSOMES, SIMS & JEFFERIES, Ltd., IPSWICH.

HELLIWELL'S

PATENT IMPERISHABLE

GLAZING WITHOUT PUTTY,

FOR GREENHOUSES, and all kinds of HORTICULTURAL BUILDINGS, YARDS, RAILWAY STATIONS, and every description of ROOF COVERING. Saves all Painting and Puttying, and Breakage, and is absolutely Watertight, and free from Drip.

No more expensive at first cost.

All houses can be taken to pieces and re-erected.

References given to works in all parts of the country of many years' standing.

Designs and Estimates Free, and Measurements taken Free of Cost.

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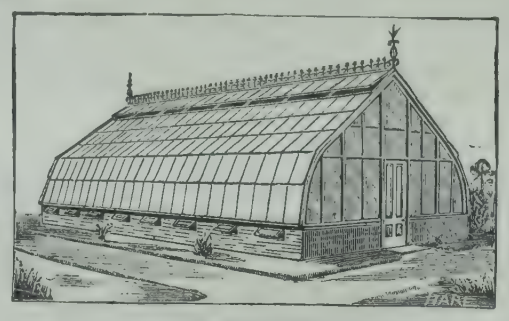


ALL KINDS.

Testimonials.

"Shirburn Castle, January 5, 1890.

"Sir,—As you requested my opinion of the houses which you erected for me some 4 years ago, I beg to inform you that I consider them a perfect success, and I have recommended them to many of my neighbours.—Yours truly (signed) Macclesfield."

"Hornby Castle, Lancaster, February. 1890.

"Major Foster has much pleasure in stating that the vineries and forcing-houses which were erected by Mr. Helliwell in 1884, continue to give perfect satisfaction, both to himself and his gardener."

"Estate Office, Ripley, Yorkshire, January 23, 1890.

"Sir Henry Ingilby has much pleasure in stating that the glazing work executed by you, under your patented system, at the Ripley Castle Gardens, has been in every respect entirely satisfactory. The work has stood its 8 years' wear and tear extremely well, and has hitherto cost nothing to keep it in repair."

HELLIWELL & CO., 9, Victoria St., Westminster, S.W.

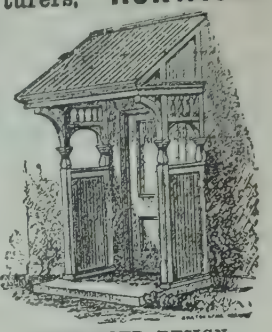
BOULTON & PAUL, Manufacturers, NORWICH.

PORTABLE WOOD and IRON BUILDINGS of every Description, for Leasehold Property.

Artistic Portable Wood Summer-houses, Wood Gates, Porches, Verandahs, &c.

Send for *Illustrated Catalogue,* free on application.

BOULTON & PAUL, NORWICH.



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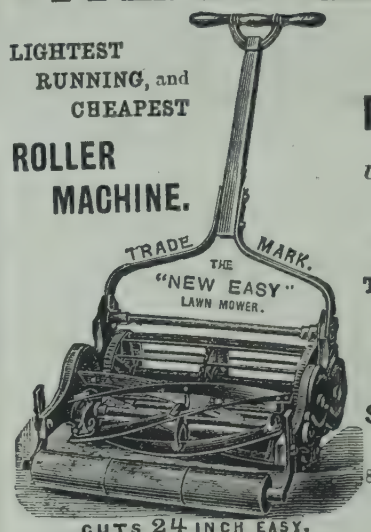
THE 'NEW EASY' LAWN MOWER.

LIGHTEST RUNNING, and CHEAPEST ROLLER MACHINE.



CUTS 24 INCH EASY.

UNEXCELLED DURABILITY.

Made in all sizes, from 10 to 24 inches.

The LARGEST SIZE easily worked by **ONE MAN.**

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HORTICULTURAL GLASS.

A Large Stock always on Hand.

Special quotations for quantities.

WHITE LEAD, OILS, AND COLOURS

At lowest possible prices.

NICHOLLS & CLARKE,

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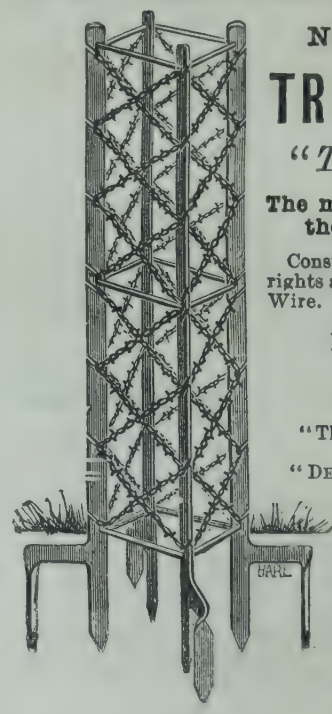
LONDON, E.

HILL & SMITH,

BRIERLEY HILL,

STAFFORDSHIRE,

And 118, QUEEN VICTORIA STREET, LONDON, E.C.



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TREE GUARD,

"The Porcupine."

The maximum of utility and the minimum of cost.

Constructed of strong Iron Uprights and Galvanised Barbed Steel Wire.

Price 10s. 6d.

TESTIMONIAL.

"The Whittern, Herefordshire.
"Dec. 28, 1887.

"Dear Sirs,—I have now had an opportunity of trying your Porcupine Tree Guards, and they seem quite to answer my purpose, so you may send me 50 more, as before. I enclose cheque for your account.

Yours truly,
RICHD. GREEN.
Messrs. Hill & Smith.

POTATO DISEASE, Book on the.—6½*d.*, post-free; showing how to Avert the Potato Disease. To be had from the Author, JAMES DOBBIE, Madeira Villa, Rothesay, Scotland. (Founder of the firm of Dobbie & Co.)

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COUNTY COUNCIL LECTURES.

PAXTON'S COTTAGERS' CALENDAR OF GARDEN OPERATIONS.

Will be useful to Lecturers and Students in the above subject.

Price 3d.; post-free, 3½d.
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A TEXT-BOOK OF TROPICAL AGRICULTURE.
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New Volume of Macmillan's Primers.
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Ten Lectures delivered for the Surrey County Council.
By J. WRIGHT, F.R.H.S., Assistant-Editor of the *Journal of Horticulture*. Pott 8vo, 1*s.*

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By HENRY A. BRIGHT.
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By HENRY A. BRIGHT.
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AND
NEW SOUTH WALES ADVERTISER.

CONTENTS:—

INTERCOLONIAL and GENERAL NEWS.
SPORTING and the FIELD, in which is incorporated BELL'S LIFE in SYDNEY.
RECORD of RACES and NOTES on the TURF.
CRICKET and AQUATICS.
THE FLORA of AUSTRALIA. (Drawn and engraved especially for this Journal.)
NATURAL HISTORY. (Original Articles.)
AGRICULTURE, PASTORAL, HORTICULTURE.
GOLD FIELDS and MINING generally.
STOCK and SHARE REPORTS.
ORIGINAL and SCIENTIFIC ARTICLES.
TALES by POPULAR ENGLISH and AUSTRALIAN AUTHORS.
THE FASHIONS. DOMESTIC ECONOMY.
INDOOR AMUSEMENTS.
THE CHESS PLAYER. THE HOME CIRCLE.
COMMERCIAL NEWS.
SHIPPING INTELLIGENCE.
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MARKETS.

COVENT GARDEN, March 29.

[We cannot accept any editorial responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. ED.]

THE fine weather is sending heavy supplies of forced goods into market, particularly Cucumbers and Strawberries, which are only cleared at much reduced rates. *James Webber, Wholesale Apple Market.*

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	*s. d.*		*s. d.*	*s. d.*
Arum, per doz. bl.	1 0	3 0	Narcissus, various, French, doz. bun.	2 0	6 0
Azalea, dozen sprays	0 6	0 9	Orchids:—		
Bouvardias, per bun.	0 6	1 0	Cattleya, 12 blms.	6 0	12 0
Carnations, 12 blms.	2 0	6 0	Odontoglossum crispum, 12 blms.	2 0	6 0
Chrysanthemums, p. doz. bunches	4 0	9 0	Pelargoniums, scarlet, p. 12 bun.	6 0	9 0
Cyclamen, doz. blms.	0 4	0 6	12 sprays	0 9	1 6
Daffodils, dble., doz. bunches	1 6	3 0	Primroses, doz. bun.	1 0	2 0
— single do.	2 0	9 0	Primulas, dble. p. bun.	0 6	1 0
Eucharis, per dozen	4 0	6 0	Roses, Tea, per dozen	2 0	4 0
Gardenias, per dozen	6 0	12 0	— coloured, dozen	3 0	6 0
Heliotropes, per doz. sprays	0 6	0 9	— yellow (Maréchals), per doz.	4 0	6 0
Hyacinths, Roman, doz. sprays	0 6	1 0	— red, per dozen	3 0	6 0
— dozen spikes	3 0	6 0	— (French) p. doz.	1 6	4 0
— French, 12 bun.	0 6	1 0	Snowdrops, doz. bun.	0 9	1 6
Lilac, French, per bunch	3 6	5 0	Tuberoses, 12 blms.	1 0	1 6
Lilium Harrisii, doz.	4 0	6 0	Tulips, red, doz. bm.	0 6	0 9
Lily of the Valley, doz. sprays	0 6	1 0	— white, doz. blm.	1 6	2 0
Maiden Hair Fern, 12 bunches	6 0	9 0	— yellow, doz. blm.	1 0	1 6
Marguerites, p. doz. bunches	2 6	4 0	Violets, Parme French per bunch	3 6	4 0
Mignonette, 12 bun.	3 0	12 0	— Czar, French, per bunch	2 0	2 6
Mimosa, French, bun.	1 0	1 6	— small French, p. doz. bunches	1 0	1 6

ORCHID-BLOOM in variety not in quantity.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	*s. d.*		*s. d.*	*s. d.*
Arums, dozen pots	12 0	18 0	Ficus elastica, each	1 6	7 6
Azalea, per doz.	24 0	42 0	Genista, per doz.	10 0	15 0
Adiantum, per doz.	6 0	12 0	Hyacinth, doz. pots	10 0	12 0
Aspidistra, per doz.	15 0	30 0	Lilium Harrisii	24 0	36 0
— specimen, each	7 6	21 0	Lily of the Valley, 12 pots	12	18 0
Cineraria, per doz.	8 0	12 0	Marguerite, per doz.	6 0	12 0
Cyclamen, doz.	9 0	18 0	Mignonette, doz. pots	6 0	12 0
Cyperus, per dozen	4 0	10 0	Palms, various, each	2 0	10 0
Dracæna, each	1 0	5 0	— specimens, each	10 6	84 0
Erica, various, doz.	9 0	21 0	Solanum, per doz.	9 0	12 0
Ferns, various, doz.	4 0	9 0	Tulip, per doz. pots	6 0	9 0
Ferns, small, per 100	5 0	8 0			

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	*s. d.*		*s. d.*	*s. d.*
Apples, p. half-sieve	2 0	3 6	Lemons, per case	12 0	20 0
— Nova Scotia, per barrel	10 0	17 6	Pine-apples, St. Michael	4 0	8 0
Cobs, per 100 lb.			Oranges, Florida, per case	10 0	16 0
Grapes, per lb.	1 0	5 0	Strawberries, per lb.	3 0	6 0
— new, per lb.	4 0	6 0			

VEGETABLES. — AVERAGE RETAIL PRICES.

	s. d.	*s. d.*		*s. d.*	*s. d.*
Beans, French, lb.	1 6	2 0	Mushrooms, punnet	2 0	
Beet, red, per dozen	2 0	3 0	Mustard and Cress, punnet	0 4	
Carrots, per bunch	0 4	0 6	Parsley per bunch	0 3	0 6
Cauliflowers, each	0 3	0 6	Seakale, per basket	2 0	2 6
Cucumbers, each	0 4	0 8	Shallots, per lb.	0 6	
Endive, per dozen	2 0	3 0	Tomatos, per lb.	1 0	2 0
Herbs, per bunch	0 9	1 0	Turnips, per bunch	0 4	0 6
Lettuces, per doz.	1 6	2 0			

POTATOS.

Trade still continues very quiet, and prices low for all kinds except first-class samples.

NEW POTATOS.—Arrivals this week rather heavy, best samples making 26*s.* to 28*s.*; medium, 20*s.* to 22*s.*; ordinary, 14*s.* to 16*s.* *J. B. Thomas.*

SEEDS.

LONDON: *March* 27.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write, that a good sowing demand now prevails for field seeds. Quotations generally exhibit extreme steadiness. Choice English Cow-grass offers less freely. Alsyke White and Trefoil are unchanged. Perennial Rye-grasses seem inclined to be cheaper. French Italian continues scarce and dear. The supplies of Sanfoin appear nearly exhausted. Kœnigsberg and Brunswick Tares move off freely. In bird seeds there is now but little business passing. White and Scarlet Runner Beans offer on remarkably moderate terms.

CORN.

Averages.—Official statement of the average prices of British corn, imperial measure (quarter) for the week ending March 25, and for the corresponding period last year:—1893: Wheat, 24*s.* 8*d.*; Barley, 25*s.* 5*d.*; Oats, 18*s.* 3*d.* 1892: Wheat, 32*s.* 8*d.*; Barley, 27*s.* 9*d.*; Oats, 20*s.* 4*d.*

FRUITS AND VEGETABLES.

BOROUGH: *March* 28.—Fully adequate supplies, which meet a quiet demand. Kale, 9*d.* to 1*s.* 3*d.* per bushel; Turnip-tops, 2*s.* to 2*s.* 6*d.*; Broccoli, 1*s.* 9*d.* to 2*s.* per bag; Greens, 1*s.* 6*d.*; Parsley, 3*s.*; Carrots, 2*s.* 6*d.* to 3*s.* 6*d.*; Turnips, 1*s.* 6*d.* per dozen bunches; English Onions, 8*s.* to 9*s.* per cwt.; Dutch do., 6*s.* per bag; Horseradish, 2*s.* 3*d.* to 2*s.* 6*d.* per bundle Apples, 4*s.* 6*d.* to 6*s.* per bushel.

SPITALFIELDS: *March* 28.—Supplies of greenstuffs continue good. Fair demand. Prices:—Savoys, 3*s* to 5*s.*; Cauliflowers, 5*s.* to 7*s.* 6*d.* per tally; Curly Kale, 6*d.* to 1*s.*; Beetroots, 3*s.* to 4*s.* per bushel; Sea-kale, 1*s.* to 1*s.* 3*d.* per punnet; Brussels Sprouts, 1*s.* per half-sieve; Turnip tops, 2*s.* to 2*s.* 6*d.*; Sprouting Broccoli, 1*s.* 6*d.* to 2*s.* 6*d.* per sack; Greens, 1*s.* 6*d.* to 2*s.*; Carrots, 2*s.* to 3*s.*; Turnips, 2*s.* to 2*s.* 6*d.*; Parsley, 6*s.* to 9*s.* per dozen bunches; Horseradish, 2*s.* to 2*s.* 6*d.*; Celery, 1*s.* 3*d.* to 1*s.* 6*d.* per bundle; forced Rhubarb, 1*s.* to 1*s.* 6*d.*; natural do., 2*s.* 6*d.* to 3*s.*; Mint, 5*s.* to 6*s.* per dozen bundles; frame Cucumbers, 5*s.* to 7*s.* per dozen; Mustard and Cress, 2*s.* per dozen baskets; English Onions, 9*s.* 6*d.* to 10*s.* 6*d.* per cwt.; Spanish do., 9*s* to 10*s.* per case; foreign Tomatos, 1*s.* 6*d.* to 2*s.* per box; English Apples, 5*s.* 6*d.* to 6*s.* 6*d.* per bushel; American do., 18*s.* to 19*s.* per barrel.

FARRINGDON: *March* 29.—Quotations:—English Onions, 10*s.* per cwt.; Parsnips, 40*s.* per ton; Turnips, 40*s.* to 45*s.* do.; Carrots, 50*s.* to 60*s.* do.; Broccoli, 1*s.* 6*d.* to 1*s.* 9*d.* per bag; Turnip-tops, 1*s.* 6*d.* to 1*s.* 9*d.* do.; Greens, 1*s.* per bushel; Radishes, 8*d.* per dozen bunches; Apples, French, 9*s.* per box; American Baldwins, 13*s.* to 15*s.* per barrel; Pine-apples, 2*s.* to 2*s.* 6*d.* each.

POTATOS.

BOROUGH: *March* 28.—Quotations:—English Magnums, 40*s.* to 80*s.* per ton. Others as last reported.

SPITALFIELDS: *March* 28.—Quotations:—Magnums, 40*s.* to 70*s.*; Champions, 45*s.* to 60*s.*; Imperators, 50*s.* to 65*s.* per ton.

FARRINGDON: *March* 29.—Quotations:—Main Crop, 85*s.* to 90*s.*; Sutton's Abundance, 75*s.* to 85*s.*; Bruce's, 65*s.* to 70*s.*; Magnums, 55*s.* to 65*s.* per ton.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 80*s.* to 115*s.*; do., inferior, 70*s.* to 75*s.*; hay, best, 75*s.* to 112*s.*; do., inferior, 65*s.* to 75*s.*; and straw, 30*s.* to 45*s.* per load.

FOR SALE, a large quantity of BURRS, at greatly reduced prices, for Immediate Clearance. Suitable for Garden Walls and Ornamental Work.—Apply, FINSBURY PARK BRICK CO., LTD., Oakfield Road, Stroud Green, N.

To Nurserymen, Gardeners, &c.
300 TONS of rich, mellow LOAM for SALE, suitable for Roses, Cucumbers, Melons, &c.—6*s.* per ton, in trucks at Reigate Town Station, S.E.R. Apply to D. PITT AND SONS, Reigate, Surrey.

TURF and TOP-SPIT of LOAM from Carshalton Deer Park, for Sale, at low price.
PRITCHINGS, 5, Belmont Cottages, Belmont Road, Wallington, Surrey.

THE FRUIT GARDEN of the UNIVERSE —THE AUSTRALIAN IRRIGATION COLONIES (Chaffey brothers), established and regulated by Government, OFFER an enjoyable Life and OCCUPATION, a sunny and salubrious Climate, and most highly remunerative returns to Cultivators with small or large Capital. Pamphlet free.
CHAFFEY BROTHERS, Limited, 35, Queen Victoria Street, London, E.C. J. E. M. Vincent, Chief Commissioner.

GLASS! CHEAP GLASS!
In Stock Sizes.
15-oz., per 100 ft., 8*s.* 6*d.* { 12×10, 18×12, 18×14, 24×14
21-oz., ,, 11*s.* 9*d.* { 14×12, 20×12, 18×16, 24×16, 16×12, 16×14, 20×16, 24×18, &c.
Paints and Varnishes at Low Prices. Flooring, 5/9 per square; Matching, 4/9; 2×4, at ½*d.* per foot run; 2×7 at 1*d.*
Horticultural Work of all descriptions, Ironmongery, &c.
CATALOGUES Free.
THE CHEAP WOOD COMPANY,
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The BIRKBECK ALMANACK, with full particulars, post-free. FRANCIS RAVENSCROFT, Manager.

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EPPS'S

GRATEFUL—COMFORTING.

COCOA

BOILING WATER OR MILK.

GARDENING APPOINTMENTS.

MR. J. K. ELSEY, for two years Foreman at Shirley Park, Croydon, as Head Gardener to P. J. PELLY, Esq., Coppice Lea, Merstham, Surrey.

Mr. W. G. PIPER, from Kenyon Hall Gardens, Manchester, as Head Gardener to T. E. WITHINGTON, Esq., Culcheth Hall, Leigh, Lancashire.

Mr. W. BUGBY, the last six and a half years Gardener to L. T. CAVE, Esq., Ditcham Park, Petersfield, as Head Gardener to G. F. BUXTON, Esq., Dunston Hall, Norwich.

Mr. ALBERT P. COLE, late Gardener to C. PICTOR, Esq., Foxleigh, Box, Wilts, as Gardener to G. CUTT, Esq., Stanton House, Nightingale Lane, Balham, London, S.W.

THE FULHAM VESTRY require the services of a GROUND KEEPER for the Recreation Ground, Fulham, at a salary of 30*s.* per week. The person to be appointed must be a practical Gardener, and between 25 and 45 years of age. Applications, stating age, present and past employment, together with copies of three recent testimonials, and marked on the outside "Ground Keeper," must be delivered on or before THURSDAY, April 6, 1893, at 4·30 P.M. Canvassing will disqualify any candidate.

W. J. H. DENSELOW, Clerk to the Vestry.

Town Hall, Walham Green, S.W.

PARTNER WANTED, active or otherwise, in growing Seed Business, in a large town.—Apply, SEEDS, 41, Wellington Street, Strand, W.C.

WANTED, an experienced GARDENER, willing and industrious, for Inside and Out.—Apply, stating age, wages, and references, to J. PAYNE, Ash Vale, Aldershot.

Nursery Foreman Wanted.

WANTED, an industrious and steady MAN as NURSERY FOREMAN. He must have a general knowledge of Nursery Stock, be an expert and successful budder and Grower of Fruit Trees, and occasionally to act as Salesman. State age, where last employed, and wages expected.—JOHN JEFFERIES AND SON, Royal Nurseries, Cirencester.

WANTED, as CHRYSANTHEMUM GROWER, an intelligent young MAN, to take Charge of a Collection. Would be required to attend Exhibitions, book orders, and execute same. A permanency to a good man. Full particulars to M. M., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a PROPAGATOR and GROWER.—Vines, Cucumbers, Tomatos, Cut Flowers, Plants, &c.—Apply, stating age, wages, and references, FERGUSON, Whitegate Lane Nursery, Blackpool.

WANTED, an experienced BUDDER and KNIFEMAN.—Must have first-class references.—Apply, stating wages required, to SYDNEY S. MARSHALL, Barnham Nursery, Barnham Junction, Sussex.

WANTED, a SECOND GARDENER; good experience and character indispensable. Churchman. Without encumbrance preferred. Wife to open lodge gates. State age, wages, and all particulars, to W. H. WORTHINGTON, Esq., Derwent Bank, Derby.

WANTED AT ONCE, in a small Nursery, a young MAN, accustomed to Inside and Out, to Grow Plants and Cut Flowers.—Apply, with reference, to RUPERT MILLER, Southdown Nursery, Shoreham, Sussex.

WANTED, young MAN, for Cucumber and Tomato Growing, also a good Grape Thinner. Wages, 18*s.*, with extra for Sundays.—W. LONGSHAW, Pentleth House Gardens, near Warrington.

WANTED, a young MAN, of good character, as UNDER GARDENER. Must have had some experience, be willing, industrious, and able to Mow.—Apply to E. BRYAN, Etherstone, Leigham Court Road, Streatham.

WANTED, a JOURNEYMAN used to Fruit and Flower Growing under Glass. Wages £1 per week, overtime in addition.—Apply to FOREMAN, Thomas Rochford, Turnford Hall Nurseries, Broxbourne, Herts.

WANTED, a young MAN, to take Charge of a Department. Must have had experience in Growing Bouvardias, Cyclamens, Genistas, Solanums, &c. Good wages to a suitable man.—Apply, with references, to H. B. MAY, Dyson's Lane Nurseries, Upper Edmonton.

WANTED, a steady industrious MAN, for Nursery and Jobbing Work. Constant employment. One with some knowledge of Hardy Plants preferred. State particulars to J. & R. CALAM, nurserymen, &c., Heath, Wakefield.

WANTED, SEVERAL quick active MEN, who have had some experience in Cucumber, Tomato, or Grape Growing. Wages according to ability.—Apply, stating where employed during past two years, with full particulars, to JOSEPH ROCHFORD, Turnford Nurseries, near Broxbourne.

WANTED, TWO MEN, of good character, well up in Grape Growing.—Apply, with full particulars, to A. BENNETT, Ashford Vineyard, Cobham, Surrey.

WANTED, a young MAN (about 17), to help in the Gardens, Jobbing.—J. HAWES, 1, Hambro' Road, Streatham, S.W.

WANTED, AT ONCE, a young MAN, as SECOND GARDENER, Inside. Wages, 18*s.*, and Lodgings. Apply, stating age and experience, to A. CARLISLE, The Gardens, Henlow Grange, Biggleswade.

WANTED, a MAN, well up in Budding and Grafting Roses and Fruit Trees, and Propagating Hardy Conifers and Trees of every description.—HEWITT AND CO., Solihull.

WANTED, for a Small Branch Nursery attached to a Seed Shop in large village, an energetic young MAN, who knows how to use a Spade and Hoe, has had experience in Outdoor Nursery Work, Hardy Perennials, Dahlias, &c. One small Glasshouse with Frames. To do the whole, and in absence of owner to take charge. Abstainer preferred. Wages 20*s.*—LANE'S Nurseries, St. Mary Cray.

WANTED at ONCE, several quick young MEN, for Palm-houses.—W. ICETON, Putney, S.W.

WANTED, a young MAN, with some experience of Cucumber and Tomato Growing.—State wages required and full particulars to TURNER AND HAWKS, Ware Road, Hoddesdon.

WANTED, a young MAN, for Roses, chiefly Indoor; one accustomed to the work preferred.—JOSEPH LOWE, Uxbridge.

WANTED, a YOUTH, as IMPROVER.—Age from 15 to 17; must be active, willing, and obliging.—BRADLEY BROTHERS, Mill Lane Nurseries, Barnney, Lincoln.

WANTED, a COWMAN, and to assist in Garden, Gentleman's place near London. State age and experience, and when able to come; copies only of testimonials to be sent. State wages required; bothy, milk, vegetables, &c., found.—Address, T. J. EDWARDS, Esq., Dulwich Common, London, S.E.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. *on Wednesday will, in all probability, be held over to the next week.*

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

SCOTCH GARDENERS.—I have at present several very superior MEN on my Register, whose character and ability will bear the strictest investigation.—JOHN DOWNIE, Seedsman, 144, Princes Street, Edinburgh.

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character, and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—

F. SANDER AND CO., St. Albans.

THOMAS BUTCHER can recommend several HEAD and UNDER GARDENERS of first-rate character and proved ability. Gentlemen seeking such may have particulars free.—Apply to THOMAS BUTCHER, Seed Merchant and Nurseryman, Croydon.

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. All particulars on application.

Telegraphic and Postal Address—"DICKSONS, CHESTER."

GARDENER (HEAD); age 30.—J. DUMBLE, Gardener to Sir Charles Philipps, Bart., Picton Castle, Haverfordwest, is desirous of recommending his General Foreman, H. Butcher, to any Lady or Gentleman requiring a thoroughly competent man. He has a good knowledge of the different branches of Gardening, is well acquainted with the Cultivation of Fruit (Indoor and Out), Flowers and Vegetables, is also a most successful Grower of Chrysanthemums for Exhibition.

GARDENER (HEAD).—Lady highly recommends the above; thoroughly experienced in all branches. Excellent personal character. Life abstainer.—HAGEN, Ropley, Alresford, Hants.

GARDENER (HEAD); age 36, married, one child.—A GENTLEMAN can with every confidence recommend his Gardener, who has been with him upwards of six years. Thoroughly experienced in all branches. First-class references from good establishments. Successful Fruit Grower. Can Manage Stock if required.—J. VOSS, Finches, Lindfield, Sussex.

GARDENER (HEAD).—J. MAYNE, Bicton Gardens, Budleigh Salterton, recommends a man as above; thoroughly acquainted with all matters relative to Horticulture. Testimonials of the highest order.

GARDENER (HEAD).—Married, small family; thoroughly practical in all branches. Have been Gardener to the Earl of Gosford for the past three years. Leaving through time of lease having expired. Good references.—F. W., Wilverley Park, Lyndhurst, Hants.

GARDENER (HEAD); age 32.—A GENTLEMAN can with confidence recommend his Gardener to anyone as an honest, industrious, trustworthy man, of eighteen years' good experience in all branches of high-class Gardening. Several years' previous good character from a Nobleman's establishment.—GARDENER, Tower House, Alrediston, Salisbury.

GARDENER (HEAD); age 38, married, two children, ages 10 and 11.—Mr. GLEN, Gardener at Worth Park, Crawley, would be pleased to recommend a man as above. Thoroughly experienced in the growing of all kinds of Fruit and Vegetables, early and late Forcing, Stove and Greenhouse Plants, Orchids, &c.

GARDENER (HEAD), or GARDENER and BAILIFF.—£5 Bonus for information as will lead to obtaining a good situation. Highest references.—HORTUS, Mr. Heath, Bookseller, Richmond, Surrey.

GARDENER (HEAD), where two are kept.—Age 26; twelve years' good experience, Inside and Out. Three and a half years' good character from last situation.—F. B., Orleans House, Twickenham, S.W.

GARDENER (HEAD WORKING), where one or more are kept.—Age 31, married when suited. Ten years' experience in large establishments in all branches; good character from present and previous employers.—H. B., The Gardens, Southwood, Bickley, Kent.

GARDENER (HEAD WORKING).—Married; thoroughly experienced.—A GENTLEMAN highly recommends the above, who has been in his service over fourteen years.—B., Tollerton Hall, Notts.

GARDENER (HEAD WORKING).—Age 27, married; thoroughly experienced in all branches of Gardening. Excellent character from present and past employers.—C. FRANKLIN, Frimley Road, Camberley, Surrey.

GARDENER (HEAD WORKING).—WILLIAM HERNE, Hanbury Hall Gardens, Droitwich, will be pleased to recommend to any Lady or Gentleman a thorough practical all-round Gardener.

GARDENER (HEAD WORKING), where three or more are kept.—Age 30, married when suited; sixteen years' experience in all branches; good character from previous and present situations.—W. D., 41, Wellington Street, Strand, W.C.

GARDENER (HEAD WORKING).—E. W. BUNNEY, Gardener to Lord Monk Bretton, can recommend his Foreman to any Lady or Gentleman requiring a good practical man.—W. JENNER, The Gardens, Conyboro' Park, near Lewes.

GARDENER (HEAD WORKING).—Age 34, married; twenty years' experience in all branches. Good Chrysanthemum Grower. Good reference.—ALFRED FRY, Gardener, Brooklands, Broughton, Preston, Lancashire.

GARDENER (HEAD WORKING); age 30; sixteen years' good practical experience. Eleven and a half years' excellent reference.—C. HARRISON, Hampton Lane Farm, Solihull, Birmingham.

GARDENER (HEAD WORKING).—Age 32, married; thorough practical knowledge of his profession in all its branches. Good characters from present and previous employers.—GARDENER, Ringsfield Hall, Beccles.

GARDENER (SINGLE-HANDED, or where two are kept).—Age 26, single; experienced in Greenhouse, Flower and Kitchen Garden Work. Now disengaged. Good character.—BLUNDELL, Archbishop's Lodge, Addington Park, Croydon, Surrey.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 36, married.—Twenty years' experience. Good references.—G. L., 77, Parish Lane, Pange, Kent.

GARDENER (SINGLE-HANDED, or where help is given, or SECOND).—Twelve years' thorough experience in all branches of Gardening.—GARDENER, 2, Mount Pleasant, Rookery Road, Handsworth, Birmingham.

GARDENER (SINGLE-HANDED, or UNDER).—A young man (age 24) wants a situation as above. Good character from last place.—A. MULLARD, Tuesley, Godalming.

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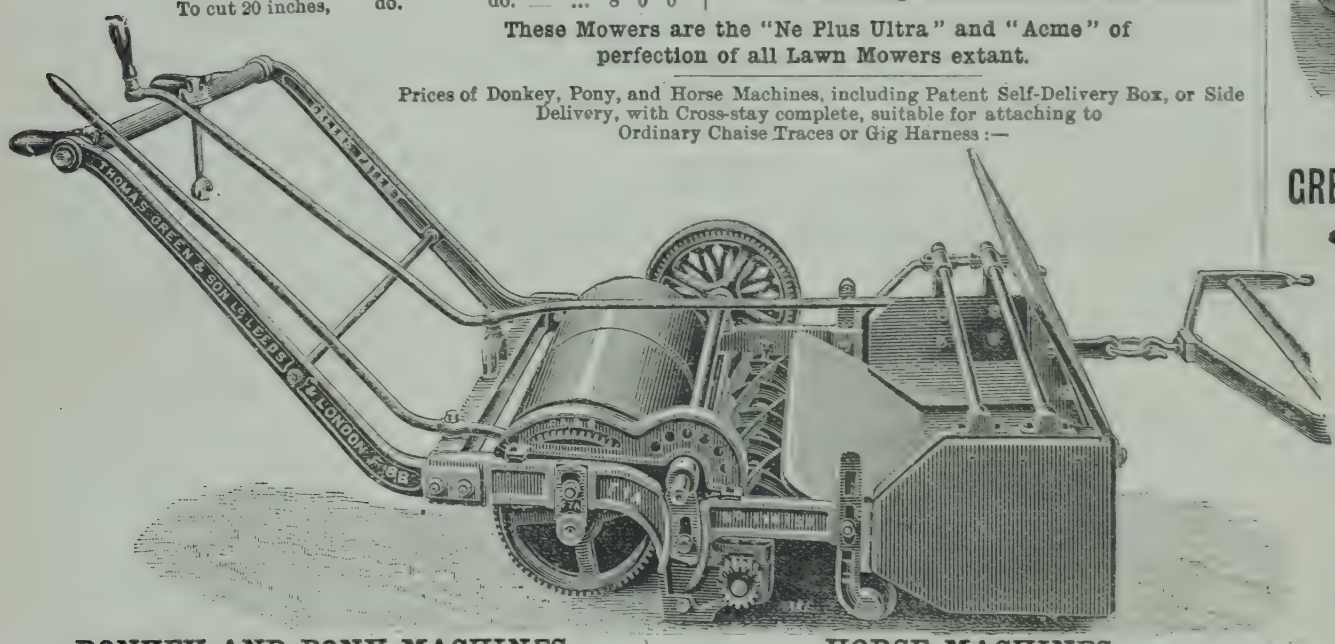

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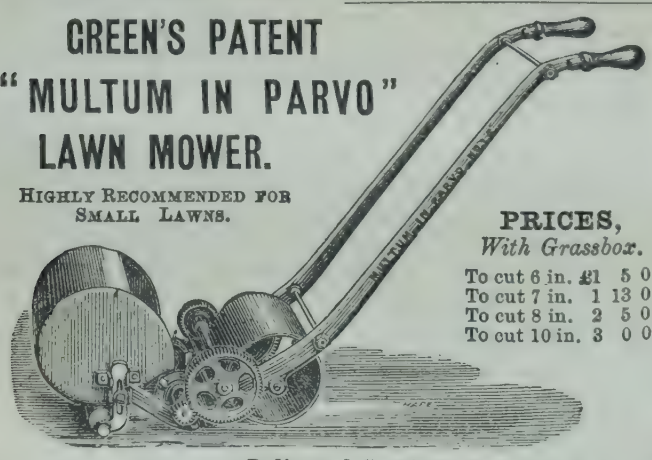

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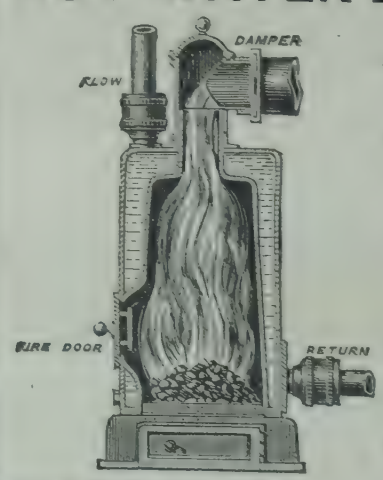

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CONTENTS.

Apples, spraying of ... 419
Auricula seed, raising of 422
Books, notices of—
Botanical Magazine ... 420
Orchid Review, the ... 420
Broccoli 421
Carnation, the 416
Crocus, a striped ... 422
Daffodils, in S. of Ireland 422
Dandelion as a salad ... 422
Eritrichium nanum ... 422
Fruit prospects 421
Ghent Quinquennial Exhibition... 413
Ghent Quinquennial Exhibition, new plants for 420
Holly and Oak... ... 422
Ice in Hong-Kong ... 418
Kew notes 423
Law note—
Royal Hort. Society of Aberdeen *v.* Messrs. J. Cocker & Sons ... 425
Maples, hardy Japanese 415
Market gardening under glass 415
Narcissus cyc'amineus and N. major 422
Narcissus, hybrid ... 423
New Zealand notes ... 416
Nursery notes—
Laing, J., & Sons ... 424
Williams, B. S., & Sons 424
Odontoglossum Wilckeanum 422
Orchard-house, the ... 423
Phyllanthus nivosus variegatus... 416
Plants, new or noteworthy—
Calypso borealis ... 421
Schizocodon soldanelloides 415
Scopolia carniolica var. Hladnikiana ... 418
Plum of East Anglia, the Violet 421
Railway rates, the new 419
Rose show fixtures in 1893 420
Royal Horticultural Society of Ireland, proposed exhibitions of ... 419
Societies—
Royal Caledonian Horticultural 426
Royal Horticultural ... 425
Spinach 421
Technical education ... 420
Week's work, the—
Flower garden, the ... 417
Fruits under glass ... 417
Hardy fruit garden ... 416
Kitchen garden, the ... 416
Orchid-houses, the ... 417
Plants under glass ... 417
Welsh wine, value of ... 420

ILLUSTRATIONS

Calypso borealis 421
Holly-fly, the 427
Narcissus, hybrid 423
Schizocodon soldanelloides 415
Scopolia carniolica var. Hladnikiana.. 419

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SEED GROWING ESTABLISHMENT, WISBECH.

ED. PYNAERT'S EXOTIC NURSERIES, GHENT, BELGIUM.
Just Issued, the NEW GENERAL CATALOGUE and PRICE LIST of Apartment and Greenhouse Plants and Novelties, FREE on application.

GEORGE PIKE, 97, 98, and 99, Flower Market, Covent Garden, W.C., is open to receive CHOICE CUT FLOWERS for SALE on COMMISSION.
Boxes and Labels supplied on application.

HENRY RIDES, Centre Avenue, Covent Garden, W.C., is open to RECEIVE CONSIGNMENTS of GRAPES, STRAWBERRIES, TOMATOS, BEANS, CUCUMBERS, MUSHROOMS, &c. Highest Market Prices guaranteed. Prompt Cash. Empties on application.

ORCHIDS.—New and rare species, a special feature. Catalogue forwarded post-free on application.
SEEGER AND TROPP, Ltd., Orchid Nursery, East Dulwich, London, S.E.

Pine Suckers.
WANTED, good STRONG HEALTHY SUCKERS of the ENVILLE QUEEN PINE.—State price and particulars to E. P. DIXON AND SONS, Hull.

WANTED.—Offers of a few FRUITING PINES, also SUCKERS; any variety. — S. F., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, good plants of CYPRIPEDIUMS, of sorts; CŒLOGYNE CRISTATA, and other ORCHIDS, also ARAUCARIA EXCELSA SEEDLINGS.—State most moderate price to R. G., 41, Wellington Street, Strand, W.C.

WANTED, large HEALTHY PLANTS, cultivated in pots or tubs, of Agave ferox, A. Gustaviana, A. stricta, Aloe ciliata, A. maculata, A. spicata.—Apply, stating size and price, to J. P. N., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a TON of JERUSALEM ARTICHOKES for planting. State lowest cash price per ton.—GARDENER, Compton, Stockbridge, Hants.

FERNS, WATER LILIES, CYPRIPEDIUMS, ASTERS, SOLIDAGOS, VINES, and SHRUBS are comprised in our List of MICHIGAN WILD FLOWERS. Securely packed and shipped. Send for Catalogue.
W. A. BROTHERTON AND CO., Rochester, Mich., U.S.A.

RHODODENDRONS, off Loam, well set with Flower Buds. An enormous stock of various kinds, from the commonest to the choicest, in excellent condition for removal, and at very moderate prices. Priced Descriptive LIST free on application.
WM. PAUL AND SON, Waltham Cross, Herts.

CARNATIONS a SPECIALTY.—Maggie Roy, Audley, Englebert, Willis, Bride, Rattler, Commander-in-Chief, Mrs. R. Hole, Dearlove's Favourite, Huntsman, Peter the Great, 6 for 2*s.* 9*d.*, 12 for 5*s.* 6*d.* Strong layers. Free.—SODEN, Stanground, Peterborough.

TROPÆOLUM FIREBALL, 6*s.* per 100; CAULIFLOWER PLANTS, 2*s.* per 100; LOBELIA, Emperor William, 2*s.* per 100; CALCEOLARIA, Golden Gem, 5*s.* per 100; HARRISON'S MUSK, 5*s.* per 100. Terms cash.
I. SOLOMON AND SON, Winchmore Hill, N., and 22, 23, 372, Flower Market, Covent Garden Market, W.C.

DAVIS'S BEGONIAS.— Only the best. The best in quality; the best tubers; the largest and best collection. The best Catalogue published, sent free.
B. R. DAVIS, Yeovil Nurseries, Somerset.

ASPARAGUS. — This delicious Vegetable does not require half the expense usually incurred. For Simple Instructions, see SEED LIST, free on application. Strong roots, 2*s.* 6*d.* and 4*s.* per 100.
RICHARD SMITH AND CO., Nurserymen and Seed Merchants, Worcester.

Tea Roses in Pots.
H. B. MAY offers extra strong plants, in 6 and 8-inch pots, best sorts for indoor culture. Prices and sorts on application.
Dyson's Lane Nurseries, Upper Edmonton.

FOWLER'S LAWN SAND.—For destroying Daisies and other Weeds on lawns, &c., at the same time acting as a Fertiliser, and improving the growth and colour of the grass. Price in tins, 1*s.*, 2*s.* 6*d.*, and 5*s.*; kegs, 8*s.* 6*d.*, 16*s.*, and 30*s.*—CORRY AND CO., Ltd., 13, 15, and 16, Finsbury Street, E.C. Sold by all Seedsmen.

To the Trade.
IMPORTANT NOTICE.—When you are in London, it will be well worth your time to pay a visit to Albert Nurseries, Peckham Rye, S.E.; or Fleet, Hants. You can make your notes, and have a business look round, combined with an outing; you will NOT be worried to order.
E. D. SHUTTLEWORTH AND CO., LTD.
Awarded Silver-gilt Flora Medal by the Royal Horticultural Society; also Gold, Silver-gilt, Silver, and Bronze Medals, Prizes, and Certificates at other First-class Shows. Our specialty—really good stuff grown for the Trade.

"KILLMRIGHT,"
For Destruction of all Insect Pests and Mildew.
THE STOTT DISTRIBUTOR CO. (Lmtd.), Barton House, Manchester.

FOWLER'S GARDENERS' INSECTICIDE. —Established twenty-five years, thoroughly destroys all insect life and mildew in plants generally; will not stain or injure any more than plain water. In jars, 1*s.* 6*d.*, 3*s.*, 5*s.* 6*d.*, and 10*s.* each; and in kegs, 28 lb., 21*s.*; 56 lb., 42*s.*; 112 lb., 84*s.* each. Sold by all Seedsmen.—CORRY AND CO., Limited, 13, 15, and 16, Finsbury Street, London, E.C.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings. Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W.

THOMSON'S MANURE.—The sale of this Manure is steadily increasing, and it can be had as formerly of all the leading Nursery and Seedsmen in the United Kingdom.
London Agent, Mr. JAS. GEORGE, 14, Redgrave Road, Putney.
Agent for Channel Islands, Mr. J. H. PARSONS, Guernsey.
Sole Makers, WILLIAM THOMSON AND SONS, Limited, Tweed Vineyard, Clovenfords.

SALES BY AUCTION.

Wednesday Next.

A very fine COLLECTION of BORDER PLANTS, 1000 PEARL TUBEROSES, Collection of ORNAMENTAL SHRUBS and TREES, DAHLIAS, BEGONIAS, 5000 LILIUM AURATUM and other Liliums from Japan, Home-grown LILIUMS, IRIS, FREESIAS, DIELYTRAS, SPIRÆAS, &c.

MR. J. C. STEVENS will SELL the above by AUCTION at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY NEXT, April 12, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

In Bankruptcy.

STUDLEY CASTLE, WARWICKSHIRE.

WEDNESDAY and THURSDAY, April 19 and 20.

The VALUABLE COLLECTION of ESTABLISHED ORCHIDS, STOVE PLANTS, &c.

MR. J. C. STEVENS has received instructions from the Official Receiver to SELL by AUCTION, on the Premises of the above, on WEDNESDAY, April 19, and following day, at half-past 12 o'Clock precisely each day, the VALUABLE COLLECTION of ESTABLISHED ORCHIDS formed by T. E. Walker, Esq. Also the STOVE PLANTS and FERNS, HARDY PLANTS, and a large quantity of GARDEN IMPLEMENTS and TOOLS.

On View Tuesday prior 10 till 4, and morning of Sale, and Catalogues had on the Premises, and of the Auctioneer, 38, King Street, Covent Garden, W.C.

Thursday, April 20.

SPECIAL SALE of PALMS.

Important to the Trade. Fine for Furnishing.

MR. J. C. STEVENS will SELL by AUCTION at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY, April 20, at half-past 12 o'Clock precisely, about 150 well-grown KENTIA FOSTERIANA and BELMOREANA, 6 to 12 feet, including some fine forms of both varieties; a very fine Specimen KENTIA AUSTRALIS, 10 feet; ARECA BAUERI and LUTESCENS, 5 to 10 feet; COCOS PLUMOSA, 12 feet; a beautiful lot of LATANIA BORBONICA, 4 to 5 feet. About 150 plants in all, in splendid condition.

Also about 50 COCOS PLUMOSA from Algiers, 8 to 12 feet, established in pots and tubs.

On view morning of Sale, and Catalogues had.

Monday, Tuesday, Wednesday, and Thursday Next.

THE QUORN HOUSE COLLECTION OF ORCHIDS.

LOUGHBOROUGH.

Highly important FOUR DAYS' CLEARANCE SALE, by order of W. E. J. B. Farnham, Esq. Without the slightest Reserve.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION, on the Premises, Quorn House, Loughborough, on MONDAY NEXT, April 10, and THREE FOLLOWING DAYS, at 12 o'Clock precisely each day, the whole of this far-famed COLLECTION of ESTABLISHED ORCHIDS, splendidly grown, and containing many rarities.

Amongst the principal items may be mentioned:—

Dendrobium splendidissimum grandiflorum, 13 matchless specimens
,, Cooksonii, several plants
Phalænopsis Portei, in spike
,, leucorrhoda
Sobralia xantholeuca, dwarf-growing variety
,, ,, alba
Cypripedium insigne, yellow variety, no spots
,, Saundersianum
Lycaste Skinneri alba, 12 plants, grand varieties
Cattleya Mendeli alba, Quorn House variety, F.C.C.
,, Brymeriana
,, Phœnicoptera
Dendrobium seedlings
Cypripedium do.
Calanthe Stevensii and Williamsii
Cattleya gigas varieties and imperialis, one with seed-pods crossed with the Quorn House variety of the white Mendeli
,, Trianæ alba, 5 plants of the true white variety
,, aurea, many fine varieties
Cœlogynes received from the East, probably different from known varieties
,, cristata alba, specimens
Cymbidium Parishii
Dendrobium Leechianum
,, nobile nobilius
,, endocharis
,, Ainsworthii
,, Wardianum and nobile, selected for the past 15 years—perfect marvels of culture
Masdevallia Harryana, the red variety
Aërides Fieldingii, wonderful plant, and special variety
Dendrobium Phalænopsis Schroderæ, 200 plants, the finest lot in the country, comprising many splendid varieties
Cattleya Schroderæ, a grand lot of plants
Lælia anceps Dawsoni, and other fine white varieties
Cattleya Skinnerialba, selected varieties
,, aurea polychroma
Odontoglossum elegans
,, crispum guttatum
,, Ruckerianum magnificum
Cypripedium Wallisii
Lælia purpurata ponderosa
Dendrochilum glumaceum, a grand mass
,, Wardianum album
Cypripedium Morganiæ, big specimen
Lælia anceps Amesiana
,, Gouldiana
Dendrobium Robinsonianum
,, Venus hybrid
,, hybrid, a batch of plants, Juno was raised from similar parents.
Cattleya Mendeli, special varieties
,, labiata, with nearly 100 bulbs
Odontoglossum cuspidatum
,, Wilkeanum (Cook's var.)
Cattleya Mossiæ, with 100 bulbs
,, Warneri, with 100 bulbs
,, Mossiæ Reineckiana
Dendrobium nobile Sanderianum
Cypripedium Doris, specimen
,, macrochilum
Odontoglossum mulus splendens
Vanda suavis maxima
Disa grandiflora, 200 plants, including several special varieties, all being remarkably well-grown

Catalogues may be obtained of Mr. G. COOKE, Estate Office, Quorn, Loughborough; of Messrs. MILWARD AND CO., Solicitors, 41, Waterloo Street, Birmingham; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

The Quorn House Collection of

PITCHER PLANTS,

PROBABLY THE FINEST LOT IN EUROPE.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions from W. E. J. B. Farnham, Esq., to SELL by AUCTION, on the Premises, Quorn House, near Loughborough, on MONDAY NEXT, April 10, and THREE FOLLOWING DAYS, without the slightest reserve, the whole of the unrivalled Collection of PITCHER and CARNIVOROUS PLANTS, containing the finest varieties raised by Messrs. J. Veitch & Son, and all the best species hitherto introduced.

Catalogues may be obtained of Mr. G. COOKE, Estate Office, Quorn, Loughborough; of Messrs. MILWARD AND CO., Solicitors, 41, Waterloo Street, Birmingham; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Tuesday Next.

By Order of Messrs. PITCHER & MANDA.

500 LOTS of

ODONTOGLOSSUM CRISPUM

(ALEXANDRÆ)

BEST PACHO TYPE.

This consignment has arrived in most splendid condition, and from letters received from our Collector, we can strongly recommend them, and are confident that many grand varieties will be found amongst them; many pieces have already commenced to break, and will make fine plants in a short time.

ALSO

FIVE CASES of ORCHIDS,

COMPRISING—

CŒLOGYNE FOSTERMANII, about 60 pieces.
,, PANDURATA, about 50 pieces.
,, LOWII (ASPERATA), about 168 pieces.
,, SPECIES, probably ALATA.
GRAMMATOPHYLLUM SPECIOSUM, 3 pieces.
60 CALANTHE VERATRIFOLIA (another Property).
ORCHIDS in FLOWER, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, April 11, at half-past 12 o'Clock.

Wednesday Next.

Great Sale of LILIES. Final Consignment received direct from Japan.

8320 LILIUM AURATUM.
255 ,, ,, MACRANTHUM.
190 ,, ,, PICTUM.
2560 ,, CORDIFOLIUM.
350 ,, CONCOLOR.
200 ,, DAVURICUM.
660 ,, ELEGANS, red variety.
75 ,, ,, orange variety.
200 ,, ,, semi-plena.
140 ,, FRITILLARIA KAMSCHATENSE.
995 ,, SPECIOSUM ALBUM.
420 ,, ,, RUBRUM.
810 ,, TIGRINUM.
200 ,, ,, FLORE-PLENA.
209 MAPLES.—Several colours and forms being grafted together on one plant.
61 Grafted Maples, twisted variety.

(Coloured plates of the Maples will be on view day of Sale.)

The above being the contents of 165 cases just received from Japan in grand condition.

A consignment from Belgium, consisting of 54 AZALEA INDICA in flower, 120 PALMS, comprising KENTIAS, SEAFORTHIAS, CHAMÆROPS, and LATANIAS, GARDENIAS, DRACÆNAS, &c.
60,000 COCOS WEDDELLIANA SEEDS.
33,000 ARECA LUTESCENS ,,
6000 CARYOTA URENS ,,
500 PINANGA DECORA ,, from Brazil.
500 Double and Single BEGONIAS, BEDDING CALCEOLARIAS, and PANSIES, choice-named Double and Single DAHLIAS, 3000 GLADIOLUS GANDAVENSIS HYBRIDS, 130 choice TEA ROSES, chiefly in large pots, for flowering this season, including 25 of the finest sorts, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, April 12, at 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

Friday, April 14.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. F. SANDER & Co., to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY NEXT, April 14, at half-past 12 o'Clock.

IMPORTED and ESTABLISHED ORCHIDS,

including

CATTLEYA SKINNERII,
CATTLEYA DOWIANA,

ONCIDIUM NUBIGENUM, EPIDENDRUM VITELLINUM MAJUS, ODONTOGLOSSUM CITROSMUM, O. PESCATOREI, ONCIDIUM JONESIANUM, DENDROBIUM LEICHIANUM, CŒLOGYNE PANDURATA, CATTLEYA LABIATA, LÆLIA ANCEPS, White, &c.

On view morning of Sale, and Catalogues had.

Thorne, near Doncaster.

TO NURSERYMEN and OTHERS.

MESSRS. WALLER AND TOMLINSON will SELL by AUCTION, on THURSDAY, April 13, 1893, at Waterside Nursery, Thorne, the whole of the PLANTS, &c., being the contents of Seven Glasshouses; also BULBS, TOOLS, &c.

For particulars apply to WALLER AND TOMLINSON, Auctioneers, Thorne.

THE BROMBOROUGH HALL

COLLECTION of ORCHIDS.

IMPORTANT UNRESERVED SALE of this extensive and valuable Collection, by Order of the Executors of the late R. N. Dale, Esq, Bromborough Hall, Bromborough, Cheshire.

This extensive and well-known Collection will be offered for SALE by AUCTION, on the Premises, without the least reserve, on THURSDAY and FRIDAY, APRIL 20 and 21, at 11 o'Clock prompt each day.

The Collection is in the very finest health and condition throughout, and includes many fine specimens suitable for exhibition purposes, as well as many rare and fine varieties. Every section is well represented—

CATTLEYAS,	CYPRIPEDIUMS,
LÆLIAS,	CYMBIDIUMS,
ODONTOGLOSSUMS,	CŒLOGYNES,
ONCIDIUMS,	&c., &c.

All are fine.

Intending purchasers are invited to inspect this fine collection. Mr. Gould, the Head Gardener, will show them any day prior to the Sale. Bromborough Hall is about 15 minutes' walk from Bromborough or Spital Stations, G. W. Railway.

Catalogues are now being prepared, and will be sent post-free on application to—

MR. JOHN COWAN,

THE VINEYARD, GARSTON, NEAR LIVERPOOL.

THE AMESTRY COURT

COLLECTION of ORCHIDS.

IMPORTANT UNRESERVED SALE of this valuable and well-known Collection of Orchids, by Order of the Proprietor, Colonel Robinson, who is leaving his residence, Amestry Court, Woolton, Liverpool.

This valuable and well-known Collection of Orchids will be offered for SALE by AUCTION, on the Premises, without the least reserve, on FRIDAY, APRIL 28, at 11 o'Clock prompt.

The fine Collection of STOVE PLANTS will also be offered at the same time.

This Collection of Orchids is well-known in the neighbourhood of Liverpool, and has a high reputation for the excellent state of cultivation. Numerous prizes have been obtained in the Liverpool exhibitions, by well-known specimens in the Collection, and many of the plants have been noticed and commented on in the Horticultural Press. Each section is well represented, and the Collection is well worthy the attention of Orchid connoisseurs. The Collection can be inspected any day prior to the Sale on application to the Head Gardener.

Catalogues are being prepared, and will be forwarded post-free on application to—

MR. JOHN COWAN,

THE VINEYARD, GARSTON, NEAR LIVERPOOL.

Amestry Court is about 5 minutes walk from Gateacre Station, Cheshire Lines Railway.

GREAT SALE OF ORCHIDS.

By Order of the Liquidator.

THE LIVERPOOL HORTICULTURAL COMPANY (JOHN COWAN), LIMITED, being now in liquidation, are offering their immense Stock of—

ORCHIDS, TEA ROSES, FERNS, PALMS, GRAPE VINES, and general stock of STOVE and GREENHOUSE PLANTS,

At greatly reduced prices, and in addition large discounts are allowed. Descriptive and Priced Catalogues of the entire stock will be sent post-free on application.

The Company have just received and are now offering large and fine importations of the following and many other Orchids:—

ODONTOGLOSSUM ALEXANDRÆ, finest Pacho type.
LÆLIA ANCEPS (White), in grand masses.
,, GOULDIANA, a grand lot.
,, AUTUMNALIS.
,, ALBIDA.
DENDROBIUMS, in great variety.
ODONTOGLOSSUMS, in great variety.
ONCIDIUMS, in great variety.
EPIDENDRUM VITELLINUM MAJUS, a fine lot.
CYPRIPEDIUM STONEI, in grand masses.
,, BOXALLII, in grand masses.
And many other Orchids.

These importations were all arranged for previous to the Company going into liquidation, and they are being offered at VERY LOW PRICES, and in addition large discounts are allowed. Descriptive and Priced Lists free on application to the Company.

THE VINEYARD and NURSERIES,
GARSTON, NEAR LIVERPOOL.

TUESDAY NEXT, April 11. **By order of Messrs. PITCHER & MANDA.**

500 LOTS, GRAND PIECES, IN SPLENDID CONDITION,

OF

ODONTOGLOSSUM CRISPUM

(BEST PACHO TYPE), will be OFFERED for SALE by

MESSRS. PROTHEROE & MORRIS, 67 & 68, CHEAPSIDE, LONDON, E.C.

GREAT SALE by AUCTION of

AMARYLLIS (HIPPEASTRUM).

On SATURDAY, APRIL 22, 1893,

Will be Offered for SALE by PUBLIC AUCTION, the entire highly-renowned collection of

AMARYLLIS (HIPPEASTRUM)

of the late Mr. A. C. GROENEWEGEN, formerly Proprietor of the Firm of A. C. VAN EEDEN & Co., Haarlem.

Intending Purchasers are respectfully invited to see them in bloom about the middle of April.

Descriptive CATALOGUE will be forwarded free on application to Miss JACOBA GROENEWEGEN, 2, Wagenweg, Haarlem, Holland.

Priory Nursery, Acton Lane, Middlesex.

TO BE LET, part of remaining Grounds, in portions, or as a whole (nearly 3 acres), having about Eighteen large Greenhouses, in good working order, near to four Railway Stations, and London Markets. An uncommon opportunity to Tomato and Cucumber Growers, &c.

Apply, on the Premises, or of Mr. HORSNAIL, 96, Newgate Street, City, London.

Abbott's Nursery Gardens, Knaresborough.

TO LET, with Immediate Possession, the old-established NURSERY GARDENS, with the several Vineries, Greenhouses, Forcing Pits, Stables, and Premises, containing altogether 8 Acres. For many years past successfully conducted by Mr. Abbott and his successors. Apply to—Mr. ABBOTT, The Crescent, Knaresborough.

To Lovers of Forestry and Gardening.

THE LEASE of a charmingly-placed HIGH CLASS RESIDENCE, in 40 acres of luxuriantly-timbered Grounds, for SALE, eight or nine miles from the City and West-End. A Gentleman's Residence in every respect.

Apply to Messrs. HARMAN BROS., Auctioneers, 75, Aldermanbury, E.C.

Owing to Death of Proprietor. Established 39 Years.

NURSERY, SEED, and FLORIST BUSINESS, for SALE, as a going concern. Capital House and Shop to main road. Ten Greenhouses and about 2 Acres of good Land. Rent £55. Stock and Greenhouses at valuation. Situate at Lymington, Hants.—Apply,

W. H. AISH, Bournemouth.

FOR SALE, as a going concern, the business of a FLORIST and GARDEN CONTRACTOR, carried on at Derby Street Nurseries, Burton-on-Trent, for the last four and a half years by Mr. W. Fisher, Half an Acre of Nursery Ground, with good Show House and Offices, and other Houses and Pits, also Half an Acre of Land laid out and let as Tennis Courts. Further particulars and to view, apply—

W. BENNETT, Valuer, Burton-on-Trent.

FLORIST'S and SEEDSMAN'S BUSINESS, with Jobbing Gardening Connection. Splendid unopposed position. North London. Very old-established. Capital Shop, plenty of Room, good Dwelling. Long Lease. Very steady, high-priced Trade. Quite half profits. Capital required about £400. Exceptional reasons for Sale. Particulars of Mr. RYDER, Horticultural Auctioneer, 268, Strand, London, W.C.

NURSERY, for IMMEDIATE DISPOSAL, in consequence of failing health of present owner, who has carried on the business for the past eighteen years. Long lease at low rent. Seven Acres; 15 miles from Covent Garden Market. Price for Houses, Stock, &c., £1300, nearly all of which could remain at 5 per cent.—Particulars of A. L., *Gardeners' Chronicle* Office, 41, Wellington St., Strand, W.C.

FLORIST'S BUSINESS for Disposal as a Going Concern; 7 Greenhouses and Land, well stocked with useful stuff; 6-roomed Cottage, Stable, &c. Freehold as it stands, £700.

WILSON, 149, Markhouse Road, Walthamstow, E.

MUST BE SOLD.—First-class SEEDSMAN'S and FLORIST'S in Suburb of London. Double-fronted shop in main road. Low Rent; Leasehold. To be disposed of at a very low price on account of present owner being otherwise engaged abroad.—M. E. T., 41, Wellington Street, Strand, W.C.

To Capitalists and Others.

TO BE SOLD, the BUSINESS of a NURSERYMAN, SEEDSMAN, FLORIST, and LANDSCAPE GARDENER, situated in one of the best parts of London, and 7 miles from Covent Garden, doing a highly lucrative, large, and increasing business, and having an immense and valuable Stock. This would suit two or more persons, and offers an opportunity rarely met with of acquiring a thoroughly genuine concern. Every investigation can be made.

Apply, in first instance, to HORTUS, 41, Wellington Street, Strand, W.C.

FOR SALE.—Pair-horse FLORIST VAN, in good condition; also Double Set of BRASS HARNESS, with Chain Traces. Apply to—

E. WEATHERILL, Woodside Nursery, North Finchley, N.

VINERY and CONSERVATORY, nearly new, to be Sold, 65 feet long and 25 feet wide, with Boiler complete. Low price will be taken. Must be cleared at once.—Apply at Fairlawn House, Bollo Lane, Chiswick.

JOSEPH MEREDITH, LANDSCAPE GARDENER and GENERAL HORTICULTURIST, Snape Hall, Whitmore, Newcastle, Staffordshire.

N.B.—Winner of our own Queen's Cup at the International Exhibition at Hamburg; Gold Medals in Paris, Brussels, Holland, &c., and the leading prizes for Grapes for many years in Great Britain and Ireland.

Author of a work on the Grape Vine.

FOR ORCHIDS and GARDENERS to Grow Them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

ASPARAGUS ROOTS.—Fine as money can purchase, 3*s.* per 100; 25*s.* per 1000.

T. B. DOLBY, Hope Nurseries, Boston.

ALPINE and HERBACEOUS PLANTS.—Unique Collection.—100 sorts, 30*s.*; 100 Saxifrages, 30*s.* CATALOGUE descriptive with Cultural Notes, 6*d.*, post-free.

STANSFIELD BROS., 97, St. Luke's Road, Southport.

DAFFODILS AND OTHER SPRING FLOWERING BULBS.

ACRES OF BULBS.—Many varieties now in full splendour of bloom. Specimen Blooms sent for selection of sorts if desired.

DICKSONS NURSERIES, CHESTER.

THE MOST SUITABLE FOR

SHADING ORCHIDS, FERNS, Palms, and Stove and GREENHOUSE PLANTS.

WILLIAMS' HOTHOUSE SHADING.

It is a strong, durable Cotton Netting, woven in squares so close as to exclude the direct rays of the sun, but admitting the greatest amount of light attainable through shading.

It withstands the weather better than any other class of Shading, and may be beneficially used on account of the thickness of its texture, during cold weather, to keep the frost out. The leading Orchid and Plant Growers in the country have used this material for some years, and speak very highly of it, pronouncing it to be the very best material for Plants they have ever used.

Blinds made up and fixed complete.

Sold in pieces, 30 yards long by 1½ yard wide. Price 40*s.* each. Samples submitted gratis.

B. S. WILLIAMS & SON

Victoria and Paradise Nurseries,

UPPER HOLLOWAY, LONDON, N.

EXHIBITIONS.

NEWCASTLE-ON-TYNE SPRING FLOWER SHOW.

April 19 and 20, 1893. Entries close April 12. For Schedules, &c., apply to JAS. J. GILLESPIE, JR., Secretary, Cross House Chambers.

BOTANIC GARDENS, EDGBASTON, BIRMINGHAM.

A NARCISSUS and DAFFODIL SHOW will be held in these Gardens on WEDNESDAY and THURSDAY, April 26 and 27, 1893. Entries close on April 21.

For Schedule of Prizes, apply to— W. B. LATHAM.

SHROPSHIRE HORTICULTURAL SOCIETY.

Schedules for the FLORAL FÊTE, SHREWSBURY, August 23 and 24, 1893, are Now Ready.

CASH PRIZES are offered in the Society's Schedule for 1893, amounting to nearly SEVEN HUNDRED and TWENTY POUNDS. Schedules sent post-free on application to—

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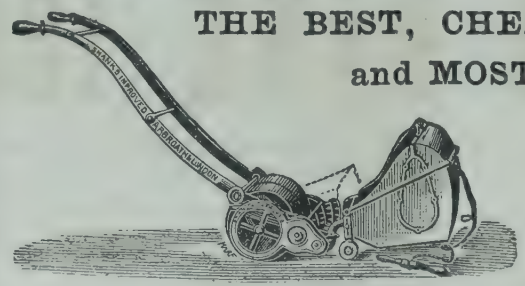

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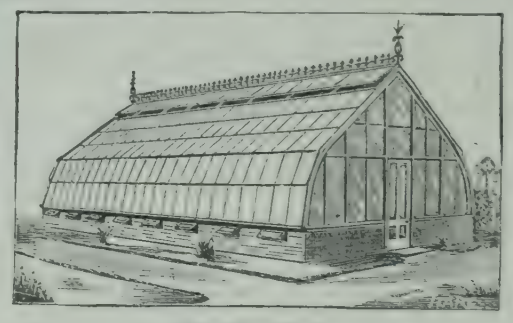
HEATING OF  ALL KINDS.

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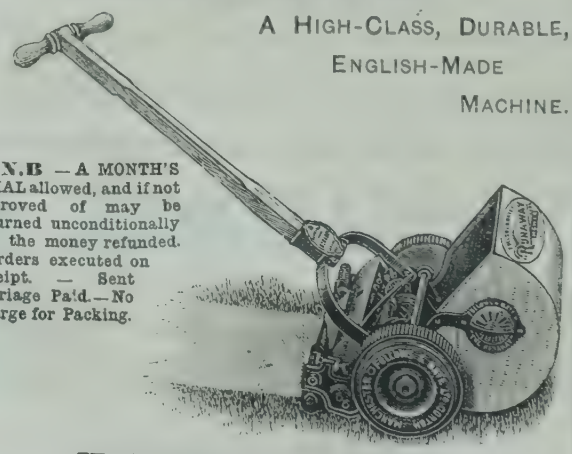

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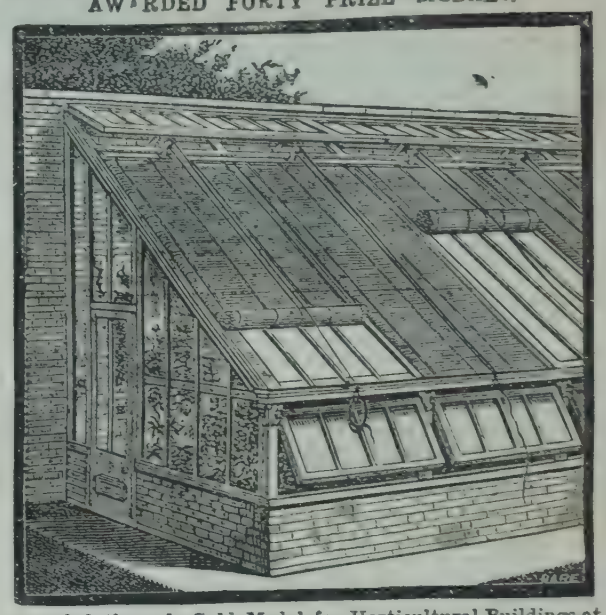

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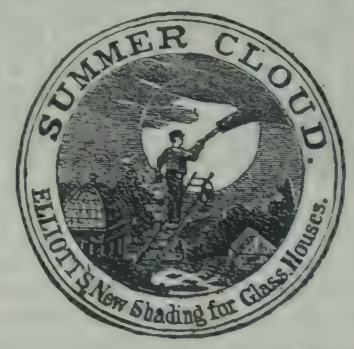
TRADE MARK.  Registered No. 14,629.

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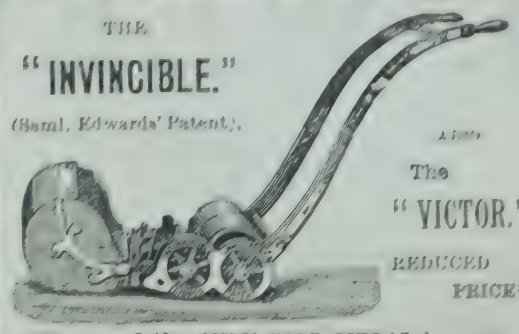

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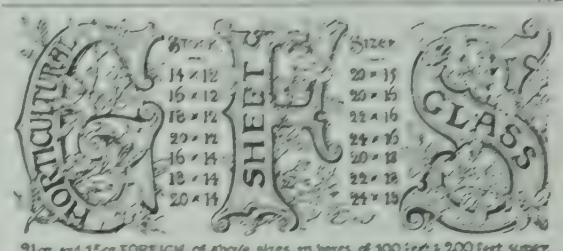

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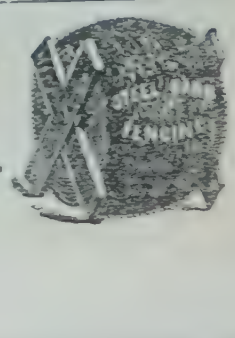

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THE
Gardeners' Chronicle.
SATURDAY, APRIL 8, 1893.

GHENT QUINQUENNIAL.

THE programme of the quinquennial exhibition contains no fewer than 72 classes for Orchids, and 17 classes devoted to "new plants." A specially interesting competition may be expected in Class 1, "six plants, in or out of flower, recently introduced and not in commerce." In view of these facts, we have been at the pains to collect information as to the plants likely to be exhibited, and as to the firms who are likely to take part in these interesting competitions. Much of our information cannot be made public till the time of the show (April 16 to 23), but there is no indiscretion in publishing the notes that follow at the present time. Some of the plants now recorded are not absolutely new, but many will assuredly be shown in one or other of the classes at Ghent, though not necessarily by the firms here mentioned. Except where otherwise stated, the notes on the plants have been taken by ourselves; in other cases, the exhibitors are responsible for the description.

HORT. BULL.

HELICONIA ILLUSTRIS, *Hort. Bull.*, n. 4711.

A remarkably beautifully-coloured foliage plant from the South Sea Islands. It is a Musa-like plant, with the leaves tufted at the base, arranged in two ranks above. Stalks, 10 to 12 inches long, sheathing, ascending, cylindric, bright rose-red leaf-blades 12 by 4 inches, spreading, membranous ovate-lanceolate, acuminate entire, tapering at the base, midrib prominent, grooved on the upper, convex on the lower surface, rose-pink ; secondary veins closely set, some running to the margin, where they form loops, others intermediate, shorter, all rose-pink. Although we have not seen the flowers, there is little doubt as to the genus, and none at all as to its merits as a superb adornment to the stove. *M. T. M.*

CYRTANTHUS (HYBRIDA) INTERMEDIA, *Hort. Bull.*

An elegant plant raised in Mr. Bull's establishment, between C. McKennii and C. angustifolius. The height is about 18 to 20 inches, with strap-shaped leaves, and an erect two-edged hollow scape, bearing at the summit membranous deflexed spathes, surrounding a one-sided many-flowered truss. Flowers orange-pink, about 1¾ inch long, curved tubular-trumpet shaped, continuous at the base, with the short three-sided ovary ; segments of the limb oblong, somewhat spreading, outer three rose-coloured, with a green midrib, inner three rather broader, uniformly rose-coloured. Stamens all included, and not extending beyond the middle of the tube (in C. McKennii they spring from the upper part of the tube), three longer than the other three ; anthers proterandrous ; style filiform, as long as the flower tube. *M. T. M.*

VRIESIA PURPURASCENS, *Hort. Bull.*, 4255.

A richly-coloured Bromeliaceous plant from Brazil, with deep purple sheathing leaves, each oblong-lanceolate from a dilated base, apex mucronate,

*

margins with numerous closely-set fine teeth, upper surface dark green, flushed with blackish-purple, under surface wholly purple.

Hoplophytum lineatum, *Hort. Bull.*, 4223.

A striking Bromeliaceous plant from Brazil, with cylindric tufts of leaves, spreading at the apex. Leaves oblong, strap-shaped, concave, abruptly acuminate, finely and remotely toothed, green, with alternating broad stripes of white, marginal spines black.

Lamprococcus speciosus, *Hort. Bull.*, 4222.

A highly ornamental Brazilian Bromeliad, of moderate size. Leaves tufted, spreading, leathery, oblong-acute, mucronate, finely-toothed at the margin, concave above, more or less densely covered with silvery scales, especially on the under surface; above, bright shining green, banded with broad longitudinal stripes of clear yellow.

Geonoma acaulis, *Martius.*

A dwarf, nearly stemless Brazilian Palm, with short, dilated, sheathing leaf-stalks, destitute of spines, the young leaves roundish, deeply two-lobed at the apex, plicated, erose, adult leaves deeply pinnately divided, pinnæ lanceolate. A native of Northern Brazil. The plant is fully described and figured in Martius' *Palms*, 18, t. 4, et t. 19. *Hort. Bull.*, 3594.

Oncosperma fasciculatum, *Thwaites.*

A Cingalese Palm, having in the adult condition a trunk 30 to 40 feet high, with pinnated leaves as much as 18 feet in length. The rachis is covered with brown fluffy scales, and is provided with long slender black spines; the leaflets in the young plant measure from 12 to 18 inches in length by 1 to 1¾ inch in width, and are lanceolate-acuminate in form, the midrib scaly on the under surface. The plant was described by Thwaites in his *Enumeratio*, 328; and is included in Hooker's *Flora of British India*, vi., p. 415. *Hort. Bull.*

Philodendron [?] notabile, *Hort. Bull.*

A noble stove Aroid of large dimensions, with a short stock marked with the closely-set large scars of fallen leaves; petioles 3 to 4 feet long, cylindrical, wide-spreading. Blade 2 feet or more long, leathery, deep green, deeply cordate at the base, with spreading lobes, above oblong, remotely and boldly pinnately-lobed; lobes oblong, midrib prominent. The habit of the plant reminds one of some Fern-like Marattia.

Aglaonema versicolor, *Hort. Bull.*, 4133.

An ornamental stove foliage plant belonging to the Aroid family, and introduced from the East Indies. The stem is erect, and bears beautifully-mottled shortly-stalked spreading leaves. Petioles 1¼ inch, sheathing with membranous edges. Blade 4 by 2 inches, probably much larger when fully developed, membranous, obliquely oblong, rounded at the base, acute at the apex, irregularly blotched with patches of dark velvety green interspersed among patches of lighter green, and some of milky-white. Midrib slightly raised, but a central groove on the upper-surface, very prominent on the lower surface. In the absence of flowers, the genus to which the plant is assigned, is a matter of conjecture.

Hypolytrum Schraderianum, *Hort. Bull.*, 3067.

An ornamental and very striking Cyperaceous plant from Brazil, determined by Mr. C. B. Clarke, F. R. S. The spreading leaves are crowded in bold triangular tufts; each leaf is about 2 feet 6 inches in length, by 2¼ inches in breadth, purplish, sheathing, and folded at the base, expanding above into an arching, strap-shaped, acuminate, entire blade of firm texture, green, with purplish-red margins, and traversed on the upper surface by two ribs running equi-distantly from base to apex between the centre and the margins of the leaf, midrib prominent beneath. The bold, triangular tuft of leaves, the colour, and the peculiar venation of the leaves, give this plant a very distinct appearance. *M. T. M.*

Selaginella usta.*

An elegant species from New Caledonia, with erect pale green fronds, measuring about 10 by 6 inches, oblong acute in outline, arching from base to apex, and convex from side to side on the upper surface, rachis wiry, the thickness of a crow-quill, bi-tri-pinnately divided, ultimate divisions linear-oblong. Lateral leaves 2 to 3 mm. long, distichous, spreading, crowded, cordate, ovate, acuminate, slightly oblique. Upper leaves distichous, flattened against the rachis, alternate, slightly imbricate, one half smaller than the side leaves, and of similar form, but less oblique. Spikes terminal, 5 to 6 mm. long, four-sided, with ovate-acuminate bracts. *M. T. M.*

Pteris tremula variegata, *Hort. Bull.*

A form of this well-known Fern, in which the ultimate segments are linear-oblong, light green, with a central band of milky-white.

Davallia elegans var. epiphylla, *Hort. Bull.*, 4731.

A specially elegant Fern in the way of D. fijiensis, but quite distinct from it. The root-stock is creeping and covered with brown scales. Stipes, 10 to 12 inches long, as thick as a crow-quill, glabrous, wiry, purple, deeply channelled. Fronds arching, 12 to 14 inches by 18, subcoriaceous, dull green, deltoid, 3 — to 4 — pinnately divided, larger pinnæ deltoid lanceolate, pinnules narrow wedge-shaped deeply pinnately divided, ultimate segments about ¼ inch by ⅛ inch, three or more lobed, lobes ascending, oblong-bluntish. Introduced from N. S. Wales.

Davallia solida var. ornata.

A bold-looking handsome Fern, with deep shining green coriaceous fronds. The root-stock is of the thickness of the finger, and covered with soft fibrillose scales. Stipes 8 to 9 inches long, wiry, purplish, channelled above. Fronds 9 to 10 by 18 to 20 inches, deltoid bipinnate, primary pinnæ wedge-shaped at the base, lanceolate-acuminate; secondary pinnæ broadly oblong, wedge-shaped, deeply lobed at the base, gradually less so towards the apex; ultimate segments 1 inch long by ¼ inch wide, oblong, obtuse, remotely and shallowly toothed at the margin.

D. lucida. *Hort. Bull.*, no number.

Davallia decora, *Hort. Bull.*, 2023.

An elegant North Australian Fern. The wiry purplish leaf-stalks are of the thickness of whip-cord, and rise from a stout creeping stock. The fronds are 7 to 8 inches long, subcoriaceous, dull green and glabrous on both surfaces, deltoid acuminate, tripinnate; pinnæ oblong, wedge-shaped at the base, deeply divided (pinnatiseet) to near the middle, less deeply so (pinnatifid) towards the apex; ultimate segments ½ inch by ⅛ inch, oblong-obovate, wedge-shaped at the base, remotely crenate at the apex.

HORT. DAMMANN.

Messrs. Dammann & Co. announce the following novelties, many from Abyssinia, and which are, therefore, likely to be interesting. We have not seen the plants, and take the following details from Messrs. Dammann's list:—

Kalanchoe grandiflora.—An Abyssinian succulent plant, with rose-coloured leaves, flushed with silver. Suitable for bedding, like an Echeveria.

K. glandulosa.

K. Cassiopega.

K. glaucescens.

Cotyledon Barbeyi.— A beautiful species, introduced by Professor Schweinfurth from Abyssinia. Habit dwarf, colour glaucous; flowers bell-shaped, drooping, olive-green. Suitable for bedding.

* *Selaginella usta*, Baker (ex Viellard), in Britten, *Journal of Botany* (1885), p. 23, and in *Handbook of the Fern Allies*, p. 94.

"Stems 9 to 12 inches long, erect, simple at the base, compound in the upper three quarters, the branches erecto-patent, the lower simple or little compound, the upper short, rhomboid, copiously compound. Leaves of the lower plane crowded, erecto-patent, ovate or oblong, subacute, half line long, bright green, rigid, dilated, cordate, serrulate, and imbricated over the stem on the upper side at the base; leaves of the upper plane a third as long, oblique oblong, acute, much imbricated. Spikes square, ¼ to ½ inch long, ½ lin. diam.; bracts ovate cuspidate, acutely keeled. Hab., New Caledonia, on mountains near Wagap. Vieillard! Pancher!" *Baker, loc. cit.*

Coleus Gerindanus.

C. Penzigii floribundus.

C. Penzigii smaragdinus.

C. spicatus "*Rondinella.*"

Cissus tetragona.—An evergreen greenhouse climber from Valdivia. Leaves divided into five segments. Suitable for wreaths, &c.

Huernia Sprengeri.—An Abyssinian succulent plant, branches quadrangular, deeply and sharply lobed, 6 to 8 inches high, covered with tufts of large bronzy-yellow flowers.

Pentas lanceolata Quartiniana. — Said to be superior to Pentas carnea in its freer flowering properties.

Pelargonium multibracteatum. — An Abyssinian plant in the way of P. peltatum, foliage bronzy, flowers snow white.

Stapelia albicans.—A remarkable species, with white stems; flowers yellowish, spotted with purple.

S. verrucosa.—Dwarf, with short branches, at the extremity of which are produced in summer one or more flowers of a bronzy-green colour, and curiously spotted.

Sarcostemma stipitacea monstrosa.—A remarkable Asclepiad, with twining stems devoid of leaves, but producing numerous dull coloured flowers. S. viminalis is similar.

Cotyledon quitensis, described as a magnificent species, producing in winter panicles of large scarlet flowers.

Senecio subscandens.—A pretty evergreen shrub for the greenhouse. It has somewhat of a climbing habit, with deeply divided leaves, and clusters of yellow flowers produced in the winter season.

Plectranthus Schweinfurthi, *P. hadiensis*, and *P. herbacens.*

Messrs. Dammann & Co. also mention several new species of Plectranthus.

HORT. LEMOINE.

Barbacenia squamata, Paxton. — This very free-flowering species, discovered by William Lobb in the mountains of South Brazil, slightly resembles in its foliage as does also Barbacenia purpurea, a Carex; in fact, the stems, which are over 3 feet high, bear at their tip rosettes of broad leaves, reflexed, bright green, whence rise the peduncles each terminated by a large purplish-red flower composed of six triangular segments well spread out and reflexed; this flower measures from 1¼ to 1½ inch across; the lobes are purplish-vermilion, and in the centre, is a ring of white anthers. *Hort. Lemoine.*

Begonia coronata ×.—A hybrid from B. caroliniæfolia by B. polyantha, stems fleshy; erect, about 18 inches high; leaves long, dentated, clear green; large panicles of pinkish-white flowers springing from each axil; flowering season, December to April, *Hort. Lemoine.*

Hillia tetrandra, Swartz.—A shrub, originally from the Antilles, with a perfectly erect habit, stems thick, straight; leaves firm, oval, opposite, and in two rows, as are also the branches, dark green veined stipules, broad, white; the upper ramifications are surmounted each by a large tubular flower, in form like that of Bouvardia Humboldti, but much larger; the tube which is 2½ to 2¾ inches long, is crowned by four fleshy lobes, reflexed, and forming a corolla nearly 2 inches across; of a beautiful waxy-white, scented at certain times of the day. This is a fine plant of the Rubiaceæ family, belonging to the same group as Cinchona Bouvardia, Luculia, &c. *Hort. Lemoine.*

Philadelphus Lemoinei var. Boule d'argent.—Flowers large, very double, white, with the scent of that of P. microphyllus. This plant was raised from P. Lemoinei ×, crossed with a double variety of P. coronarius.

Philadelphus Gerbe de Neige.—Very large flowers, which grow to the size of those of P. speciosissimus, very pure white, with the scent of P. microphyllus; the branches are arched and bent down by the weight and abundance of the flowers. *Hort. Lemoine.*

Tamarix kashgarica.—A new species discovered by Roborowsky in Central Asia; it differs in appearance from the rest of the genus. The leaves are very small, glaucous-green, are appressed and imbri-

cated on the stems like those of Veronica lycopodioides. This plant has not yet bloomed in cultivation. *Hort. Lemoine.*

HORT. PYNAERT.

Adiantum nebulosum, Hort. Pynaert.—A very pretty form, raised in Mr. Pynaert's establishment. The fronds are still finer and more delicate than those of gracillimum. Certificate of Merit of the Chambre Syndicale des Horticulteurs Belges.

Anthurium Andreanum var. amœnum, Hort. Pynaert.—Among the seedlings whence the fine A. atrosanguineum was raised, this plant was found, with flowers perfect in form and of a fine fresh rosy-carmine colour. Spadix white, golden-yellow at the tip. An excellent variety. *Hort Pynaert.*

Anthurium Andreanum var. Louisæ, Hort. Pynaert.—The colouring is very delicate, pale salmon-pink, and very effective.

Anthurium Andreanum var. atrosanguineum, Hort. Pynaert.—Flowers very large, reddish-purple, very dark and showy. Like the two preceding varieties, this handsome novelty flowers all the year, and forms a most striking and lasting decorative plant. It obtained a Certificate of Merit from the Chambre Syndicale des Horticulteurs Belges.

Anthurium hyb. Gandavense, Hort. Pynaert.—From A. Chantrieri by Andreanum. A splendid plant; very vigorous. Foliage very abundant and decorative. Spathe large, rounded, pure white; spadix erect, very long, rosy-violet. A free-flowering and exceedingly effective variety.

Anthurium hyb. Mrs. John Laing, Hort. Pynaert.—The same origin as the preceding variety. A plant of slender habit, very elegant and floriferous. Floral spathe rounded, white, slightly flushed with rose. Spadix erect, reddish-violet. A variety remarkable in habit and blooming. *Hort. Pynaert.*

Azalea mollis × *sinensis, Hort. Pynaert.*—This new strain differs from A. mollis by the warmer, deeper colouring of the flowers. These also seem less susceptible to injury by rain. The shrubs may be known by their harder and more robust wood. They seem proof against any weather, and their buds endured perfectly a frost of 20° C. The varieties of this species are of all shades of colour, from pure white to the brightest carmine, shading through every tone of the most delicate sulphur and salmon-yellow.

Azalea indica Germaine Pynaert.—Raised from a sport from A. Charles Pynaert. Flower large, with wide petals, reflexed outwards; in colour rose, slightly salmony, and edged by a snow-white wavy band. This variety has all the characteristics distinguishing the remarkable and popular variety from which it was raised—the vigour and good growth of the plant, the late flowers, and the large blooms which last so long. *Hort. Pynaert.*

Camellia aliatar cocina, Hort. Pynaert.—A very fine variety, quite distinct from all existing ones. Flower very large, nicely imbricated; petals well rounded, of a fine flesh-pink, marked with a very distinct white stripe in the centre. A very vigorous plant, with broad deep-green leaves. Its buds are developed in a very remarkable way.

Cliveia grandiflora Petite Germaine, Hort. Pynaert. This new variety, raised from C. Linden, has all the characteristics of the latter, but is much superior to it. Its large flowers, of excellent form, are of a brilliant colour, contrasting sharply with the pure white throat.

(To be continued.)

NEW OR NOTEWORTHY PLANTS.

SCHIZOCODON SOLDANELLOIDES.*

This is a very beautiful and a very interesting plant. Its botanical history is well-established in the publications cited in the foot-note, so that we need do no more here than briefly indicate its salient characteristics. It is a low-growing tufted herbaceous perennial, with long stalked somewhat leathery evergreen, cordate, ovate, acute, engrailed leaves of a bronzy-green colour, red at the edges, and pinkish cream-coloured, nodding bell-shaped fringed flowers. The scape is erect, and provided with a few scattered, oblong bracts, and a raceme of six to eight flowers. The calyx has five oblong obtuse sepals, surrounding a bell-shaped corolla of five obovate flesh-coloured petals, deeply fringed at the free end. It is a charming plant for the rockery, but might require some little protection in the winter. Our figure, drawn by Mr. Worthington Smith, was taken from a plant exhibited at the Royal Horticultural Society by Captain Torrens, Baston Manor, Hayes, and which had been brought by that gentleman from the

Fig. 59.—SCHIZOCODON SOLDANELLOIDES.

mountains of Japan. The flowers much resemble those of a Soldanella, but the nearest affinity is with Shortia galacifolia, already figured in our columns, and whose history is so interesting to the botanist and geographer. Both are included in the little order of Diapensiads, which includes also the pretty little Diapensia lapponica of arctic Europe. *M. T. M.*

* *Schizocodon soldanelloides.* Siebold and Zuccarini, *Plantarum quas in Japonia collegit;* Dr. Ph. F. v. Siebold, *Genera Nova, &c.* (1837—43), in *Abhandl. d. Math. Physik. Class. der Kœn. Bayersch. Acad. d. Wissensch. Band,* iii., p. 725; Maximowicz, *Melanges Biol.* part 5, p. 273; pars. 8, p. 19; Franchet et Savatier, *Enum. Plant. Jap.*, i., 298.

TREES AND SHRUBS.

HARDY JAPANESE MAPLES.

Some thirty years have now elapsed since Messrs. Veitch & Sons, Chelsea, commenced importing these beautiful hardy Maples. These rank amongst the finest hardy trees; yet how seldom do we see them used, as they might be, for producing pictorial effects in our subtropical gardens! They may be seen used pretty freely, and with good effect, in some of our public parks—but not so in private gardens. For form of leaf and pretty colours few plants can equal, and none surpass, the lovely varieties of Acer polymorphum and palmatifidum. The plants are of lowly growth, invaluable for shrubberies and rockeries, and well adapted for gardens of small size. The leaves in the spring unfold of a beautiful claret-purple, and retain their colour all through the summer, dying off of a vivid crimson or bright yellow. In form the leaves are similar to those of the Liquidambar; but unlike that tree, their colouring-matter of the leaves is not affected by our cold sunless summers. Many are grown on short standards. It is as hardy as the common Aucuba, having withstood 32° of frost without protection. I can vouch for its hardiness. Although hardy, they do not like exposure to the wind, and should at all times be planted in a sheltered nook, but open to the south if possible. They are also suitable for table and conservatory decoration in spring. With the exception of the Retinosporas, many of the Japanese plants have been overlooked or undervalued for pictorial planting, and they certainly deserve to be brought into more general use. *A. Evans.*

MARKET GARDENING UNDER GLASS.

(Continued from p. 354.)

Mr. P. Ladds, Swanley.—An acre of ground covered with glass would have been thought quite exceptional but a few years ago, yet such is the progress which has been made that here we find about 12 acres so covered, and this for market purposes. This immense establishment of Mr. Ladd's adjoins the Swanley station on the London, Chatham, and Dover Railway, and anyone interested in the production of fruits and plants, and wishing to see this carried on in houses of such dimensions as may be rarely seen elsewhere, will, we feel sure have no difficulty in obtaining the necessary permission. Swanley enjoys all the advantages of a Kentish climate, and one is not surprised to find that there are several large market growers in the district; indeed, that part of Swanley known as Swanley Junction seems to owe its population, as it certainly does its importance, to this particular business, and to the large nursery of Messrs. H. Cannell & Sons. But a few years ago, when Mr. Cannell's establishment and Mr. Ladd's also were not commenced, there were hardly any houses in the district, but mainly as the result of that growth the population, we expect, now amounts to a hundred or two. We merely state these facts, in order to emphasise the importance which now attaches to the industry, in regard to many such country districts, which is one of the strongest reasons why it should be encouraged by the railway companies, to the same extent that they appear to have encouraged the foreigner.

Turning to the nursery, most of the houses are of the usual stamp in these places, that is, they are three-quarter span, about 6 to 7 feet high, and 13 to 15 feet wide. In length they are 200 feet, and the houses being all joined together and the span between each only descending three-quarter length, they are all connected, making a large, low, house on the ridge and furrow principle. Of course, these are arranged in blocks, and those in any one block are kept about the same temperature as each other. Six of these divisions were filled with double show and zonal Pelargonium plants, and are grown chiefly for sale in pots.

Heaths are done largely and well, and there are many thousands to be sent to market this season in three or four varieties, such as E. Wilmoreana and E. hyemalis. About 100,000 cuttings are raised each year, and at the time of our visit, these were being transferred from the cutting-pot into fresh soil. The loss per cent., although greater than in many other genera, is extremely low comparatively. Passing from these one comes upon a batch of about 30,000 to 40 000 Callas. Market growers never plant their Callas out. They bloom quite as well without, and the stem to the flowers are not so fleshy, which is a desideratum. Rampant foliage is

not required. One house contains nothing but Smilax asparagoides, which is planted out and trained vertically to strings running to the roof. Thousands of long sprays of this graceful climber are sent to market, and there find a ready sale.

Roses are grown in quantity; some 20,000 Niphetos ensure blooms of this popular variety every day in the year. A very great number of Gladiolus The Bride are grown in pots for furnishing cut bloom. Fuchsias are only of use to sell as plants, and they are produced in batches, the first lot of which will be ready for market very shortly; they are in 5-inch or 6-inch pots, and will soon show bloom. All of them are well-grown, and some half-dozen or so of varieties represent the different colours. There are quite 30,000 of these plants for this season. The white Marguerite is even more numerous, for there are 40,000 plants, and from what we have seen at other places, it appears to be one of the most popular of all market plants.

Five houses are devoted to Stephanotis floribunda, which is allowed to grow naturally during the summer, but has to submit to the severest pruning in winter.

Strawberries are not quite so numerous here this year, but there are about 20,000 plants in pots, and they are all Sir Joseph Paxton. The Grapes are a feature, and are cultivated in houses of another stamp, although alike in that they are all span-roofed. Taking the Black Alicante first, there are three houses of 500 feet, three of 300, and ten of 200 feet. What a weight of Grapes such an area must produce! especially when we remember that they are all done well. Black Hamburghs have five houses, each 200 feet, devoted to them. The largest house of all is reserved for Gros Colmar, and measures 700 feet long, by about 25 feet wide, perhaps the largest house devoted to one variety of Grapes in the country. Tomatos are turned out in quantity, but the greater bulk of these is produced at the other establishments of Mr. Ladds at Meopham and at Dartford Heath, both of which places are devoted to fruit.

(To be continued.)

NEW ZEALAND.

Rare Plants from Seed.—The following somewhat rare plants I have succeeded in obtaining from seed received from E. Benary, of Erfurt:—Delphinium Zalil, Ostrowskia grandiflora, and Æthionema grandiflora. I see Mr. Ware, of Tottenham, has succeeded in flowering the latter; and the second I have seen a coloured plate of. Has any one succeeded in flowering the latter in Europe, and is it a strong grower? as I have it only in its second year.

Pittosporum or Pinatipo.

If this plant would stand the rigorous climate of Europe, then, indeed, would landscape gardeners have an ideal bush to beautify their work. But the formidable little word "if" stands in the way, and the gardens of Northern Europe are deprived of one of the handsomest objects in the vegetable kingdom for that purpose. Its superb pyramidal form, with its glaucous sheen and fimbriated or frilled margined leaves, is something to admire and remember. Given plenty of room in a temperate clime, it is simply unique. Smoke and dust it abhors. The latter name is that given it by the native Maories. *T. Smith, Seedsman, &c., Timaru, N.Z.* [What is the species? Ed.]

CULTURAL MEMORANDA.

PHYLLANTHUS NIVOSUS VARIEGATUS.

In this plant we have a useful decorative subject, of erect habit, and leaves of a green colour, spotted and streaked with white, the young shoots being almost white. At this season it strikes readily from cuttings, or eyes taken with a bit of mature wood, inserted in sandy compost, and the pots plunged in a moderate bottom-heat, under the usual treatment of cuttings of stove plants. When rooting has fully taken place, the cuttings must be removed from the pots, and potted singly in 60's, watering them, and returning them to the hot-bed when the foliage has dried. The plant is very useful, when grown in 3 and 4-inch pots, for various purposes in the decoration of the dinner-table, jardinières, &c. I have frequently struck the leaves of the plant, when taken off with a bit of old wood, by placing them in saucers filled with water. *H. W. W.*

The Carnation: Seasonable Notes.

I wrote some cultural notes on the tree or perpetual flowering Carnation at p. 176. At that time (February) we were busy taking cuttings and getting up a stock of plants for next season's flowering. We have a good stock of plants which have now passed out of the warm propagating-house into cold frames. The Carnation does not do well when cultivated under glass in the summer, and it is not to be expected that it should do so, being naturally quite hardy, and thriving in exposed positions; but the plants are easily checked in their growth by sudden changes, and they ought not to be exposed to such. They should be taken first from the propagating-house into one that can be heated, and gradually inured, to a free admission of air. From this house place them into ordinary garden frames, where the lights can be removed altogether from the plants in fine weather, and with care not the least injury will happen to the plants; but on the other hand, they may suffer from inattention as to repotting. This is an important matter, and must not be delayed very long after the young plants are ready. The entire process of repotting tree Carnations is as follows: As soon as the slips show evident signs of growth, they must be carefully removed and repotted into very small flower-pots, still keeping them near the roof-glass in the same house; when established, remove them to the greenhouse, and repot them into large 60's. The plants may be shifted from these into 32's, and in this size they will flower. A little light fibrous peat may with advantage be added to the yellow loam—say two-thirds loam, one-third peat, and decayed stable manure one-third. *J. Douglas.*

THE WEEK'S WORK.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maiden Erlegh, Reading.*

APRICOTS.—If we except the frosts experienced on the mornings of the 19th, 20th, and 21st ult., which throughout the country varied from 10° to 16°, it is seldom that a season has been so favourable for the blooming of the trees as the present one. Where the trees were protected, the weather being dry and the walls warmed with the sun at the time the frosts occurred, it will be found that in most cases only the bloom situated on the longest spurs has been killed, and sufficient escaped injury to make a crop. According to the state of the weather prevailing after this date, the wall coverings may be reduced in amount where poles and nets are employed, the latter being laid rather close towards the tops of the trees; as if this be not attended to, the young shoots very soon become entangled in it. My practice is to protect with two thicknesses of Strawberry net, and over this one thickness of ½-inch fish-net. The fish-net will now be removed. Some slight amount of disbudding will be necessary, and it should now be attended to. This will consist in reducing the number of shoots at the ends of leading branches of last year's growth at the tips of foreright spurs, where these have become too long, and those at the back of the branches, or where they are otherwise badly placed.

PEACHES AND NECTARINES.—The bloom of these fruits, not being sufficiently forward to have been injured in any way by the frosts of the past month, a splendid "set" in the South at least should be general. According as the weather is mild and genial, disbudding may be commenced; but if it be dull, with cold winds, and frosty at night, the operation should be postponed, and especially should it not be hurried with trees which are not vigorous. In any case let it be done gradually, and especially at this early date. Remove the foreright shoots, and those at the back of the shoots and branches, but those with fruits at the base, pinch the points for the present, removing them entirely subsequently. Keep aphis in check with tobacco-powder until the tree coverings are removed, and the weather is warm enough to admit of the trees being syringed with insecticide. With outdoor Peaches and Nectarines, the closest attention must be paid to encouraging the earliest growths, as upon attention to this depends the success more than upon any other item. Any curled or blistered leaves should be picked off, and where these appear at the ends of young shoots of last season, it is an indication that the wood was imperfectly ripened, and it may be cut back to a healthy break.

GENERAL REMARKS.—Should an unfavourable change in the weather take place, the bloom-buds on Apple trees being very forward, where trees are grown on the Paradise or dwarfing stock, and are of only moderate size, the bloom may be protected by placing six stakes round each tree to support a covering of old fish-netting; and when frost threatens, a mat could also be thrown over the top. In this way I am obliged to protect the fruit on such trees from blackbirds and thrushes in the autumn, and suitable lengths of netting are kept in store for this purpose. Where clay is used for grafting, mix some with water to the consistency of paint, and with a painter's brush go over the grafts frequently, painting them over and stopping cracks, success depending upon keeping the united parts air-tight until the scions begin to grow. It is in this respect that grafting wax is better than clay, as no after-care is necessary.

THE KITCHEN GARDEN.

By H. C. Prinsep, *Gardener, Buxted Park, Uckfield.*

ASPARAGUS.—New beds may now be planted, in showery weather. If roots have to be bought, this should be done at once, as they are apt to become dry in transit, and when that is the case, the buds do not start readily into growth. It is best to form the soil into small ridges for planting, spreading the roots out evenly on each side of the ridge, in such a manner as to allow the crown to rest on the top. Cover with soil from between the beds to a depth of 2 inches. If covered much deeper than this, and cold weather should set in, the soil is not sufficiently warm to cause growth to start at once, so that the roots often perish in consequence. Asparagus is not difficult to grow on good well-drained land, but in cold, heavy soil, the roots rot off in numbers in the winter. Seed may now be sown. Should the plants be required to remain where the seed is sown, then the beds must be prepared as previously advised; but if the purpose is to produce a stock of roots to force inside, it will not be necessary to go to that trouble. The soil must be rich, if strong plants fit for transplanting are to be obtained in one season, and to further this end, early thinning of the seedlings should be practised, so as to favour development. It is not often that this vegetable can be cut from the open ground at the end of March, but in sheltered situations in this district this has been done this year.

BEET.—A small sowing of this should now be made to afford an early supply of roots. The soil should be reduced to a fine tilth before it is sown. It is also essential that the plants be encouraged to grow as quickly as possible, or they are liable to bolt. Thinning should be done early, and weak doses of liquid-manure should be afforded when growth has become active.

CAPSICUMS AND CHILIS.—A good deal of attention will now be needed by these plants, and they must not be allowed to suffer from lack of re-potting when the state of the roots renders this necessary, or from want of direct sunlight, keeping them at a short distance from the glass. If a hot-bed is available on which they could be planted out, growth would be more robust; the flowers would also set more freely, and abundance of ripe fruit would be obtainable from the month of June onwards.

TURNIPS.—These are sometimes difficult to obtain from the open ground very early in the season, owing to cold winds and changeable weather checking growth, and favouring the increase of the Turnip-fly. When the plants are advanced sufficiently to be thinned or singled-out, a few Spruce boughs may be stuck about the bed to ward off the wind from them; it is astonishing how a slight barrier like this will break the wind's force. Watering must also be attended to; although it will not be necessary to water them freely till the plants have attained some size, if it be sufficient to keep the surface moist, that will do for

the present. If the fly make its appearance, dust the leaves with fresh-slaked lime in the early morning, and afford no water for a day or two.

SALADS will now be in demand, and supplies must be kept up by frequent sowings. Radishes on light soil soon get tough and hot to the taste, and no large sowings are necessary, but a small quantity only should be sown once a week. Avoid sowing the seed thickly, as when this is done the plants often fail to make usable roots; thin early to about 1 inch apart. Small salading should be sown frequently, for with warmer weather growth will be more rapid. Lettuce of the Golden Queen type should now be plentiful.

STORE-ROOM AND CELLAR. — Remove the growths from Potatos, Parsnips, Carrots, and Beet as fast as they show, and keep the places cool, admitting no more light and air than are absolutely necessary.

BROCCOLI.—Seed of the early varieties may now be sown in the north, but here we prefer not to sow before the first week in May, except for autumn use. All such plants should be grown from the first as robustly as possible; and it is better, therefore, to defer sowing for a few days, than to have the plants spoiled before they can be transplanted.

THE FLOWER GARDEN.

By T. H. Crasp, *Gardener, Canford Manor, Wimborne.*

HARDY AQUATIC PLANTS.—These should now receive attention in the way of cleansing, dividing, replanting, &c. If Nymphæas and such things are grown in tanks surrounding fountains, the water should be let off, and the tank thoroughly cleansed; should the plants be grown in pots or tubs, the same cleansing will be necessary. All dead leaves and rubbish should be removed, and any that require repotting should be potted into soil of rather a heavy nature, with plenty of cow-manure added; those which do not require moving, should have a good top-dressing with similar soil. The present time is suitable for procuring any addition to the collection that may be desired, as most hardy aquatics are just on the move. The following is a list of the most showy kinds, which grow and look well if planted in good-sized pots or tubs, and plunged in the sides of streams, lakes, or in tanks of water, surrounding fountains and such things:—Nuphar luteum, N. pumilum, Nymphæa alba, N. odorata, Sagittaria simplex, S. sagittifolia, Villarsia reniformis, V. nymphæoides, Menyanthes trifoliata, Irish pseudo-acorus fol. var., Hottonia palustris, Caltha palustris fl. pl., Butomus umbellatus, Aponogeton distachyon, Alisma Plantago, and Pontederia cordata.

GENERAL WORK.—Hollyhocks that were recently planted should receive a thorough mulching of well-decayed manure. Old stools which are now showing up through the soil should receive similar attention, and if the young shoots are over-crowded, thin them out, leaving three to six of the strongest for flowering. The first batches of Sweet Peas should be moulded as soon as they are 3 or 4 inches high, and a further sowing should be made. Lily of the Valley beds should receive a good top-dressing of well-decayed manure and leaf-soil, as the crowns are lifted for forcing, &c. The small crowns should be saved if the stock is to be increased, and new beds formed. The soil should be well trenched, and plenty of rotted manure and leaf-soil added. Divide the ground into 4-feet beds, with a path of about 1 foot between each bed, which will prevent injury to the crowns through trampling on the beds when weeding them, &c. The crowns should be planted about 3 inches apart in the rows, and about 1 foot from row to row. Violets that were planted in frames have nearly finished blooming, and should now be taken up and divided, saving the strongest young growths that have roots for increase and next season's blooming, as Violets always bear the best blooms on young plants. They should be planted in lines or beds about 1 foot apart each way, the soil being previously enriched with well-decayed manure or leaf-soil. After they are planted, they should have a thorough watering, and if a half-shady site is not attainable, they should be shaded during the hottest part of the day, and receive a good syringing overhead in the evening, thus preventing red-spider. If any flower-beds are to be sown with hardy annuals for an early summer display, no time should be lost in doing this, but if for a display later on in the summer, two or three weeks hence will be quite early enough. So great is the variety, beauty, &c., in hardy annuals, that very effective beds may be obtained at a small expense, which will equal anything made with ordinary bedding plants.

FRUITS UNDER GLASS.

By M. Temple, *Gardener, Carron House, Stirlingshire.*

PINES.—If the warm sunshine during the latter half of March has brought forward fruiting Pines too quickly, it may be well to retard a number by removing the plants to a somewhat cool and dry atmosphere. If the fruit has well-finished colouring, neither flavour nor weight is materially injured by such removal. Temperatures need not be increased for some weeks, as nights during April are often excessively cold, and the weather generally is very changeable; 75° artificial heat should fall to 70° when weather is cloudy and cold. The sun should always be harvested by closing the structure early in the afternoon. If suckers, which are not required, should appear on plants swelling their fruit, remove them without delay; also gills on fruit-stalks, which only rob the fruit. Water must be judiciously applied, keeping the soil moderately moist. Bottom-heat, if supplied by tan or other fermenting material, will fluctuate much during changeable weather, and should it rise above 90°, the pots should be raised above the plunging material till the intense heat subsides. Syringing should be done lightly, and only on bright afternoons, but sprinkle water on every surface. Young plants in any stage must now have a healthy growing atmosphere, and be supplied with air daily to keep growth sturdy. A close high temperature is ruinous, and causes weakly growth. It should never at this season exceed 70°, except by sun-heat.

VINES IN POTS.—Any ripening fruit should receive enough water only to prevent the roots suffering from drought. The atmosphere should be not too moist. A free bracing air is essential to fine flavour and high colour, but cold draughts must be avoided; later crops require plenty of moisture at the root and in the atmosphere, and weak liquid manure at every second watering. The water should reach every particle of soil in which the roots are growing; dryness at root is a fertile cause of red-spider.

STRAWBERRIES.—Those which are to supply latest crops should be all placed in frames, and brought on slowly with plenty of light and air. Fruits which are swelling should be free from stagnant moisture at the roots, but liberal waterings must be allowed. Those setting fruit should be assisted by means of a camel's-hair brush. Thin the fruits after they are set, to from eight to fifteen on each pot, and maintain a moist temperature from 65° to 70° with fire-heat, rising 10° or more with sunshine, and when colouring begins give air freely, and water moderately only, to prevent the plants from flagging. As soon as fruit is gathered, remove the plants to a position where they can have protection preparatory to planting them in the open ground. They should not be kept in vineries, as they are liable to become infested with red-spider.

THE ORCHID HOUSES.

By W. Holmes, *Gardener, Pickering Lodge, Timperley.*

DENDROBIUMS.—The species and varieties of D. chrysotoxum, D. clavatum, D. densiflorum, D. d. album, D. Dalhousieanum, D. fimbriatum, D. f. oculatum, D. Schroderii, D. suavissimum, D. thyrsiflorum, and some others having rested during the winter months, are now showing bloom buds and spikes, and if they are not already in growing quarters they should be removed to them at once, so as to afford a long season in which to make growth after the flowering is over. I try to keep this section of Dendrobium a little warmer during the time the plants are resting than is necessary with D. nobile and D. Wardianum. This is done by placing them at the warmest end of the house; in fact, they may be rested in the house in which they are grown if the air is kept dry and water withheld from them—still, it is better to have them in a house by themselves. D. Dalhousieanum requires a long period of time in which to make up its lengthy pseudobulbs, the time extending from the present till the month of November. This species makes a grand exhibition Orchid. As soon as the flowering is past, repotting or top-dressing should be undertaken, good fibrous Orchid peat and fresh-gathered sphagnum moss being mainly employed. In repotting, the pots may be three-parts filled with clean crocks, as when they are well-established, copious watering is required; but in affording water to newly-potted plants, great care must be used not to afford more than is just necessary till the new roots have pushed into the fresh compost. The species of insects that infest these Dendrobes the most are black-thrips, which harbour on the under-sides of the leaves, and as soon as such are observed, sponging with soft-soapy water, and slight fumigation should be adopted for a few nights. When in bloom the plants should be placed together and not syringed; the flowers soon decay if damped. When in full growth syringing once or twice a day is good practice. Sometimes red-spider infest the plants rapidly, and if not soon destroyed, they disfigure the leaves, making these look very unsightly. During growth a hot moist atmosphere should be kept up, but afford a small amount of bottom ventilation at night, stagnant dampness in the house causing "spot." Plants which may be intended for flowering during May can be retarded in a cool, airy house.

CYMBIDIUMS.—Plants of C. affine, C. eburneum, C. Lowianum, gone out of flower, may be repotted in good fibrous loam and peat, with clean crocks intermixed therewith. In potting these terrestrial Orchids, the top of the soil should be kept 1 or 2 inches below the pot-rims, so as to allow space for a considerable amount of water. The Cattleya or other house with an intermediate temperature suits these plants, and they should be well shaded when the sun is shining on the house. Plants of Odontoglossum Cervantesii, O. Rossii, whose flowering is finished, will be benefited by being potted or top-dressed, as may be required. For these species, shallow pans with plenty of drainage are best, and the coolest part of an Odontoglossum-house where there is an abundance of air will suit their requirements.

PLANTS UNDER GLASS.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

STOVE FOLIAGE PLANTS.—Cuttings of Crotons, Dracænas, Acalyphas, and Dieffenbachias, that were struck or mossed some time since, will now be ready for potting. They will be better with a gentle bottom-heat for a time, and should be well shaded from bright sunshine. Specimen plants that require a shift should receive it at once; the bright weather of the past month has brought plants on very fast under glass. The foliage-house should be well syringed twice a day, the floors well damped, and the glass shaded with some kind of green shading, air being afforded at the top of the house, which should be closed early with plenty of moisture about. Temperature by night 65° to 70°; by day 75° to 85°. Acalypha tricolor is one of the useful plants for decorative purposes, as it will keep in good condition in a room longer than most stove foliage plants; it grows well in good peat loam and sand, with copious waterings of liquid manure. Plants of Curculigo recurvata and C. viridus should be divided, and potted into loam, leaf-mould, peat, and sand. They are useful plants, when grown in small pots, for filling both baskets and vases. Cissus discolor, a beautiful old climber, is invaluable in the warm foliage-house, and it looks best when allowed to twine itself on string or wire up the rafters, or against a wall. For a specimen plant, the best plan is to train it to three strong green painted stakes carelessly, letting it take its own way. Old plants that have been kept dry during the winter may now be repotted in a mixture of peat and loam, with some rich decayed manure, and plenty of sharp sand, affording the pots good drainage, and abundance of water when growing. Cuttings will strike freely now in bottom-heat, and soon make nice plants. Cyanophyllum magnificum, which may have grown tall and lost their lower leaves, should be cut down, making the points of the cut off shoots into cuttings, and the lower joints into eyes, if an increase of stock is required. Place the cuttings in sand and peat in a good bottom-heat under a bell-glass, and shade from the sun. Young plants should be potted into good-sized, well-drained pots, using turfy loam, leaf-mould, some fibrous peat, and sharp sand. When growing well, afford liquid manure. The plants should be grown quickly without a check, in abundance of heat and moisture, and be shaded well, to bring out their lovely tints. They are best kept to one stem. Spherogyne latifolia, a good companion plant to Cyanophyllum, does well under the same kind of treatment as regards soil and temperature. Pandanus Veitchii may have the side shoots taken to increase the stock of plants, potting them singly in small pots. Repot any old plant that requires it.

EDITORIAL NOTICES.

LETTERS FOR PUBLICATION.—*All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for contributions, or to return unused communications, or illustrations, unless by special arrangement.*

PLANTS, &C., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be carefully packed and numbered, and not more than six should be sent at one time.*

LOCAL NEWS.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

ILLUSTRATIONS.—*Photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c., are particularly solicited; but the Editor cannot be responsible for loss or injury.*

Advertisements should be sent to the PUBLISHER.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY, APRIL 11 { Royal Horticultural Society's Committees, Westminster. Lecture at 3 P.M., on "Orchid Life in Guiana." / Horticultural Club. / National Rose Society.

WEDNESDAY, APRIL 12—East Anglian Horticultural Club.

SHOWS.

TUESDAY, APRIL 11 { Royal Horticultural Society, Drill Hall, James Street, Westminster. / Brighton and Sussex New Horticultural Society (two days).

SALES.

MONDAY, APRIL 10 { Collection of Orchids and Pitcher Plants at Quorn House, Loughborough, by Protheroe & Morris (four days).

TUESDAY, APRIL 11 { Orchids at Protheroe & Morris' Rooms.

WEDNESDAY, APRIL 12 { Lilies, &c., at Protheroe & Morris' Rooms.

FRIDAY, APRIL 14 { Orchids from F. Sander & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—47°.6.

Ice in Hong-Kong.

MR. CHARLES FORD, the Director of the Botanic Gardens at Hong-Kong, obligingly furnishes us with particulars of the unprecedented cold weather which occurred in that island on the 15th to 17th of January. There is no record, says Mr. FORD, when ice has been observed in Hong-Kong below 1700 feet. The result was naturally extremely disastrous, as Hong-Kong lies within the tropics. Mr. FORD specifies the indigenous as well as the cultivated plants that suffered, but space does not allow us to give these details. The photographs which accompanied Mr. FORD's letter show a very remarkable state of things, the plants apparently being covered with a thin sheet of ice.

"The continued low temperature, combined with fall of rain from an apparently warmer stratum of air above, resulted in the formation of ice varying in quantity from a thin coating on the upper leaves of Pine trees growing at 300 feet above sea-level, to a thick encasement of perfectly transparent solid ice of 5½ inches in circumference on the blades and bents of grass at the summit of Victoria Peak. The grass bents themselves, which were the foundation on which the ice accumulated, were not more than an eighth of an inch in diameter, yet the formation of ice was so gradual that with the enormous accumulation of ice, which became its own support, the bents retained their natural upright or but slightly pendent position. These large accumulations of ice were on the windward side of the hill, where rain drifted, but even on the lee side, the average coating of ice was about 3 inches in circumference.

"Evergreen shrubs and trees carried on their leaves solid coverings of ice three-eighths of an inch in thickness. The great weight of this ice caused the branches of trees to assume a pendent form, the strain in many cases causing the limbs to snap off with a crash. All vegetation throughout the hill regions of the colony was thus covered with ice, as were also most other objects. Telegraph and telephone wires from Victoria Gap upwards were covered with ice five-eighths of an inch in thickness, and, in addition, carried icicles as much as 3 inches in length as close as they could be packed side by side. This caused many of the telephone wires to break, and the iron post at Victoria Gap which supported them was snapped off a few inches above the ground.

"The windward sides of the walls of the lock-out house at the Peak were from top to bottom covered with perfectly transparent ice three quarters of an inch in thickness.

"All the hills on the mainland and Lantao Island were likewise white with ice, one of the hills (3147 feet) of Lantao having what appeared to be snow for some few hundreds of feet down from its summit. As early as the evening of January 15, the summit of Taimoshan (about 3300 feet) on the mainland had assumed a whitish appearance, presumably from ice or snow.

"The effect of the extremely low temperature on vegetation has been disastrous.

"The damage in the Gardens consists chiefly in the injury or destruction of leaves, but some plants are quite killed, these being natives of much warmer regions than Hong-Kong. Many of the decorative plants which were not killed will be months before they can regain their ornamental appearance.

"Every possible precaution was adopted to minimise the effect of the cold. The plant-houses, which are provided with screens merely to produce shade, were all matted in and the roofs covered with straw.

"In spite of these precautions, however, many plants suffered very severely. Of Ferns in the houses, Polypodium heracleum and Adiantum tetradactylon suffered most, other kinds being but little affected.

"In the Orchid-house, which was covered with mats and straw, all the best Orchids have suffered very greatly, many being entirely killed, while others were so much injured that, even if they survive, it may be some years before they regain their previous luxuriant state. A healthy plant, received from Calcutta several years ago, of Dendrobium aggregatum is apparently killed, while plants of the same species growing by its side, and also others on trees where they had no shelter, which I collected ten years ago on the Lo-fau mountains, about 60 miles from Canton, have escaped unharmed. This seems to show the capability of the plant in adapting itself to colder regions than it is generally found in.

"In ordinary winters the temperature is too low for many kinds of Orchids and other tender plants. These should be provided with glass-houses in which a little artificial heat could be maintained.

"Tender pot-plants generally were removed to sheltered places and covered with mats.

"The highest point of the Gardens is 320 feet above sea-level; the lowest part, 175 feet. Some plants of the same kinds which were damaged at the upper portions were uninjured at the lower parts of the Gardens.

"Of exotic trees planted on the hills, Albizzia Lebbek, Aleurites triloba (Candle-nut tree), and Eugenia Jambos (the Rose-apple tree), had all their leaves killed at and upwards of 600 feet above sea-level. Trees of the Rose-apple at about 800 feet altitude have been entirely killed.

"At 600 feet altitude indigenous plants began to be affected, the injuries increasing with higher altitude until at about 900 feet, when the extreme limit of low temperature which some plants could bear was reached, and death ensued. Most of these are tropical plants of which Hong-Kong, Formosa, the Luchu Islands in the Far East, and Sikkim and Himalaya in India are the northern limits of the geographical area from which they have been recorded. Of the plants killed or injured, Ficus Harlandi, Benth.; Gordonia anomala, Spreng.; and Garcinia oblongifolia, Champ., are known only from Hong-Kong. Although many of our indigenous plants have not been yet discovered elsewhere, it is to be expected that when China is better known, they will be found over a larger area than the restricted one of this island. The fact of the above-named plants having succumbed to the late frost indicates that when they are discovered elsewhere, they will be found southward of Hong-Kong.

"Considerable damage to vegetation seems to have been caused about Canton, where the alluvial lands are highly cultivated. The Rev. Dr. B. C. HENRY, in a letter dated January 26, informs me that 'The destruction of vegetation about Canton has been very great. The Banana plantations are ruined, and the Bamboos have suffered. The Aleurites triloba look all shrivelled up; while Begonias, Euphorbias, Crotons, and scores of others are simply destroyed.' What Dr. HENRY reports indicates severer weather at Canton than here, as is proved by the reports of the steamers above referred to, Aleurites triloba leaves being shrivelled up at Canton, while they are here at 300 feet altitude uninjured, but at 600 feet here they are affected, and completely destroyed a little higher up the hill."

SCOPOLIA CARNIOLICA VAR. HLADNIKIANA.—The ordinary form of the species is a perennial, with dull-coloured, glabrous, oval, oblong leaves, with solitary axillary, stalked, pendulous, bell-shaped flowers of a livid-purplish colour. The corolla is nearly entire at the edge. The fruit is a capsule opening by a lid, as in the case of Hyoscyamus. The form exhibited at a recent meeting of the Royal Horticultural Society by Messrs. PAUL & SON chiefly differs in the flowers, which are creamy-yellow, and devoid of scent. As an early-flowering hardy perennial, we venture to think that the variety is preferable to the species. It may be comforting to Cockneys to know that the aspirate in the name need not be sounded. The genus is allied to Hyoscyamus, and is not far removed from Atropa or Datura. It has representatives in Austria, Japan, Nipal, and Sikkim.

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the society will be held on Tuesday, April 11, when the fruit, floral, Orchid, and Narcissus committees will meet at noon in the Drill Hall, James Street, Victoria Street, Westminster. Mr. EVERARD F. IM THURN has promised a paper on "Orchid Life in Guiana." A large attendance of the outside public is expected.

NATIONAL ROSE SOCIETY.—A meeting of the committee will be held, by permission of the Horticultural Club, at their Rooms, Hotel Windsor, Victoria Street, Westminster, on Tuesday, the 11th inst. at 3·30 P.M.

HORTICULTURAL CLUB.—The usual monthly dinner and conversazione will take place on Tuesday, April 11, at 6 P.M. The subject for discussion will be "Plant-hunting in the Alps," to be opened by Mr. H. SELFE-LEONARD.

SURVEYORS' INSTITUTION.—The next ordinary general meeting will be held on Monday, April 10, when a paper will be read by Mr. T. BRIGHT, on "Underwoods: their Growth and Utilisation." The chair to be taken at eight o'clock.

INTERNATIONAL JUBILEE HORTICULTURAL EXHIBITION, LEIPSIG.—A great exhibition under this title will be held at Leipsig from August 25 to September 5 next, to celebrate the fiftieth anniversary of the foundation of the Leipsig Gardeners' Society.

Spraying Apples.—We take the following summary from the last Report of the Cornell University Agricultural Experiment Station:—"The Apple-scab fungus, Fusicladium dendriticum, attacks Apple trees very early in the season, even before the petals fall to the ground. The first application of a fungicide should be made early, no later than immediately after the petals fall; an application made just before the buds open would probably be of value. The time for combating the Apple-worm is immediately after the petals fall, and the treatment should be repeated once or twice until the Apples begin to hang down. Apple trees should be pruned so that all parts may easily be reached by a spray; well-pruned trees allow free access of light and air among their branches, which prevents fungi from obtaining so strong a foot-hold. The injury done by the Apple-scab fungus was decidedly reduced where the Bordeaux Mixture was used. When Paris Green was added to the Bordeaux Mixture, the fungicidal action of the combination was more marked than when London Purple was used in place of Paris Green. Paris Green has a certain fungicidal value, but in this respect it does not nearly equal the Bordeaux Mixture. The value of Paris Green as an insecticide does not appear to be materially affected whether it is applied alone or in combination with the Bordeaux Mixture. The insecticidal value of Paris Green when used with the Bordeaux Mixture was greater than that of London Purple when similarly applied. More applications are required during a wet season than during a dry one; during wet weather they should be repeated every seven to ten days. The results obtained this season from the application of a combination of the Bordeaux Mixture and Paris Green or London Purple show that the use of such a combination is valuable and practicable for the treatment of the Apple-scab fungus and the Apple-worm, even in a wet season. Some varieties are much more subject to the disease than others. In the preparation of the Bordeaux Mixture, 13·21 parts of slaked lime of the composition are equivalent to 10 parts of quicklime. More copper appears to remain in solution when slaked lime is used than when the lime is fresh. The quantity of copper remaining in solution diminishes rapidly as the liquid is allowed to stand. The action of heat is favourable to the decomposition of copper compounds remaining in solution in the Bordeaux Mixture. The copper is precipitated in the Bordeaux Mixture in the form of hydrate, basic sulphate, and the double basic sulphate of copper and calcium. It is probable that the precipitated copper compounds are affected by the carbonic acid gas of the atmosphere. The solvent action is particularly strong when the copper is in the form of the basic sulphate. *E. G. Lodeman, Assistant in Horticulture.*

Royal Horticultural Society of Ireland.—The following is a list of proposed exhibitions for 1893:—Spring Show, Royal University Buildings, Earlsfort Terrace, Thursday, April 20; Summer Show, Lord Iveagh's Grounds, entrance Harcourt Street, Thursday, July 6; Autumn Show, Lord Iveagh's Grounds, entrance Harcourt Street, Friday, August 25; Winter Show, Royal Dublin Society's Buildings, Ball's Bridge, Thursday and Friday, November 16 and 17.

Fig. 60.—Scopolia carniolica Hladnikiana: hardy perennial; flowers yellow. (see p. 418.)

The New Railway Rates.—A revised schedule of rates for the carriage of merchandise on the South-Eastern and London, Chatham & Dover Railway Companies has just been put into operation. The new charges are station to station rates, and practically amount to a five per cent. increase upon the tariff in force previous to January 1 last. With regard to the rates for empties, sieves and half-sieves will in future be charged for on distances of 25 but not exceeding 50 miles at the rate of 6*d.* per cwt. This is an important concession to fruit growers in the country. Up to January 1 last, sieves and half-sieves

were charged for at the rate of ¾*d.* and ½*d.* each respectively. As thirty-four half-sieves go to the hundredweight, the charge for that number formerly amounted to 1*s.* 5*d.*, whereas it will in future be 6*d.* only, from which 1½*d.* rebate is allowed. The rate for Hops also shows a reduction as compared with the old charge, and thirteen pockets will be carried for the same rate that twelve used to be charged at. The revised rates for drapery, corn, manure, &c., are included in those which have not yet been issued.

Corbridge and District Gardeners' Society.—A well-attended meeting of this Society was held on Monday, March 20, at Corbridge. A paper on "The Minor Lights of the Conservatory during the Winter Months" was read by Mr. Irvine, gardener, Dipton House, Riding Mill, who gave a good selection of plants, with hints as to their respective treatment, which being very interesting caused a long discussion. It was decided to purchase a few books to commence a library, and the Society hope to be able to add a few every year. Two papers are promised for the next meeting, on "Palms and their Uses" and "Peaches;" the usual vote of thanks terminating a successful meeting.

"**Botanical Magazine.**"—The plants figured in the April number are:—

Cattleya iricolor, t. 7287.—A figure of the only existing specimen, so far as is known, of this Cattleya, now in the possession of Baron Schroder. The native country is not known. The leaves are long in proportion to the pseudobulb; the flowers are about 4 inches across, with very narrow linear ob-lanceolate white segments; the lip is convolute at the base; the anterior lobe undulate at the edges, yellow, with crimson streaks.

Carex baccans, t. 7288.—A handsome Carex, in which the fruits as they ripen become succulent and red. It is familiar to visitors to the temperate-house at Kew, but is unknown outside of botanic gardens. It has a wide distribution in South-east Asia.

Satyrium coriifolium, t. 7289.—A terrestrial Orchid from the Cape of Good Hope, with dense spikes of yellow flowers, spotted with red; the lip is at the upper part of the flower, hood-shaped, and provided with a long spur. Hort. Elwes.

Allium kansunense, t. 7290.—A graceful species, with narrow grass-like leaves, slender, erect spathes, with drooping umbels of bright blue flowers. It is a native of Tibet and Western China, and is quite hardy.

Exarrhena macrantha.—A plant with the habit and general appearance of a Myosotis, but the flowers are yellowish, flushed with brown, and the stamens spring from the throat of the corolla between the glands in that situation. Native of the Chatham Isles. Flowered at Kew from specimens sent by J. D. Enys, Esq.

Rose Show Fixtures in 1893.—In addition to those previously noted by us, Mr. E. Mawley supplies the following:—

July 4 (Tuesday), Bagshot and Diss.
„ 5 (Wednesday), Hereford.
„ 6 (Thursday), Farningham.
„ 7 (Friday), Hitchin.
„ 8 (Saturday), Reigate.
„ 12 (Wednesday), Tunbridge Wells.
„ 20 (Thursday), Trentham.
„ 22 (Saturday), Manchester.
„ 27 (Thursday), Halifax.

Mr. Mawley, Rosebank, Berkhampsted, Herts, will be glad to receive the dates of any Rose shows not mentioned above, for publication in the next list of fixtures, which will be issued early in May.

Testimonial to Mr. and Mrs. Dodwell.—Mr. and Mrs. Dodwell celebrate their Golden Wedding on the 20th of this month, and it is proposed by some of his old friends, who have long watched the work done by Mr. Dodwell in the development of the Carnation, and who have very pleasing memories of the social meetings of the Carnation and Picotee Union at Oxford, to commemorate this auspicious event by the presentation of some suitable piece of plate. Individual subscriptions will be limited to 2*s.* 6*d.* or 5*s.* It will save much time and trouble if subscriptions be sent direct to Mr. R. Sydenham, 190, Bristol Road, Birmingham, treasurer of the fund.

Welsh Wine.—The following is an extract from the *Wine Trade Review*:—"We give in our present issue the result of several important sales of wines from private cellars. Some of the prices realised are noticeable, but the most interesting incident recorded is that at the sale at Birmingham of Mr. Lawson Tait's wines by Messrs. Ludlow, Roberts & Weller. Four and a half dozen of wine grown on the Marquis of Bute's Welsh estate were sold at the rate of 115*s.* per dozen. The wine is called the Castle Coch, and it was produced in 1881. From the particulars given in the catalogue, we learn that the vineyard on the Marquis of Bute's estate in the Taff Valley consists of about 3 acres of volcanic soil, favourably situated for the growth of the Vine. It is added that the 1881 wines were exceptionally good, and all were secured by Mr. Lawson Tait. The Marquis' vineyard has been frequently mentioned, but we think it will be a surprise to most people to learn that the produce, even of a good year, is considered to be worth 115*s.* a dozen. If the soil is suitable for an extension of the vineyard, perhaps the result of the sale at Birmingham will hasten the commencement of the work."

"**Orchid Review.**"—The April number contains a continuation of the history of Orchid hybridisation; a figure of Cypripedium porphyrochlamys×; a notice of Mr. Chamberlain's collection at Highbury, near Birmingham; and a great variety of miscellaneous information. The magazine decidedly improves as it grows, and will be highly valued by Orchid growers.

Technical Education: Vegetable Culture.—The Cambridgeshire County Council has arranged with Mr. T. D. Fish for a series of lectures on the above subject, one to be given each week for five weeks in various districts of Cambridgeshire. The following is the outline of the course:

Lecture I.—"Preparation of the Soil." How to make dead soils live and grow good crops. The theory and practice of draining, trenching, digging, forking, hoeing, and manuring. Effects of improved soil—site, shelters. Early cultivation.

Lecture II.—"The Potato." Best Potatos for the million. Improved methods of cultivation. Selection of varieties, early, mid-season, late sorts. Disease-proof Potatos. Times and modes of planting. Mellow soils for Potatos. High cultivation. Checks or cures of disease. Lifting, storing, selling, cooking, and eating Potatos.

Lecture III.—"Onions, &c." Shallots, Garlic, Leeks, Carrots, Turnips, Parsnips, Beetroot, &c., Celeriac, Celery, Salsafy, Asparagus, Rhubarb, Seakale, Kohl Rabi, and other root or stem vegetables.

Lecture IV.—"Green Peas, &c." Broad Beans, Runner and French Beans, Haricots, Tomatos, Marrows, Ridge Cucumbers, Gourds, Spinach, Parsley, Sweet Herbs.

Lecture V.—"Cabbages, &c." Cauliflowers, Broccoli, Brussels Sprouts, Savoys, Greens, Lettuces, Radishes, Endive, small salading, Chicory. Short cuts to profit through the running of two or more crops abreast on the same ground at the same time, such as Broad Beans and Potatos, Radishes and Asparagus, Celery and Lettuces, Peas and Cauliflowers, Strawberries and Onions, &c.

Questions will be freely welcomed and fully answered at the close of the lectures, which will last over an hour. Admission free. All who want to learn are welcome. N. C. Hardcastle, Organising Secretary, Downing College, Cambridge.

Kent County Council.—The experiments committee of the above met at the Horticultural College, Swanley, on March 30, when a lecture was given by Professor Pentland Smith on the life-history and structure of the common Mushroom. Professor Cheshire said that trials of various manures were being made on Beans. These experiments were being carried out by the students. The committee decided to carry out similar experiments with Strawberries, bush fruit, and one of the Brassica family. Various manures were discussed, and it was decided to visit the college grounds, and select land and crops for experiment at the following meeting, to be held on Thursday, April 13, at 5.30 p.m.

GHENT.

The Quinquennial Exposition.—We have visited the Ghent Casino to report to the readers of the *Gardeners' Chronicle* the progress of the preparations for the great flower show. The decorations of the main building are completed. M. Ed. Pynaert, who is responsible for the arrangement of this portion, has drawn up a plan which gives an excellent idea of what the future appearance of this fine hall will be. The ground floor has been arranged as a series of small saloons with mirrors, pictures, carpets, &c.; all these elegant boudoirs—this name suits them better than that of saloon—are differently arranged. They contain antique furniture, columns supporting vases to hold specimen plants, art treasures, &c. The exhibitors may arrange their plants to suit their own fancy. These rooms are reserved for Orchids. Part of the upper hall is reserved for Hyacinths, Tulips, Amaryllis, &c. All is ready and charmingly arranged. The large hall has been managed on a new plan, which will set off the plants and please the visitors.

The annexe will be very fine, and if necessary, thoroughly warmed. Here also, the plan designed by M. Ed. Pynaert has been carried out under his direction. We believe that this part of the Exposition will be a genuine success. Innumerable greenhouses, large and small, surround the annexe. The competitive trials of heating apparatus commenced on Monday, March 27, and will continue for a fortnight. Every day one apparatus is examined. The measures taken by the Administrative Council on the one hand, and by the members of the special jury on the other, inspire full confidence, and enable us to prophesy a satisfactory result. The entries surpass all expectation—so much so, that we would fain hope that all the announced exhibits will not be shown, since it will be quite impossible to stage them all.

Orchids will be the grand feature; never before has there been such a display. Azaleas will be shown in enormous quantities. The competitions for good cultivation will be unexpectedly numerous and good. In fact, the thirteenth Ghent International Exhibition will far outshine all its predecessors. We should also mention that judicious management has ensured the orderly progress of all the work which, without exception, has been most punctually executed. Justice must be rendered to the intelligent forethought and indefatigable zeal of the members of the administrative council and the special commissioners, and particularly to MM. the President, Comte de Kerchove de Denterghem; the secretary, Ern. Fierens, and the assistant-secretary, M. Arm. de Meulenaere.

The Chambre Syndicale des Horticulture Belges invite, on April 15, at 8 o'clock, in the rooms of the ancient Hôtel Communal of Ghent, the members of the jury to a "raout." It will be a brilliant affair. The fine rooms, restored in perfect taste, will be brilliantly lighted, so as to enable the guests to examine the beautiful examples of the architecture of the middle ages. The proceedings will be opened by a reception held by MM. the Burgomaster and the aldermen of the town of Ghent, who doubtless will welcome cordially the distinguished foreigners who will be their guests that evening. *Ch. D. B.*

A letter has been addressed to the president of the Société Royale d'Agriculture et de Botanique by M. Lucien Linden, with reference to the first class of the

first group "new plants" in the programme of the forthcoming exhibition. From this letter, of which a copy has been sent to us by M. Linden, we extract the following. The wording of the schedule is as follows:—

Group 1, New Plants. 1. Six plants in or out of flower recently introduced, and not in commerce.

M. Linden maintains that it should be well understood—

"1. That the 'lots' exhibited should be composed of plants introduced by the exhibitor, and not accidental seedling varieties raised in Europe, such as Tillandsia tesselata foliis variegatis, Vriesia fenestralis variegata, or Kentia Belmoreana var. tenuifolia.

"2. The plants must have been introduced by the exhibitor, and should not be in commerce. Now, a sale, whether of a single plant, or of the whole stock, constitutes an act of commerce. It is the introducer himself who should compete with his introductions (*découvertes*), and, in order that the prize should be awarded to real merit, I am of opinion that the plants should not be borrowed from other firms."

M. Lucien Linden continues, that it is his intention to exhibit six new plants, directly introduced by his firm, and he demands that those who compete with him shall exhibit under the same conditions. He desires to compete with a particular firm, not with a syndicate of plant importers exhibiting under one name. If these indispensable conditions are not accepted, and if competitors exhibit plants which to M. Linden's knowledge are not exhibited in accordance with the above-mentioned conditions, he (M. Linden) will decline to compete, and will exhibit all his plants *hors concours*.

M. Linden recalls the great exhibitions of London in 1866, of Paris in 1867, where Messrs. Veitch brought their plants and M. Linden (père) his, each fighting with their own weapons, and where the vanquished competitor sought revenge in no other way than by redoubling his zeal and activity in his explorations. To these traditional duels M. Lucien Linden desires to return.

It is not for us to speculate on what answer the President will make to this letter, and whether or no the Society will care now to alter their programme, which seems designedly to be framed in a different sense from what M. Lucien Linden would prefer. Of one thing M. Linden may be sure—he will find foemen worthy of his steel; and the Society and the jury may be trusted to see that the conditions of the combat are fairly observed by all the competitors.

As to accidental seedling varieties, they are provided for in Class 2 of the schedule, and by implication, therefore, are excluded from Class 1.

Fig. 61.—CALYPSO BOREALIS.

CALYPSO BOREALIS.

Mr. Elwes exhibited at the Royal Horticultural Society recently a panful of this pretty little terrestrial Orchid, which extends across the whole of Canada from the Atlantic to the Pacific, Mr. Elwes' plants having been derived from Alaska. In the United States it occurs as far south as Minnesota. The root is coral-like, the lower part of the stem tuberous, the single leaf ovate, heart-shaped. The scape 3 to 5 inches high, with a relatively large flower, with narrow-pointed bright purple segments, and a pouch-like lip like that of a Cypripedium, whitish, with reddish-purple and yellow spots, and with two short conical spur-like processes at the lower part.

Mrs. Trail thus speaks of this pretty little Orchid in her *Studies of Plant-life in Canada* (1885):—"The charming Calypso borealis, or Bird's-foot Orchis, with its graceful, deliciously-scented pendulous flowers and crested lip bearded with yellow and pink, and its narrow, twisted, and waved pale-pink sepals and petals; the scape is garnished with one oval, shield-shaped, shining leaf of dark glossy green. It flowers in May.

Home Correspondence.

FRUIT PROSPECTS.—Having just completed a hundred lectures in Cambs, since last October, I am pleased to be able to report favourably on this 28th day of March of the fruit prospects for the current season. On several nights in March there has been as much as 12° of frost. But unless in exceptionally cold and low-lying localities, little or no injury, appears to have been done. Apricots are in full bloom, and Peaches and Nectarines almost fully open. Pears and Plums follow next, and are almost running a neck-and-neck race for the fourth place in order of time. The later these and all other fruits are in opening their blossoms, the safer they are. Gooseberries and Currants are the next in order, and both are most promising. Only a few Gooseberries close by the fog-line, hugging the Cam, are more or less browned in leaf and berry. Currants of all sorts and colours, and Raspberries, also look well. Apples promise a full crop as well as Cherries, though comparatively few of the latter are grown. Strawberry plants have wintered well, and under liberal culture promise a full yield. Considerable efforts are being put forth in various directions to renovate old trees, and plant young ones over considerable areas. The work of beheading, grafting, &c, is in full operation among Plums and Pears; and scions of the best Apples, such as Blenheim Orange, Cox's Orange Pippin, Bismarck, Warner's King, &c., are being laid-in in quantity for working on the heads of old trees or new stocks so soon as the sap is in motion. Much yet remains to be done in the county. Nevertheless, an awakening is seen and felt in all directions as to the importance of fruit growing as a source of food, and as a means of pleasure and profit. *D. T. Fish.*

THE VIOLET PLUM OF EAST ANGLIA.—Considerable mystery hangs over the Violets of different growers which it seems desirable to clear up, to the substantial advantage of intending Plum growers. The other day the writer came upon a grower who had just been grafting all his inferior sorts with Violet Plums, for the all-sufficient reason that while frequently he could not get more than eighteenpence a bushel for common Plums, he could mostly get 10*s*. per bushel for Violets. Now, the growers, as well as the consumers of Plums, are almost alike interested in knowing whether these Violet Plums are purple or Violet Gages, hence Claude Violette or the early blue Plum, Azure Hatif, or yet another variety known as the Royal Hative. As the Violet Plum of commerce is ripe before the Green Gage, which ripens in orchards about the middle of August, it can hardly be the Purple Gage, which seldom ripens until September. The so-called Cheston Plum has also been called Violet, as well as several Prunes; this ripens in August. But then the most generally grown in Violets are early, and mostly raised from suckers, after the manner of Gages. The Jerusalem, the Imperatrice, the blue Perdrigon, Prince de Tours, Queen Claude, and other purple Plums have been called Violets. Which is the true Violet out of so many? Any information as to the true Violet Plum of commerce, and where it could be had true in quantity, would greatly oblige *An Anxious Enquirer.*

BROCCOLI.—This, for the last few years, has proved a provoking crop, especially where a supply of vegetables all the year round is wished. From time to time different varieties are recommended as being especially hardy, &c., but on trial, fail to stand the test of a sharp winter. I am glad to say I am somewhat differently placed to "W. A. C.," inasmuch as I have a very fair lot which have escaped the frost this year, contrary to the two previous seasons. I must, however, say they are rather small. I had all the largest laid down, but in spite of this they were killed or crippled, and the latter have thrown heads about the size of a button. Those I left standing had been planted between the rows of Peas and Potatos, and included Knight's Protecting, Late Queen, and Backhouse's Winter White, and they have been successful in the order I have placed them; the first two have lost only here and there a plant. I tried several others, but those I have named are the best. *W. G.*

SPINACH.—Exactly the same has happened here with regard to Round and Prickly Spinach, as recorded by "A. D." I, too, had always been under the impression that the Prickly variety was much more reliable for winter use, and was rather put about at the time I should have sown it to find I had

neglected ordering the seed. Fearing I might be behind, I decided to make a sowing of the Round whilst waiting for the others to arrive. This, I suppose, was about a week afterwards, and both were sown on the same patch; neither were thinned. The frost did no harm to the Round, beyond cutting a few of the outside leaves, whilst of the Prickly quite two-thirds were killed outright, and the remainder look miserable, but I have had several dishes from the Round. This I think proves clearly enough that it is not the Prickly, but the Round, that is best for standing the winter, and that all this time we have been "sailing in the wrong boat." *W. G.*

DANDELION AS A SALADING PLANT.—Dandelion is by no means a favourite plant with gardeners, who, in a general way, treat it as a noxious weed. Yet the plant is well deserving of cultivation as an ingredient for salads. I need hardly say that the plant is of very easy culture, and possesses a fine hardy constitution. Nevertheless, it pays well for good culture and generous treatment, as the stronger the roots and crowns of the individual plants are by the fall of the leaf the finer will be the specimens of blanched growth obtained therefrom during the winter and spring months, and which, when used in connection with Chicory (Barbe de Capucin), and Lettuce, make a first-rate and very pleasant salad. My employers are so partial to Dandelion and Chicory, that I consider a good supply of both of quite as much importance as of Lettuce and Endive. The seed should be sown thinly early in April, in drills about 1 inch deep, and at from 12 to 15 inches asunder, closing the soil over the seed, treading and raking level, afterwards thinning the plants out to 6 or 9 inches in the rows. When the plants have shed their leaves, some of the roots may be taken up and placed 3 or 4 inches apart in boxes, working any kind of light soil about the roots up to the crowns, watered, and then put into a Mushroom-house or any place where light is excluded, and a temperature of from 50° to 55° is maintained. Failing a Mushroom-house, the boxes might be placed in a vinery, Peach-house, or under the greenhouse staging, placing inverted boxes of like size over them to keep out the light, and thereby insure the production of good heads of perfectly blanched, crisp and slightly bitter growth. Batches of roots should be treated as described at short intervals throughout the winter and spring months, so as to maintain a good and regular supply. On the approach of severe weather, the ground wherein the plants are growing should be covered with dry leaves or Fern to enable roots being taken up for forcing as required. *H. W. Ward.*

STRAWBERRY JOHN RUSKIN.—With me this is a total failure. I am growing it side by side with Vicomtesse and La Grosse Sucrée. It came into bloom weeks ago, is still blooming, and is likely to keep in bloom. It is smothered with mildew; and, although I have about 500 plants, I shall not gather 1 lb. of fruit. To call this an early Strawberry is nonsense. My Vicomtesse and La Grosse Sucrée are free from mildew, and doing very well. I am now about to throw away all my John Ruskin, and to look upon it as a dismal failure. I should like to know how some of your other readers have fared with this variety. *R. C.*

THE DAFFODIL SEASON IN THE SOUTH OF IRELAND.—The season has been one of the earliest on record. Ard-Righ, Golden Spur, and Henry Irving were all plentiful out-of-doors at the end of January, more particularly the former; I never force any. The White Swan's Neck bloom commenced February 10, the first of which to appear being the big form of cernuus, known as Bishop Mann. There are three distinct growths of cernuus proper here, viz., Butterfly, Bishop Mann, and cernuus proper, the latter a short thick-set bloom, and very early. In some sickly soils near London, the fixed character, as it appears here, is not distinguishable, and this is so with most varieties. To give an instance, I never at any of the London exhibitions saw the frilling on that lovely Daffodil, Trumpet Maximus, so beautiful as it appears in my garden; and this season, the one I call Maximus superbus longivivens (!), which was gathered wild in the South of France, is magnificent. The bloom now is nearly over, and before Easter, all that had grown out-of-doors, so far as Ard Cairn is concerned, disappeared to the market. The Leedsii incomparabilis and Barrii varieties are beautiful, particularly Leedsii, Duchess of Westminster, Gem, Minnie Hume, and Catherine Spurrell. I never saw the red more marked in Barri conspicuus and M. Vilmorin, C. J. Backhouse, and Mary Anderson. But, after all, I am not surprised, as the deep rich maiden limestone soil suits them, and the weather has been so exceptionally fine for six weeks, the most favourable, perhaps, in living memory; indeed, the temperature out-of-doors this morning can compare with the balmy atmosphere of June—heavy dews overnight, and intense heat during the day. To give an instance, Narcissus muticus is in flower, and the Horse-Chestnut in full leaf, and nearly in flower. There are two varieties here of which a stock is being worked up, viz., Ione and Jenny Woodhouse, and it will be a race of Goths and Vandals that will obliterate their existence. A clump of Madame De Graaff appears this morning with three blooms; it might have been called White Maximus, so truly noble and stately. *W. Baylor Hartland, Ard Cairn, Cork.*

RAISING AURICULA SEEDS.—Patience on the part of anyone attempting to raise seeds of Auriculas of high quality, is highly necessary. Seeds of common strains of this favourite flower germinate quickly, but the higher the quality, the more slowly does germination occur. I am just now experiencing that this is so, for a year ago, desirous of procuring a few seeds of Auricula of the highest quality, I obtained from Mr. J. Gibson a few grains from a plant of a fine grey edge named Marmion, saved in 1891. I reserved for my own sowing a dozen grains, and forwarded the remainder to my customer. They were sown at once as I directed, and three months after I received a letter stating the seeds did not germinate; I wrote back counselling patience, but I have had no communication since. The seeds I retained were sown directly they were received, on the surface of a well-drained pot of light soil, and stood in my Auricula-house, with a piece of glass over it. Knowing the slowness with which such seeds germinate, I waited patiently for results, and now nearly a year after the seeds were sown, they are germinating, and I am hopeful I shall get a plant from every one. This experience justifies the advice of our leading raisers of new Auriculas, who make a practice of keeping their seed-pans two and three years, as seeds are found to germinate successionally, and some of them quite late in point of time. More than that, it is said the quickest plants are often those of inferior quality; the latest produced give the best flowers. Patience is necessary in raising seeds of most of the Primulaceæ. I find it requisite in the case of coloured Primroses and Giant Polyanthus, the seeds of many of which being slow in germinating, and as in the case of the Auriculas, these are varieties of the highest order of merit. *R. D.*

NARCISSUS CYCLAMINEUS AND N. MAJOR.—I was surprised, when reading "V.'s" notes from Kew, that he recommended Narcissus cyclamineus and c. major to be grown in a moist boggy peat. I find in our climate we are unable to keep the bulbs sound in an undrained bed; but where the ground is well drained, either with roots or stones, they grow and increase well. One place here in particular, at the foot of a large Cypress hedge, is a beautiful sight every year, and I notice the bulbs which are close to the hedge roots produce the best and largest flowers, and the blooms gradually get smaller towards the front of the border, where it is more moist. The bulbs at the base of the hedge only get moistened in winter by the snow, as the place is so situated that little or no rain can reach them except from thunderstorms. We have Narcissus cyclamineus in several places all under similar circumstances, and they do well. I thought that our experience here, so totally different from "V.'s," might be interesting to some of your readers. *W. A. C., York.*

HOLLY AND OAK.—Referring to the case of the Holly growing through an old Oak, p. 364, I may mention, that although it is rather phenomenal, it is by no means unique. During last summer I visited Killin, at the other end of Loch Tay from here; and, among other things of interest to be seen in the locality, there is an example of a very similar nature to the Holly and Oak, viz., an Ulmus montana, or Wych Elm, growing from a Sycamore. Cases of trees growing from clefts of branches are not uncommon; but the case I refer to is rather remarkable, as the point of union at the present time is practically similar to a graft, as the Elm issues from the side of the Sycamore, and not from the cleft of the branches. Judging from the appearance of the two trees, the Elm grew from seed from the cleft, and the young wood of the Sycamore had gradually grown over the point of union, and has left the Elm to fulfil a similar function as the Holly referred to, when the Sycamore decays; but the Sycamore seems to be quite sound in the meantime, and is about 250 years of age. Of course, the estimate of the age of the tree is only approximate, as the tree is mature, and therefore difficult to estimate without being felled. It grows by the side of the road leading from Finlarig Castle to Killin Pier, and is an object of great interest. *Robert W. Milne, Fortingal, Glenlyon, Perthshire, N.B.*

CAMELLIAS IN FRUIT HOUSES.—Anent the note by "A. D.," p. 267, as to Camellias flourishing in vineries, I know from experience that they do remarkably well in such houses. At Liscard Hall, Cheshire, they were a splendid sight a few years since growing in this way. An early lean-to Peach house afforded the earliest blooms. The back wall was about 14 feet high, and was covered completely with the best varieties. This Peach-house had a southern aspect; other houses, mainly vineries, facing east, had their back walls covered in the same way. No trouble was evinced in getting the Camellias to flourish in the moist heat required for the regular occupants. Camellias are less addicted to insect-pests than many other flowering subjects, and being evergreen, they are specially adapted for this purpose. *E. M.*

CANNING.—In reply to the query of "J. B. W." which appears on p. 303 of the issue for the 11th ult., I may say that *The Secret of Canning*, to be had of the Rural Publishing Co., Times Building, New York, will probably suit him. The price is 5 dols., and the author's name is Schwaab. *Michael Barker, Cambridge, Mass.*

STRIPED CROCUS.—The striped yellow Crocus mentioned by my friend Mr. Baker was not raised by seed, but picked out of a batch of the commercial Dutch yellow Crocus, which I have always found absolutely barren. A striped yellow aureus is alluded to as existing in the Banksian herbarium, *vide Crocorum Synopsis (Herb.)*, pp. 37, 38. The wild aureus seeds plentifully here, and has produced many varieties, including a pure white. *R. H.*

LACHENALIAS.—No one can mistake Lachenalia aurea, with its broad, short, recumbent, spotted leaves, for any other species, and Mr. Todd's plant is, no doubt, a large variety of that species. What my plant may be I cannot say, but the plant is not distinguishable from that of L. luteola or L. Nelsoni. The plant which Mr. Todd mentions, with dark green upright narrow leaves, which I have also from Mr. O'Brien, is a different thing altogether. *C. W. Strickland.*

ERITRICHIUM NANUM.—This afternoon I had the pleasure of seeing Eritrichium nanum in blossom in the York Nurseries. It was growing on a little artificial slope (outside the long house in the Alpine Nursery), made with slabs of stone, and a compound of grit, peat, and loam, arranged in tiny terraces, with a projecting slab at the top. An old frame-light had been kept over it during the winter to ward off rain. The plants showed dozens of flower-buds, and will in a day or two present such a sight as is rarely seen in an English garden. The last time I saw the plant was at a height of 11,000 feet above the Roccia Viva glacier in the Eastern Graian Alps. There, in company with Petrocallis pyrenaica and Ranunculus glacialis, it flourished in perfection. It is so seldom one sees this Forget-me-Not-like beauty in good flower, that, doubtless, any of your readers who may be within reach of the York Nurseries, will be glad of the opportunity of paying their respects to it. It was also coming into flower on the Rockery, but did not look quite so happy there. *G. Yeld, Clifton, York, April 4.*

ODONTOGLOSSUM WILCKEANUM. — Having during my twelve years' Orchid experience in growing, flowered but two of this much-esteemed hybrid, I should be much obliged if other cultivators would give me their experience and dates of the sales, or origin of the importation of it of which they have flowered theirs. Some importers say that it cannot be bloomed out of the round forms of O. crispum, as O. luteo-purpureum, its other parent, does not grow near them, but in close proximity to the starry forms. Certain it is that I have bloomed these two plants from a decidedly "starry" lot (which also produced two O. Coradinei, and a yellow crispum). Then, again, I once bloomed a fine O. hystrix from another "starry" lot; and finally, I am now opening some O. luteo-purpureum, that result from an importation of crispum and triumphans (which I knew were luteo-purpureum under another name), which are also of the "starry

sphere." Then these cases go towards proving the truth that O. Wilckeanum does not come out of the "round crispums;" but I am but one among the many who have bloomed it from imported plants, and I should much like to hear the results of others. Occasionally one sees at the sale rooms a plant under the name of O. luteo-purpureum, that has its sepals strongly barred with yellow, and the brown therefore largely broken up into the blotches that identify O. Wilckeanum. This to me indicates a touch of O. crispum; "just frightened by it," as a well-known orchidologist said to me lately in conversation upon a doubtful hybrid. Then the next mark is the altered form of labellum, and absence of spots and marks of luteo-purpureum in the petals; and so we go on till we get a fine O. Wilckeanum. These details to those who only care for the possession of the plants may appear superfluous, but they are worthy of note by those who make Orchids a study. *De B. Crawshay.*

Fig. 62.—HYBRID NARCISSUS, CERNUUS × TRIANDRUS.

THE ORCHARD HOUSE.

Indoor Treatment of Pot Plums and Pears.—We commenced the culture of these fruits in the second week in March by removing them from the bed of coal-ashes in which they had wintered, and protected by means of nets from sparrows and bullfinches. Before being put into the orchard-house, the pots are washed and their drainage-holes cleared if found to be stopped. When in the house crowding must be avoided, as free exposure to air and light is of vital importance to ensure success in facilitating the setting of the flowers and ripening of the fruit, and in fully maturing of the new shoots. I put the pots upon a bed of anthracite coal-ashes, with a coating of soot under the pots, which perfectly excludes worms. Until the flowers begin to expand, the trees are syringed morning and evening on days that are bright, and air is more or less freely afforded according to the state of the weather. In order to avoid aphis attacks, the trees at this period are fumigated with tobacco-paper immediately before the first flowers open. Artificial heat is not needed until the trees are in blossom, and then only enough is afforded to slightly warm the hot-water pipes. By this means the pollen is kept dry enough for its purpose, while greater warmth might enfeeble its vitality and that of other organs, and besides, it would certainly weaken the growth of the wood. Syringing is discontinued during flowering; a continuous and free circulation of air is maintained, and this is very essential for the Pears, which are neither so free in flowering, or certain in setting as Plums. Here I find the bees useful insects in disturbing the pollen, although we do not trust to them entirely in the case of the Pears, but make use of a camel-hair brush, and even with this aid to fertilisation, a full crop is not always secured; although, I think, some of this may be due to our house being insufficiently ventilated for Pears. Someone has intimated (and, I believe, it was Mr. Rivers) that the more shaky a Pear-house is constructed, the more certain the crop; and, doubtless, profit might be derived from the hint. [The elder Rivers, we believe, liked houses with hedges instead of solid walls for these fruits. Ed.] Once the fruit is set, syringing is resumed, and fire-heat discontinued except in wet or cold weather, when the pipes are warmed to maintain buoyancy and prevent the atmosphere becoming too damp. Plums which usually set thickly, are partially thinned as soon as they begin to swell, and, finally, when they have stoned, this method being better than leaving the thinning till the stoning period. The first thinning is freely done; In the case of Pears, what thinning is wanted is attended to when they have begun to swell freely, when the smallest fruits are removed from the clusters.

Pruning consists of stopping the young shoots to two or three leaves, and this is done piecemeal, so that no check is caused, as would be if a general shortening of growths was done at one time. This close stopping is practised on full-sized trees, such shoots are left on young ones as will form a good head. Watering should receive diligent attention, Plums and Pears being strong rooters, and root-action very active when in full leafage, and the trees carrying crops of fruit; lack of water at such times has the most disastrous results.

The trees require much manurial assistance whilst in bearing, and from the time that our trees are placed under glass until the fruit begins to swell, they are carefully supplied with weak liquid-manure water; and from this stage till the fruit commences to ripen, the strength of this is increased, and an occasional dressing of chemical manure is also applied, and the soil is top-dressed with horse-droppings. As soon as the fruit shows signs of ripening, the syringe is laid aside, and the house opened to its fullest extent. Greenfly, which is often troublesome on Plums, is kept under by fumigating with tobacco whenever it makes its appearance. A good many varieties are grown, and the best Pear is Doyenné du Comice, and the best Plum Coe's Golden Drop. *Thomas Coomber, Hendre Gardens.*

HYBRID NARCISSUS.

The illustration we give at fig. 62, shows one of the many interesting hybrids raised by the Rev. G. Engleheart, and shown by him at the Royal Horticultural Society on March 28. The flower in question is from N. cernuus, a white Daffodil, by N. triandrus. The flower was of a pale creamy-white, and very beautiful. We refer to p. 395 for a further notice of this interesting cross, and we trust Mr. Engleheart will persevere in his interesting experiments, which not only result in the addition of beauty to an already beautiful genus, but which are, from the care and judgment displayed, important for scientific purposes also.

KEW NOTES.

The Hardy Plant-house.—A charming house of hardy plants at Kew is seldom seen by visitors, owing to its position. It is placed at the top of the herbaceous ground, and is full of interesting and rare alpines, and general hardy or tender plants. During the months of April and May there is a succession of flowers, and the place has been gay since Christmas. But it is in the two months mentioned that those who care for hardy flowers should visit it. At the present time Daffodils in pots are largely represented, a large number of alpine Primulas, Megaseas, Epinediums, the yellow-flowered Morisia hypogœa, Erysimum ochroleucum helveticum, Muscaris, Shortia galacifolia, and many other good plants. This house is one of the recent improvements at Kew, and we do not know of another feature like it in any garden. It is certainly a success, and may be kept bright with flowers throughout the year.

Lachenalias.—A group of Lachenalias is in flower in the Cape-house. Gardeners have not yet learnt that there is more than one kind, as one constantly finds only L. tricolor grown, notwithstanding the other fine forms in cultivation. L. Nelsoni is the most beautiful of the group, and a good plant shows its freedom, beauty, and richness of colour. If the late Rev. John Nelson, who did such good work with the Lachenalia, had raised no other than this beautiful hybrid, his name would be remembered. The plant is very robust, and free, which cannot be written of L. aurea, although the flowers of this are richer in colour, but there is no comparison between the two plants as to their usefulness for the greenhouse. The scapes of L. Nelsoni are borne in abundance, and it is not unusual to find about eighteen of the large, fine-coloured flowers, which make up effect when the specimen is large, the leafage being correspondingly vigorous. At Kew there are several very interesting crosses, one group of plants being the result of L. Nelsoni × L. versicolor, and another L. Nelsoni × L. tricolor, and the plants have retained the vigour and beauty of both parents, the scapes strong, and the flowers individually large, abundant, and of good colour. This is evidently a

fine race, and we should like to see it get into gardens. A curious but not beautiful Lachenalia is L. reflexa, which is the same as Drimia lanceolata, and introduced in 1774 from the Cape of Good Hope. This reminds me that the species of Lachenalia are very old introductions. L. luteola was introduced from the Cape about the same time; also L. quadricolor and L. tricolor. The Rev. Theo. Marsh, of Cawston, has raised several interesting hybrid Lachenalias, making use of L. Nelsoni as one parent. Hybridists will find this hybrid good in every way, possessing a constitution of great vigour, freedom, and richly-coloured flowers. *V.*

Nursery Notes.

Messrs. J. Laing and Sons.

Whilst the fog hung over London, literally a pall of vapour black as night, the sun was shining out in summer-like glory at Forest Hill, as we paid a visit to the famous Begonia nursery there. But with the exception of some of the winter-blooming section, it was not and is not now the time to see Begonias in their beauty, although opening the doors of some long houses here and there revealed literally hundreds of thousands of seedlings pricked off into shallow boxes, and gave to the houses a pleasing verdant aspect. Every year, so enormous is the demand for tubers, is it found needful to increase the stock of seedlings, which at present seems to be innumerable. These will make the now fallow acres of land, usually devoted to their out-door development, look gay with lovely colours next summer as only Begonias can do. But whilst Begonias may be the firm's distinguishing floral specialty, especially in the summer, they are not the only ones. Cliveias at this time of the year make a very beautiful display, and it would seem as if Messrs. Laing & Sons had got a good lead in this exceedingly effective class of greenhouse plants. There is of them a huge stock of divers sizes, and of many varieties. Short a time as the Cliveia has been in hand as a popular greenhouse flower, some thirty-six sorts of divers colours and degrees of merit have been put into commerce, and others yet classed as seedlings, but very meritorious, will join that small army so soon as stock can be procured. That is naturally a slow process, but suckers are, when but a few inches in height, taken off, and rooted as cuttings, in that way making good plants quicker than if left to root in the old pots. Not only are there numerous seedlings blooming, or about to do so, but other crosses are being every year made; and, happily, the Cliveia is a plant that does not give all its best form or colour at once, and there is ample room for the production yet of even finer flowers than has Lady Wolverton, of deeper colour than has the very rich John Laing, primrose or yellow shades purer than Salmonia or Sulphurea give, and it is not too much to hope that even a pure white form will presently eventuate. Now, Cliveias are very accommodating plants, and if pushed on in a little warmth, may be got into bloom early in February, and then later in the year these plants will bloom again, indeed most of them flower twice in the year. They thrive well in an ordinary greenhouse temperature, but must have rather higher warmth to induce early flowering. They like a soil that is about one-half good sweet turfy loam, and the rest good sweet peat, or leaf soil and sharp sand. It is best not to intermix animal manure, but some liquid manure may be given during the growing season, and especially when bloom heads are being developed. Seedlings need much patience, as plants do not as a rule flower under four years, but they are so valuable when obtained. The firm saves seed from the best varieties, and offers it for sale, so that the raising of seedlings is comparatively easy. It is best to sow in all cases so soon as ripe, but even if the seed be put into moderate bulk, it will soon heat and promote germination. The plants are easily kept clean, the flag-like leafage facilitating that process readily. The blooms are specially effective when gathered singly and wired or used in bouquets, the salmon or carmine tints usually harmonising admirably with other flowers. A few of the best varieties at Forest Hill are Lady Wolverton, so far the finest flowers, of an orange-carmine hue, with a white throat; John Laing, very brilliant orange-scarlet, flowers of perfect form, the most striking for depth of colour yet seen; Mrs. Laing, very fine form, colour deep orange-red, with a pale lemon throat; Purity, very bright orange; Purpurascens, a flower of great beauty, colour, light orange, distinctly shaded with violet, a very lovely variety; Salmonea, orange-scarlet, tinted with salmon, and having a yellow throat; and Sulphurea, colour, pale sulphur. These are a few, and they suffice to indicate the directions both in diversity, colouring, and form, which the Cliveia is assuming. Another undoubted specialty at Forest Hill, is the Caladium; for here is to be found one of the finest collections in the kingdom. Not only are some 300 divers forms catalogued, but these are being yearly added to; although it would seem almost as if the full development of leafage was reached so far as colouring was concerned. What wonderfully beautiful markings do the leafage show, infinitely varied, and vieing with the loveliest of flowers in attractiveness. We did not care much for some of the large-leaved varieties, especially those that were of very thin texture or lacked colour, medium-sized shields, of good substance, showing that they will bear exposure and travel, seem not only best, but much the prettiest.

Of varieties that seemed the most beautiful to our liking are:—Louis Van Houtte, red and bronze; Gaspard Crayer, red and green; Chactas, deep red, margined green; Leopold Robert, rose, white, green, and carmine-coloured; Triomphe de l'Exposition, crimson centre, red ribs, green border; Mrs. Laing, white, veined deep rose; Reine de Danemark, delicate rose, network of green; Raymond Lemoinier, cream, white, and carmine; B. S. Williams, deep rose, veined carmine; Candidum, white and green; Apelles, deep green, broad red ribs; and Madame Groult, rosy-red, with intense green border. This is a very beautiful selection. The cultivation of Caladiums is simple; they like a fairly moist heat, with some thin shading in hot sunshine. Pot lightly in a compost of two parts turfy peat, one part turfy loam, and one part silver-sand, giving plenty of drainage. Liberal waterings, with occasional ones of liquid manure, may be given after the pots are well filled with roots. Messrs. Laing strongly advise that the bulbs should be in autumn dried off very slowly, but the soil must not be allowed to become dust-dry, as otherwise the bulbs will die of dry rot. In one corner of a large greenhouse is a plant of the Coffee tree, Coffea liberica, in fruit. Calla Little Gem is very abundant here, and the new yellow varieties, Elliotiana, and auratum, are being rapidly increased. A charming greenhouse climber, and far too seldom met with, is Manettia bicolor, of which there is here numerous plants. The flowers are tubular, in colour scarlet edged with yellow. Very attractive is a great quantity of the pretty silver variegated Saxifraga sarmentosa bicolor superba, one of the liveliest little plants for greenhouse rockeries or baskets. Sibthorpia europæa variegata is another pretty little bunch or trailing plant, that would prove very useful for a similar purpose. Naturally, in a large nursery such as this, there are hundreds of things meriting attention, indoors and out in the frames, where there is a big collection of hardy plants, to which now we cannot make further reference.

Flowers at Holloway.

In the spring-time each year, Messrs. B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, hold an exhibition of the flowers of the season, to see which, many of their country clients arrange a visit to the establishment. The display just now, owing to the clear weather, is more than usually fresh and bright; the Amaryllis, for their fine strain of which the firm are noted; the Cliveias, the splendidly-grown collection of Hyacinths and Tulips which nearly fill two houses; the Indian Azaleas, and other forced plants make the chief display; and to these may be added the New Holland plants and Orchids, whose supply of showy and interesting flowers at these nurseries fail not at any season of the year.

Taking the house of Amaryllis (Hippeastrums) first, we find it filled with a large and varied stock, the central bed thickly furnished with flower-spikes in all stages, which will give a fine show for some weeks to come. The scarlets and crimsons are specially good, and of them Dr. Masters still remains one of the best of the medium-sized flowers; Emperor Frederick is a large light scarlet, with a light eye; Marshalliana, a fine scarlet, with greenish centre; Maiden's Blush is creamy-white, beautifully veined with orange-scarlet; and Ophelia is one of the most beautiful novelties extant, its large perfectly-formed white flowers being quaintly feathered in the central half with dark crimson, leaving a clear broad white tip and margin to the segments, very attractive, and unlike anything we know. Passing to the Cliveias, or Imantophyllums as they are sometimes called, we find a rich display of flowers borne on large and well-grown plants. Different shades of orange, or orange on white, form the bulk of the colour, but in this there is a very great range, Cliveia aurantiaca being what may be called white shaded with orange, while C. Meteor, Prince of Orange, and Ambroise Verschaffelt are dark orange or orange tinted red. Mr. Williams says it is one of the most useful of flowers, for it forces gently so as to flower even before now, while other plants of their stock are either brought on or retarded so as to continue the show of them for some months.

The Hyacinths and Tulips are always well grown at Holloway, where formerly all the new and expensive kinds used to be tried; but it was found that growing novelties in Hyacinths meant in many instances excluding better and cheaper proved sorts, and now they are grown to represent the best known kinds, and to offer facilities for their numerous bulb customers to make selections for the next year. Ranged right and left of the span-house in which they are grown, their fine heads of bloom and healthy foliage well set-off by the green moss-surfaced pots, they give a fine effect, and where all are so good, selection is difficult. Specially fine we thought Pelissier, a very dark bright red; Moreno, a fine salmon-tinted flesh colouring; Von Schiller and Roi des Belges, fine; Koh-i-noor, a rich pink; Cavaignac, blush-white with carmine stripe; Marchioness of Lorne, chamois colour, striped with red; King of the Yellows, Ida, and Obelisque, all good and various shades of yellow; King of the Blues, a real good blue; and Charles Dickens and Lord Derby, good light blues; King of the Blacks, as nearly black as possible; and Mont Blanc and La Grandesse, still two of the best whites; while everywhere throughout the collection the proved favourites give good reason for the favour bestowed on them.

Turning to the Tulips, we find the same rule holds good, the Pottebakkers, white and yellow, being prominent; so also Joost van Vondel, and the beautiful white form of it. Vermilion Brilliant, Keiser's Kroon, Rose Gris de Lin, Murillo, and Velvet Gem also show up well, and the whole collection is useful, showy, and interesting.

Other good displays are made by the different species of Acacia, the large specimens of greenhouse Rhododendrons beginning flower for the season; the rich orange Burchellia capensis, the fragrant white Gardenias, the scarlet and variegated-spathed Anthuriums, and the various odd plants in flower always to be found in the general collection of this well-appointed old nursery, and by the interesting display of graceful frondage in the ferneries, which are as attractive to many as the flowering plant-houses.

But we must not leave unmentioned the Orchids, which form the leading all-the-year-round feature here. A glance at a few of the things in flower shows us in the first house a lot of Calanthe Stevensii, and the darker and handsomer C. Wil-

liamsii, with well-flowered specimens of Cymbidium eburneum. In the next, Lælia flava, good specimens of Cœlogyne cristata alba, and of Cymbidium Lowianum, one of which has ten spikes, one spike bearing nearly fifty flowers. With these are Cattleya Trianæ formosa and C. T. Arnoldiana—two grand flowers; many Lycaste Skinneri, Maxillaria Sanderiana, Cochlioda rosea, Pleione humilis, Platyclinis glumacea, Trichopilia suavis, and near the door an immense specimen of Cattleya Lawrenceana with seventeen flower-sheaths. In another house is an arrangement of Dendrobium Findlayanum, with the really fine and distinct Dendrobium infundibulum giganteum, some Vandas, among which V. tricolor formosa is conspicuous; Calanthe veratrifolia, C. masuca, Dendrobium nobile majus, and D. n. Sanderiana, both good, and richly coloured.

In the cool-house is the beginning of a good show of Odontoglossum Pescatorei and O. crispum, with a good sprinkling of O. triumphans, varieties of O. luteo-purpureum, O. aspersum, O. Wilckeanum, O. prionopetalon, Masdevallias, &c.

Among the Cypripediums the varieties of C. Sallieri × are giving a rich display; C. Williamsii × is distinct and showy, and C. Amesianum ×, C. Pitcherianum × Williams' var., C. Peetersianum ×, C. Fitchianum ×, C. politum ×, C. Leeanum ×, C. Morganiæ ×, C. Bartetii ×, C. Euryandrum ×, C. Boxalli splendens, C. cardinale ×, C. grande ×, C. porphyreum ×, C. Rothschildianum, and others are in bloom in more or less quantity. Other interesting and pretty plants in flower in the Orchid-houses are Angræcum Sanderianum. Ornithocephalus grandiflorus, Dendrobium Leechianum ×, D. endocharis ×, Ada aurantiaca, Lycaste gigantea viridis, Cypripedium hirsutissimum, Day's original variety, a noble and well-defined form, &c. In the foliage plant-houses, the coloured leaves are as bright as flowers, and the Pitcher Plants and Sarracenias are interesting. In the greenhouse are a grand lot of specimen Lapagerias in pots, which will give a great show of flowers in their season.

Law Notes.

ROYAL HORTICULTURAL SOCIETY OF ABERDEEN *v.* MESSRS. JAMES COCKER & SONS, ABERDEEN.

It may be recollected that shortly before the Royal Horticultural Society of Aberdeen held its summer show in the Central Park, Kittybrewster, Aberdeen, in August last, Messrs. James Cocker & Sons, rosarians, Aberdeen, raised an action against the office-bearers of the society to have them ordained to receive certain exhibits of Roses and Dahlias which Messrs. Cocker had tendered, and which the committee had refused. Messrs. Cocker had been members of the society for many years, and had been in the habit of paying their subscriptions when the collector called for them, but a rule of the society prescribed that all competitors to the show must be members, and subscriptions paid on or before August 1, and the committee put forward this rule as their reason for excluding Messrs. Cocker's exhibits, although their subscriptions were tendered on August 4. Notwithstanding the previous practice of paying the collector when demanded, Messrs. Cocker alleged that the desire to exclude them arose in retaliation for their having supported the Duthie Park Floral Fête—a fête promoted by those members of the Royal Horticultural Society who disapproved of the Society abandoning their old site in the Duthie Park and going to the Central Park with the summer show. The committee replied that they understood Messrs. Cocker had withdrawn from the Royal Horticultural Society, and on that footing they had invited firms from the south to exhibit Roses, &c. The action first came before Sheriff Robertson in the Aberdeen Sheriff Court, who decided that on the strict construction of the rules of the Society, Messrs. Cocker were not entitled to exhibit, and he therefore dismissed the action. Messrs. Cocker appealed to the Sheriff-Principal; but the hearing of the appeal was delayed in consequence of a proposal having been made for a friendly settlement of the matters in dispute. Ultimately, however, the proposal made by Messrs. Cocker for a settlement was rejected by the Society, and the appeal was accordingly heard by Sheriff-Principal Guthrie Smith at his last sitting. He has now given judgment, recalling the Sheriff Robertson's interlocutor of August 15, 1892, repelling the three first pleas in law for the defenders, and finding that it is now unnecessary to pronounce any order under the petition, finds the pursuers entitled to expenses.

In a note, the Sheriff-Principal says:—"The pursuers allege that, being members of the Society called as defenders, they were entitled to have their flowers shown at the floral fête held by the Society in August last, yet, unjustly, and contrary to the rules of the Association, the defenders would not receive them. If the Court has jurisdiction at all in such a question, it is extremely limited. It will not review the proceedings of the committee, and their decisions will, in general, be final, as the parties to whom the Society has entrusted the management of its affairs. I doubt even whether it will correct an apparent mistake in the construction of the rules when there has been entire *bona fides*. But it will correct any unfairness resulting either from a violation of the rules, or an undue straining of them for the attainment *malâ fide* of some collateral object. The contention that the pursuers had ceased to be members by resigning does not seem to be well founded. It is not consistent with the correspondence, and was not strongly pressed, the defenders mainly relying on the rule which requires all subscriptions to be paid on or before August 1, which admittedly the pursuers did not do. I think the defenders were entitled to refuse to allow them to exhibit until their subscriptions were paid, but their refusal of them when tendered on August 4 was hardly fair. It is proved by the collector's book that this was a departure from the Society's own practice. In previous years they had received them from the pursuers so late as August 10; in the year in question they had taken the subscriptions of other members which were paid much later in date, and properly, for another rule declares that a member failing to pay his subscription shall retain his place on the roll until he has been two years in arrear. I cannot account for the action of the Society, except on the theory that they had made up their minds that the pursuers should not be allowed to exhibit, rule or no rule to the contrary, which is precisely one of the cases in which a court of law, if it otherwise has jurisdiction, is entitled to interfere. The important and really difficult question in the case is, whether the circumstances are such as to give the court jurisdiction. The subject is discussed in the well-known judgments—one by Lord Deas in the Cardross case, and the other by the late Sir George Jessel; and the principle on which a court acts in disputes between a member of a voluntary association and his fellow members was then stated by Lord Cranworth. Save for the due disposal and administration of property, there is no authority in the Courts of either England or Scotland to take cognisance of the rules of a voluntary society entered into merely for the regulation of its own affairs. The society is not a partnership—and where there are no patrimonial interests the expulsion of a member, however unjust, from the society—no matter what its object—a prayer meeting, a whist club, an association for some social, scientific, or political purpose—does not *per se* entitle him to legal redress. In this case I have come to the conclusion that there was a certain patrimonial interest of which, by the action of the committee, the pursuers have been wrongfully deprived. How far the mere chance of gaining a prize would be sufficient may be open to doubt. My impression is that the opportunity of competing for a prize is always of some value capable of estimation in money. But, apart from this, their exclusion from the exhibition—in which they were to appear, not as amateurs, but as professional florists—anxious for the sake of their business to have their Roses and Dahlias shown alongside those of other growers, might evidently be injurious to their trade. It would have been a good advertisement, whether they succeeded in gaining a prize or not, and if they did succeed, so much the better For these reasons I am unable to affirm the judgment of the Sheriff-substitute dismissing the action; and although it is too late to pronounce an operative decree, I think the action was properly brought, and the defenders must be found liable in expenses."

Societies.

ROYAL HORTICULTURAL.

Scientific Committee.

March 28.—Present: Dr. Müller (in the chair), Mr. McLachlan, Rev. W. Wilks, Mr. Wilson, Dr. Scott, and Rev. G. Henslow, Hon. Sec.

The Antiquity of the Citron in Egypt.—A communication was received from Dr. Bonavia, in which he referred to M. V. Loret's paper on this subject entitled, *Le Cedratier dans l'Antiquité* (Paris, 1891). That author mentions several writers from 2 B.C. to 360 A.D., and states that it was cultivated in the fourth century A.D. in Upper Egypt (Coptic, "Ghitré"); while a Citron is said to have been found in a tomb of the twelfth century B.C. It is also figured on the temple of Thothmes III., at Karnak, fifteenth century B.C. From a drawing, it would seem that even the "fingered Citron" might have been known. Dr. Bonavia discusses the probable source of the Citron in Egypt as being brought by traders through the Persian Gulf and Red Sea, for he thinks that all varieties originated in South China and spread westwards. The value of the Citron was supposed to be purely medicinal by the ancients, and M. Loret alludes to one use, namely, for affections of the spleen, the true value of which Dr. Bonavia corroborates.

Peridermium Strobi.—Mr. Plowright sent specimens of this fungus, with the following observations: "Last July I found in the garden of Mr. C. E. Boyes, at Oakwood House, Tottenhill, that the Currant bushes were affected with Cronartium ribicola, specimens of which were sent to the Scientific Committee, as this fungus had not previously been recorded in Great Britain. In the same garden were some young trees of Pinus Strobus, which were roughly trimmed so as to form a screen or hedge. On these trees must have occurred the æcidiospores of the Cronartium at some season of the year, Prof. Klebahn, of Bremen, having shown that these form the life-cycle of this fungus. On March 19 of this year I visited Oakwood House, and was pleased to find the Peridermium in perfection. It will be noticed on the specimens sent that the mycelium of Peridermium is perennial, causing a certain amount of hypertrophy in the affected branches, forming generally a fusiform enlargement of the twig. The peripheral extremity of the branch suffers somewhat at first, and eventually dies. The mycelium of the Cronartium is annual. With the heteræcious Uredineæ sometimes the æcidiospores have permanent mycelia as is the case here, at other times the mycelium of the teleutospores is thus endowed as with the gymnosporangia" (figured in *Gardeners' Chronicle*, 1892, ii., p. 134).

Ustilago on Psamma arenaria.—"The so-called U. hypodites which occurs on this grass is doubtless a distinct species. It is not common in Great Britain, and appears only to have been found upon the east coast. The specimens sent herewith are interesting as having been produced by a root which was transplanted from the sea coast three years ago into a town garden, and which still produces diseased stems. One of the specimens shows a curious distortion, consisting of a twisting of the stem within the sheath. This may be due to the fungus, although in the majority of cases this condition does not occur."

Polyanthus Blue Primrose.—Mr. Wilson exhibited a seedling from Oakwood Blue Primrose, with a very large flower, a Marianne North (pale blue), and a plum-blue Polyanthus, it being the first occasion of this strain assuming the umbellate form.

Cucumber Roots Diseased.—Mr. Hurnard, of Hingham, sent a specimen, which appeared to be attacked by the common "eel-worm." It was referred to Mr. McLachlan for further examination.

Fasciated Cotoneaster.—A specimen of this common malformation was sent by Mrs. A. Stuart, of Edinburgh. Mr. Henslow had observed a bush in a garden at Penmaenmaur, on which nearly every branch was fasciated.

Tuberculated Stem of Ailanthus glandulosus.—Mr. Wilson brought a specimen having a tuberculated structure, 6 inches broad and 3 inches deep, issuing from around the junction of stem and root. The knob-like tubercles consisted of "embryo buds" agglomerated together. What the original cause might have been which produced the hypertrophied condition, with arrest of axial growth of the buds, it was impossible to say.

Dimorphic Aralias.—Mr. Tidmarsh, Curator of the Botanic Gardens, Grahams town, sent some foliage of two species of Aralia, which, he observes, would certainly be regarded as four species had he not known the plants from cuttings upwards. The leaves of A. Veitchii, when growing in a poor soil, are about 4 inches long, and one-fifth of an inch wide. Those sent were grown in a poor soil under glass. The leaves of the same species planted out in a mass of fresh compost in a hothouse, with a moist atmosphere, and at a temperature of 60° to 90° F., were 5 inches long and 1¾ broad. Hence, while the former are linear, the latter are broadly lanceolate and tapering at the base. He also sent leaves of A. reticulata, which were upwards of 2 feet in length and 6 inches in breadth. The plant was 10 feet high, planted in the open on the banks of a stream, but too far above the water to be benefited much by it. It was under Willows, which to some extent protected the foliage from the frost of several degrees experienced at Grahamstown. Mr. Tidmarsh added, that he had no inside plants of this last species with the narrow-leaved foliage. He remarks, "We can propagate from cuttings of the narrow-leaved form, but fail to do so with the large-leaved form. This plant behaves in a similar manner to Araucaria excelsa, the young growth of which, while still possessing the narrow Juniper-like leaf, will strike from cuttings, but we cannot succeed with small side-shoots from an old trunk, these latter shoots being furnished with a thick bark and stout foliage of the mature tree." Mr. Tidmarsh raises the question whether the larger leaves of these Aralias may not be the naturally mature form, and the smaller foliage characteristic of the young stage, as with the Eucalyptus. An examination of the epidermis of the leaves sent shows that the number of cells in the same area of the broad-leaved form is to that of the narrow leaved as fifty-five to thirty-eight (upper), and as forty-four to thirty-six (lower), so that this element does not support Mr. Tidmarsh's view, inasmuch as the cells, being smaller on the larger leaf, would *per se* suggest its being the younger.

ROYAL CALEDONIAN HORTICULTURAL.

April 5.—The exhibition was one of the best ever held in Edinburgh as a spring show. Though there was an absence of extra large plants, those tabled were, in a cultural sense, of much excellence.

Tables.

Tables of plants for exhibition only were well represented by nurserymen, but there was no competition among the commercial exhibitors. At the west end of the market hall the usual semi-circle of coniferous plants made a pleasing contrast to the tables of brilliant foliage and flowers in close proximity to them. To Messrs. Dickson & Sons and Messrs. Laird belonged the handsome specimens. Thuja occidentalis lutea, Thujopsis dolabrata, Retinospora pisifera aurea were conspicuous in Messrs. Dicksons' collection; and in Messrs. Lairds' there were fine healthy specimens of Juniperus sinensis var., J. virginiana glauca, Biota orientalis elegantissima, Retinospora squarrosa, and R. pisifera aurea.

Tables of plants running the whole length of the hall were unusually gay with flowering plants. Messrs. Methven's was somewhat original, and arranged with much taste. Clematis, in natural form, towered above other species, and were very effective. Lucy Lemoine, Maiden's Blush, Miss Bateman, and others were very attractive; Acers in variety were effective, and tall plants of A. Negundo standing prominently along the centre gave majestic character to this table. Ericas, Palms, Azaleas, in variety, mixed with other spring flowers, made a very handsome display.

Mr. D. Thomson exhibited an extensive collection of Azalea mollis, Palms, Araucaria excelsa, Ferns, &c.

Messrs. Dickson & Co. had a large table of Palms, Cytisus, Azaleas, Cinerarias, Spiræas, and other showy species.

A most attractive table of Cliveias, mostly seedlings, raised at Pinkhill Nursery, was exhibited by Messrs. Laird. C. Lindenii, Madame Van Houtte, and others were shown among the seedlings, to exhibit difference of habit.

Messrs. Cunningham & Fraser had a neat and well-arranged table, in which were remarkably well-flowered plants of Rhododendron Cunninghamii. Forced Magnolias in variety were effective as dot plants. Ferns and other foliage plants were interspersed in the gay collection.

In the gardener's collection for competition, there were many choice gems from stove and Orchid-houses. Mr. McIntyre, Glen, was 1st with a choice selection, which was rich with Dendrobiums (Wardianum especially), Odontoglossum triumphans, and O. Andersonianum, Crotons, Amaryllis, Lilium Harrisii, Azaleas, Cyclamens, and choice foliage plants. The 2nd prize went to Mr. A. Crichton, gardener, Liberton, for Dracænas, Cyclamens, Azaleas, Ferns, &c.; this lot was very well arranged, being light, and showing the individuality of the plants.

For ten forced plants, Mr. McIntyre was 1st; Rhododendrons, Deutzias, and Lilium Harrisii were finely-grown and well-flowered.

Stove and Greenhouse Plants.—For six stove or greenhouse plants in flower, Mr. McIntyre again had the highest honours. Anthurium Scherzerianum Wardii was remarkably well-flowered; an immense specimen of Cœlogyne cristata covered with flowers, and Dendrobium Wardianum were well done. The 2nd and 3rd exhibits in this class were also well shown. For four stove or greenhouse plants, Mr. Bennet was 1st; a grand Cliveia was his finest specimen.

Greenhouse and hardy Rhododendrons were numerous, but none of extra merit.

For four Azalea indica, the 1st prize was awarded to Mr. Bald. The best two were shown by Mr. Murray, Restalrig Gardens.

For six Azalea mollis, Mr. McIntyre showed a fine lot, very well-flowered.

Foliage plants were excellent as regards quality, but not so numerous as usual. Crotons, Cycads, Yuccas aloifolia and variegata, were in good numbers, and well-grown. Gleichenias were not of such gigantic dimensions as are often seen at Edinburgh, but they were numerous; Mr. Laing had the finest exhibit. Long tables of Cinerarias were remarkable for their large flowers. Dielytra spectabilis filled a long table, the plants were all large and finely flowered, so were Spiræas, Mr. Aldjo was 1st for six of extra merit. A long table of finely grown Pelargoniums, mostly double and semi-double, made a fine exhibit of well-flowered plants.

Orchids.

Orchids were unusually well represented, several fine tables of good, well flowered plants, were very attractive. Mr. McIntyre was strong in this class. His Cymbidium eburneum, Cœlogynes, Vanda suavis, Dendrobiums, and Cypripediums were well done—Cymbidium Lowianum was of large size and well-flowered. Mr. Sharp, Forgandenny, was 2nd. His Odontoglossum Alexandræ, Dendrobium Wardianum, and Cattleya Lawrenciana, were finely flowered. Mr. Grassant, Dundee, was a close 3rd; Cattleya Mendelii and C. Schroderæ were of much excellence. Single specimens were large and well-flowered, especially Dendrobiums thyrsiflorum and Wardianum.

The table of Orchids from Messrs. F. Sander & Co., St. Albans, was crowded with visitors throughout the day. Fine specimen Dendrobium Dalhousieianum were majestic and attractive by their large dimensions; Cattleya Mendelii, Cymbidium Lowianum, Odontoglossum cirrhosum, Angræcum Leonis, Ada aurantiaca, Dendrobium Jamesianum, Odontoglossum Alexandræ, Cattleya Lawrenceana, Oncidiums, Lycastes, and others placed irregularly as to height, gave a natural and uncommon appearance to this handsome exhibit.

For a single Orchid, a large specimen of Dendrobium thyrsiflorum came from Mr. Chapple, Rangewood Gardens; the plant was covered with racemes of flowers.

Oncidiums and Cypripediums, as single specimens, were in fine form, in the classes for single plants.

In the classes for cut Orchids there were some wonderfully fine exhibits, Mr. McIntyre coming well to the front with fine Dendrobiums, Vandas, and Odontoglossums.

Messrs. Ryder & Sons had a table of beautifully-flowered Japanese Primulas.

Cyclamens had a large table set apart for them, and it was overcrowded. Mr. Lunt's six, from Keir Gardens, were of the highest merit; and all the other exhibits in this class were examples of skilful management.

Amaryllis, &c.—For the best four Amaryllis there was keen competition, and some remarkable flowers, grown in pots.

Passing over large exhibits of fine Mignonette, Polyanthus, Primulas, Auriculas, Alpine plants, &c., we come to the Hyacinths, which always bring keen competition at Edinburgh. Mr. Millar was 1st, with well-grown examples; among his best were Queen of Blues, La Grandesse, Mr. Plimsoll, Lord Derby, and Princess Amalia. Mr. McBean, Craigend, was 2nd, with a fine collection; his Koh-i-noor was said to be the best Hyacinth in the show. Queen of Blues, Ida, and Marie, were also very fine in form, and large in size.

For eight, Mr. Carnegie was 1st, his Charles Dickens being the best flower in his exhibit. The best six went to an amateur, Mr. Meiklin, Sunnybank.

Tulips were a great show in pans and pots. Mr. Pearson, gr., Beechwood, had the finest flowers. Keiser Kroon, extra fine; Joost Van Vondel, showy and good.

The cut Roses were well represented, much better than those in pots. Sénateur Vaise, La France, Niphetos, Souvenir d'Ami, were fine in form, and fresh.

Mr. Parlane had splendid Maréchal Niels, and Mr. Bryson, nurseryman, Helensburgh, had 1st for twelve of that variety, and were of great excellence.

Camellia blooms were generally small, but clean and neat.

Fruit

was not strongly represented. 1st for finely-coloured bunches of Lady Downes' Seedling Grapes went to Mr. Smith, Oxenford; Mr. Kidd, Carbery Towers, was awarded 2nd for the same variety.

Strawberries from Mr. Smith were of extra merit, being large and richly coloured. Vicomtesse de Thury was the variety, and for its size was scarcely recognisable; Mr. Murray, Parkhall, was 2nd with a fine dish of noble Apples, which were well kept, but not of special merit.

Vegetables were numerous, mostly of large Rhubarb, huge Leeks, and quantities of roots, as esculents grown in the open. Potatos were well shown, sound and handsome. Beauty of Bute, Abundance, Scotch Blue, and Windsor Castle were among the finest in appearance.

Only one collection of forced vegetables was exhibited, which came from Mr. Johnstone; young Potatos, fine Onions, Tomatos, and French Beans were among his best exhibits. Collections of salads were plentiful, but poor in quality. Extra fine Seakale came from Mr. Price, Sunderland Hall. French Beans were in quantity, and mostly fresh and well-grown.

MARKETS.

COVENT GARDEN, April 6.

Market still heavily supplied, with business quiet. *James Webber, Wholesale Apple Market.*

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Arums, dozen pots	12 0	18 0	Hyacinth, doz. pots	10 0	12 0
Azalea, per doz.	24 0	42 0	Lilium Harrisii	24 0	36 0
Adiantum, per doz.	6 0	12 0	Lily of the Valley, 12 pots	12 0	18 0
Aspidistra, per doz.	15 0	30 0	Marguerite, per doz.	6 0	12 0
— specimen, each	7 6	21 0	Mignonette, doz. pots	10 0	12 0
Cineraria, per doz.	8 0	12 0	Palms, various, each	2 0	10 0
Cyclamen, doz.	9 0	18 0	— specimens, each	10 6	84 0
Cyperus, per dozen	4 0	10 0	Pelargoniums, p. doz.	12 0	18 0
Dracæna, each	1 0	5 0	— scarlets, p. doz.	4 0	9 0
Erica, various, doz.	9 0	21 0	Primula sinensis, per doz.	4 0	6 0
Ferns, various, doz.	4 0	9 0	Tulips, per doz. pots	6 0	9 0
Ferns, small, per 100	5 0	8 0			
Ficus elastica, each	1 6	7 6			
Genista, per doz.	10 0	15 0			

Fruit.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Apples, p. half-sieve	2 0	3 6	Lemons, per case	12 0	20 0
— Nova Scotia, per barrel	10 0	17 6	Pine-apples, St. Michael	4 0	8 0
Cobs, per 100 lb.	...	...	Oranges, Florida, per case	10 0	16 0
Grapes, per lb.	1 0	5 0	Strawberries, per lb.	1 6	5 0
— new, per lb.	4 0	6 0			

Vegetables. — Average Retail Prices.

	s. d.	s. d.		s. d.	s. d.
Beans, French, lb.	1 6	2 0	Mushrooms, punnet	2 0	
Beet, red, per dozen	2 0	3 0	Mustard and Cress, punnet	0 4	...
Carrots, per bunch	0 4	0 6	Parsley per bunch	0 3	0 6
Cauliflowers, each	0 3	0 6	Seakale, per basket	2 0	2 6
Cucumbers, each	0 4	0 8	Shallots, per lb.	0 6	...
Endive, per dozen	2 0	3 0	Tomatos, per lb.	1 0	2 0
Herbs, per bunch	0 9	1 0	Turnips, per bunch	0 4	0 6
Lettuces, per doz.	1 6	2 0			

Potatos.

Trade for old is at a standstill. Only first-class samples sell freely. Stock is still heavy.

New Potatos.—Now arriving in large quantities, and high prices are maintained. *J. B. Thomas.*

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arum, per doz. bl.	1 0	3 0
Azalea, dozen sprays	0 6	0 9
Bouvardias, per bun.	0 6	1 0
Carnations, 12 blms.	1 0	3 0
Chrysanthemums, p. doz. bunches	2 0	6 0
Cyclamen, doz. blms.	0 4	0 6
Daffodils, dble., doz. bunches	1 6	3 0
— single do.	2 0	9 0
Eucharis, per dozen	4 0	6 0
Gardenias, per dozen	2 0	4 0
Heliotropes, per doz. sprays	0 6	0 9
Hyacinths, Dutch, per box	1 6	3 0
— dozen spikes	2 0	4 0
— French, 12 bun.	12 0	18 0
Lilac, French, per bunch	3 6	5 0
Lilium Harrisii, doz.	3 0	4 0
Lily of the Valley, doz. sprays	0 6	1 0
Maiden Hair Fern, 12 bunches	6 0	9 0
Marguerites, p. doz. bunches	2 6	4 0
Mignonette, 12 bun.	3 0	6 0
Narcissus, various, French, doz. bun.	2 0	6 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blms.	2 0	6 0
Pelargoniums, scarlet, p. 12 bun.	4 0	6 0
12 sprays	0 9	1 6
Primroses, doz. bun.	0 6	1 6
Primulas, dble. p. bun.	0 6	1 0
Roses, Tea, per dozen	2 0	4 0
— coloured, dozen	3 0	6 0
— yellow (Maréchals), per doz.	1 6	6 0
— red, per dozen	1 6	4 0
— (French) p. doz.	1 6	4 0
Tuberoses, 12 blms.	1 0	1 6
Tulips, red, doz. blm.	0 6	0 9
— white, doz. blm.	1 6	2 0
— yellow, doz. blm.	1 0	1 6
Violets, Parme French per bunch	3 6	4 0
— Czar, French, per bunch	2 0	2 6
— small English, p. doz. bunches	0 9	1 6

ORCHID-BLOOM in variety not in quantity.

THE WEATHER.

[BY the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees — a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending April 1.	Accumulated. Above 42°, for the Week.	Accumulated. Below 42°, for the Week.	Accumulated. Above 42°, difference from Mean since January 1, 1893.	Accumulated. Below 42°, difference from Mean since January 1, 1893.	Rainfall. More (+) or less (—) than Mean for the Week.	Rainfall. No. of Rainy Days since Jan. 1, 1893.	Rainfall. Total Fall since Jan. 1, 1893.	Bright Sun. Percentage of possible Duration for the Week.	Bright Sun. Percentage of possible Duration since Jan. 1, 1893.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	4 +	35	13	+ 60	+ 2	4 —	65	13·1	35	21
1	3 +	41	19	+ 51	+ 15	5 —	51	5·9	40	30
2	4 +	45	14	+ 88	— 41	4 —	44	4·6	42	30
3	3 +	68	26	+ 125	— 7	4 —	49	5·1	72	34
4	4 +	72	28	+ 142	— 20	4 —	48	4·9	56	33
5	4 +	63	14	+ 99	— 19	4 —	48	6·1	76	34
6	4 +	45	11	+ 75	— 25	5 —	57	9·8	26	27
7	5 +	53	6	+ 105	— 60	4 —	49	6·4	48	27
8	5 +	56	7	+ 100	— 46	5 —	49	8·8	65	36
9	4 +	43	5	+ 62	— 68	3 —	59	7·9	29	24
10	4 +	49	3	+ 68	— 76	5 —	50	8·7	37	27
*	6 +	69	0	+ 147	— 47	4 —	56	7·4	85	40

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.: 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; (* Channel Islands.)

THE PAST WEEK.

THE following summary record of the weather for the week ending April 1, is furnished from the Meteorological Office:—

"The *weather* continued extremely dry, fine, and bright over the greater part of the kingdom until towards the end of the period, when the sky became less clear generally, and slight rain fell over many of the northern and western parts of the kingdom.

"The *temperature* was again very high during the daytime, and low at night, the average values for the week ranged from 3° above the mean in 'Scotland, E. and England, E.,' to 4° in most other districts, to 5° in 'England, N.W. and S.W.,' and to 6° in the 'Channel Islands.' The highest of the maxima were registered on April 1 at most of the English stations, and on earlier dates in Ireland and Scotland; they ranged from 63° to 64° in Scotland, from 65° to 66° in Ireland, and from 65° to 71° over England. The lowest of the minima were recorded, as a rule, on March 29, when they varied from 21° in the 'Midland Counties' (at Stamford), and from between 23° and 28° in most of the other districts, to 31° in 'England, N.W.,' 33° in 'Ireland, N.,' and 39° in the 'Channel Islands.' The diurnal range of temperature during the middle part of the week was again unusually large, amounting over some of the inland parts of England to more than 40°.

"The *rainfall* was again altogether absent from the east and south of England, and was very slight elsewhere; over the central and northern parts of England the fall was less than five-hundredths of an inch, but in the western parts of the kingdom there were one or two-tenths, and in 'Scotland, N.,' three-tenths of an inch measured.

"The *bright sunshine* was again very prevalent, although it showed a considerable decrease on that recorded during the preceding week. The percentage of the possible duration ranged from 29 to 37 in Ireland, from 35 to 40 in Scotland, and from 42 to 76 in England. In the Channel Islands the percentage was as high as 85."

NOTICES TO CORRESPONDENTS.

BOOKS: *T. A. Handbook of the British Flora.* By G. Bentham and Sir J. D. Hooker. *Illustrations of the British Flora.* By W. H. Fitch and W. G. Smith. (London: L. Reeve & Co., 5, Henrietta Street, Covent Garden.) These two books may be bought for a less sum than that you mention.

BORDEAUX MIXTURE: *F. R. H. S.* Sulphate of copper in crystal, 6 lb.; unslacked lime, 4 lb.; water, 40 gals. If slaked lime be used, a larger quantity must be used. For small quantities, the following may be adopted:—Copper-sulphate, 4 ounces; lime unslacked, 4 ounces; water, 8 gals.

BORONIA MEGASTIGMA AND DAPHNE INDICA RUBRA: *Subscriber.* The first-named should be potted at this season, if the plant has been received from the nursery in the pot in which it has been wintered, employing the best kind of peat in a moderately fine state and a considerable addition of fine silver sand. The roots for about ¼ inch in depth all round the old ball should be carefully loosened with a pointed bit of wood, and the crocks removed if not firmly embedded. The new pot should be an inch wider than the reduced ball; and it must be drained with from 1 to 2 inches of clean moderately-fine broken crocks, taking care to put a good large concave bit over the hole, and over that the larger pieces, finishing off with the finest. Put some fibry bit of peat over this, and sufficient soil to raise the plant within an inch of the pot-rim; fill in round the ball gradually, and make it very firm with the fingers, finishing off level, or if there is any difference let the crown of the root be slightly raised. Do not pot a dry ball, and if the soil used is moist, do not afford water before the second day, but sprinkle overhead in the morning and again at 4 P.M. Place in a slightly-aired frame or pit, or the warmest part of the greenhouse till root-action begins. Shade from bright sunshine. A good temperature after potting is that between a stove and greenhouse, but more air may be given as the season proceeds. Grow in a frame during the summer. Plants may be stopped all over till the middle of June, not later; and they may have repottings up to the end of that month. Keep in an airy greenhouse from end of September till growth begins. Keep it during that time moderately dry, giving plenty of water when water is needed, never driblets. Very little shade is ever needed except for a short time after repotting. Daphne indica will succeed under much the same kind of treatment, but a small quantity of rich loam and rather less sand should be used with the soil. The plant is not amenable to much stopping of the shoots, one stopping will be enough in one season. Early spring potting is desirable, and no second potting is needed, which means that too abundant pot-room is not favourable to good flowering. The plant flowers naturally in our winter.

KOHL RABI: *A. K.* This is generally considered to be a seedling variety of the common Cabbage, Brassica oleracea. We do not think it is a hybrid between the Cabbage and the Turnip. Kohl Rabi is grown from seed.

NAMES OF FRUITS: *Thos. Denny. Apple:* Mère de Ménage.—*H. W. Perrin.* 1, Blenheim Orange; 2, Tom Putt; 3, Old Pomeroy.—*B. Z.* Not known, probably some purely local varieties.—*P. Macowan.* The fruit grown at the Cape looks like Cellini, but Apples are so altered when grown in other countries. It is soft, and wanting in flavour.

HOLLY FLY: *R. T.* Your Hollies are attacked

FIG. 63.—PHYTOMYZA ILICIS.

with the Holly-fly (Phytomyza ilicis). Sweep up and burn the leaves.

NAMES OF PLANTS: *T. H. Moffat, N.B.* The Peziza is Sarcoscypha coccinea.—*G. C.* Streptosolen Jamesoni.—*H. M., Sligo.* 1, Vanda Parishii Marriottiana; 2, Aërides japonicum.—*W. H. D.* Crinum Moorei. *G. O. M.* 1 and 2, Oncidium ampliatum; 3, O. papilio; 4, Rodriguezia secunda: 5, Begonia manicata; 6, Santolina incana.—*R. C. T.* Dendrobium aggregatum majus.—*J. Trevena.* 1 and 2, varieties of Cordyline australis; 3, Dracæna rubra; 4, D. congesta; 5, D. marginata.—*F. E., Christchurch.* The Cattleya and Dendrobium Dalhousieianum are only ordinary forms. The Lycaste Skinneri is distinct and nearest to L. s. alba.—*J. R. H.* The green one is Helleborus fœtidus; the other next week, enclosure not received.—*R. E. M.* 1, Bignonia grandiflora; 2, Trachelospermum jasminoides; 3, Gaultheria Shallon.—*J. K.* Helleborus fœtidus.

REGISTRY: *A Reader.* The proceeding strikes us as very unusual. We are in communication with the manager. In the meantime, we advise you not to comply with the request.

STRAWBERRY: *Beta.* It appears to be the variety known as President, but we cannot be sure from such scanty materials as were sent.

TREE CARNATIONS: *Dianthus.* Pride of Penshurst, Germania, yellow; Crimson King, Col. Cox, scarlet; Alegatière, rich red; King of Scarlets; La Belle, white; L'Hermine, white; Miss Jolliffe, soft pink; Mdlle. Carl, white; White Swan, white; Winter Cheer, scarlet shaded crimson; Zouave, red; Souvenir de la Malmaison, varieties; T. W. Girdlestone, rich buff ground edged and flaked vermilion; Lucifer, scarlet; Saccharissa, primrose, striped, and edged with pink.

VINES: *B. B.* Petroleum is always a dangerous substance in unpracticed hands. It must have been used either alone or mixed with something in too great a proportion. If two wineglassfuls of the oil be well mixed with water, soap, clay, and cow-dung, it becomes so finely divided amongst the mass of other materials, that it is rare that its use causes injury to Vines. When used with hot-water alone, and it is not constantly stirred while it is being used, the oil floats on the water, and then it is sure to do harm. You can do nothing—there is no antidote—the Vines may die, as the dressing was put on whilst growth was dormant. Sometimes recovery follows its use when the sap has begun to move.

WRIGHT & CO.'S GAS BOILERS. *W. H. B.* Enquire of the publisher of the work you named in your note—Upcott Gill, 170, Strand, London, W.C.

COMMUNICATIONS RECEIVED.—H. de V.—W. T. T. D.—J. B.—R. S.—J. W.—Lady C. P.—W. R.—G. H.—T. S., New Zealand.—Dr. Kränzlin, Berlin.—D. T. F.—J. C. S.—J. G. B.—F. W. B.—E. C.—P. B.—J. B. B.—J. R. H.—W. L. M.—E. P., Ghent.—S. A. W.—H. W.—G. B.—W. T.—J. M.—J. Hughes.—M. T.—J. R.—W. H. B.—J. Lazenby.—M. L.—South Devon.—W. B.—H. M.—A. H.—W. H. D.—J. R. J.—C. T. D.—O.—V. C.—H. W. W.—J. O'B.

SPECIMENS RECEIVED.—J. M. Aston Rowant (with thanks).

PHOTOGRAPHS, DRAWINGS, &C., RECEIVED.—G. B., Swanage.—H. T., Lewes.—Sander & Co.—C. Ford, Hong-Kong.—L. L., Brussels.

BOOKS RECEIVED.—*Orchidées et Fougère Rustiques*, H. Correvon.

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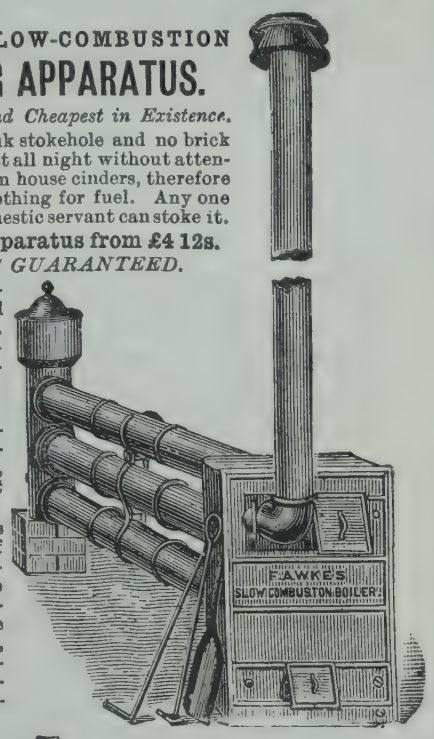

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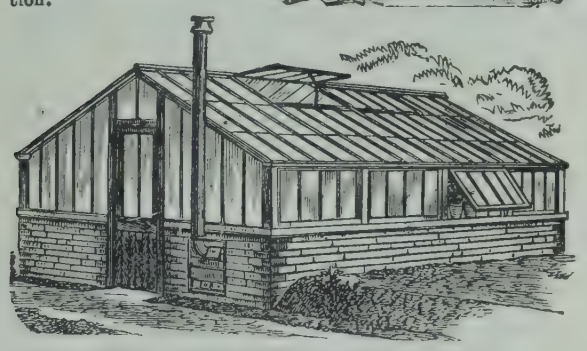

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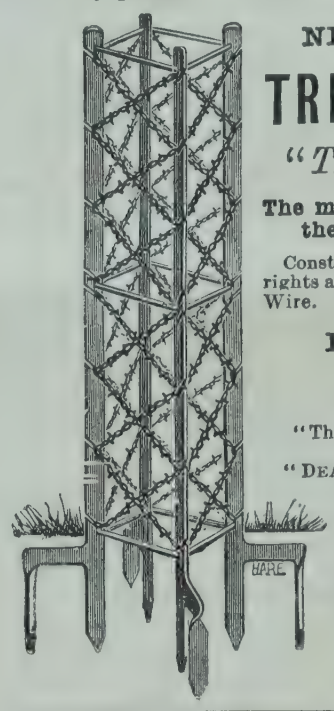

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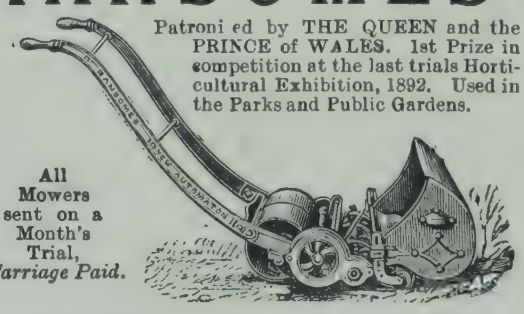

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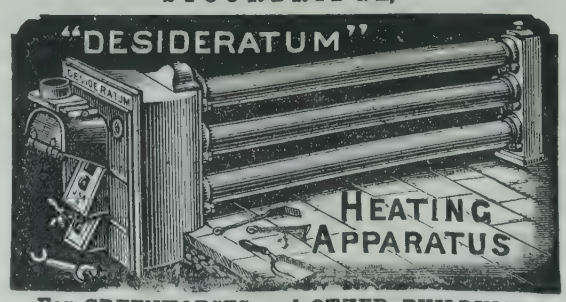

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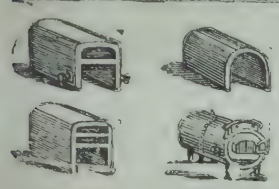

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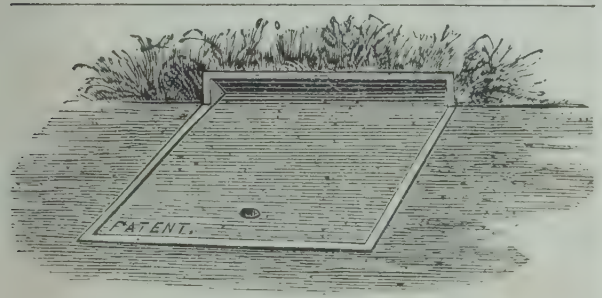

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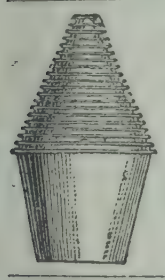

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Mr. A. BURDETT, Under Gardener at Davenham Gardens, Malvern, as Head Gardener to J. T. MIDDLEMORE, Esq., Brookfield, Belbroughton, Stourbridge.

Mr. A. GILLETT has been engaged as Gardener to LAURENCE HARDY, Esq., M.P., Sandling Park, Hythe, Kent.

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WANTED, an industrious and steady MAN, as INDOOR FOREMAN, and occasionally to act as Salesman.—Must be a good Plantsman, and have a general knowledge of Indoor Stuff.—State wages required and fullest particulars to H. ENGLISH, Clapton Nursery, near Clevedon.

WANTED, a FERN and PLANT GROWER. Must have thorough experience in Growing Ferns and Pot Stuff for Market.—Apply to Cumberland Park Nurseries, Willesden Junction, London, N.W.

WANTED, AT ONCE, a good ALL-ROUND MAN, for a small Nursery—Cottage on the premises. Must be well up in Inside and Out, Wreaths, &c. Also a SINGLE MAN for Jobbing Work.—Full particulars to E. R., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, London, W.C.

WANTED, to take charge of Glass Department, a thoroughly experienced MAN. Well up in Propagating and Growing Soft and Hard-wooded Plants, Palms, &c., and capable of keeping up a supply of Cut Flowers.—Apply, with full particulars, to JOHN DOWNIE, 144, Princes Street, Edinburgh.

WANTED, a young MARRIED MAN, experienced in Growing for Market, Glass, &c.—Apply, stating wages, &c., to E. F. BATTLES, Slinfold, Sussex.

WANTED, a GROWER of ROSES and GRAPES for Market Nursery. Must be a thoroughly experienced man, energetic, &c.—State age and wages required, references, &c., to T. A., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, SIX young MEN, used to Cucumber, Grape, and Tomato Growing.—Apply to FOREMAN, Mill Lane Nursery, Cheshunt, Herts.

WANTED, a quick active young MAN, single. Must be a good grower of Tomatos, Cucumbers, Mushrooms, &c.; also Chrysanthemums and Cut Flowers under Glass. 18*s.* per week, and extras for Overtime. Every encouragement will be given to a reliable sober Man. A permanent and growing situation.—Apply, J. COBBAN AND SON, Market Place, Rotherham.

WANTED, from a Market Nursery, a QUICK HAND at Potting, Watering, &c. State age and wages required to TURNER BROS., Nurserymen and Florists, Garston, Liverpool.

WANTED, TWO or THREE young MEN, used to Cucumber and Tomato Growing.—Apply, giving wages required, and full particulars, to TURNER AND HAWKS, Ware Road, Hoddesdon, Herts.

H. CANNELL AND SONS are WANTING TWO YOUNG MEN for the OFFICE. Must write a good clear Office hand, and be accurate at figures. Also several really good practical NURSERY HANDS.—Swanley, Kent.

WANTED, young MEN for a Nursery, quick at Tying, and accustomed to Market Work.—Apply, stating age, experience, and wages, to A. LARKE, 14, High Street, Kensington, W.

WANTED, a GROUND MAN, for six Lawn Tennis Courts at Clapham. Must possess practical knowledge.—Apply, by letter, to SECRETARY, 73, Larkhall Rise, S.W.

WANTED, a young MAN, used to Potting and Tying.—R. T. CHILDS, Blenheim Nursery, Rye Lane, Peckham, S.E.

WANTED, a MARRIED MAN, without family, who has some knowledge of Work under Glass. Wife to open Lodge Gates.—State age, experience, and references to J. JEFFERSON, The Hyde, Luton, Beds.

WANTED, AT ONCE, a quick obliging young MAN, accustomed to Potting, Tying, and Watering; must be a good hand; wages, £1 per week.—Mr. ORPWOOD, Cowley Mill Road, Uxbridge, Middlesex.

WANTED, SEVERAL active young MEN, used to Fruit and Flower Growing under Glass. Wages £1 a week. All overtime paid in addition.—THOS. ROCHFORD, Turnford Hall Nurseries, Turnford, Broxbourne.

WANTED, a NURSERY HAND, and for occasional Jobbing. Also a JOURNEYMAN, for Houses.—State wages required to PRITCHARD AND SONS, Nurserymen, Shrewsbury.

WANTED, active MAN, age about 24.—Used to Growing for Market, Tomatos, Cucumbers, Cut Flowers, &c., and attend occasionally to Market Stall.—Apply, MANAGER, Redlands Nursery, Emsworth, Hants.

WANTED, a young MAN in the Houses, under the Foreman.—J. WALTON, Florist, Eltham Road, Lee, S.E.

WANTED, TWO respectable JOBBING HANDS; also ONE used to VINES and Cucumbers.—T. C. PAGET, High Street, Clapham, S.W.

WANTED, a few GOOD GRAPE THINNERS.—Must have been accustomed to Thinning.—LADDS' NURSERY, Swanley Junction, Kent.

WANTED, a young MAN, used to General Nursery Work. Must be well recommended.—Apply, stating age, wages expected, &c., to G. BENNETT, Florist, Hanwell, W.

WANTED, as UNDER GARDENER, a strong, active, and willing Man.—Very little Domestic Work. Wages £1 per week. Good prospects.—A. Z., 23, Ross Road, South Norwood, S.E.

WANTED, a young or middle-aged MAN, well acquainted with Hardy Plants, as well as ordinary Greenhouse management. Must have good credentials.—Apply, stating wages required, to Mr. W. THOMPSON, Seedsman, &c., Tavern Street, Ipswich.

WANTED, IMMEDIATELY, FOUR MEN, used to Growing Cucumbers for Market. Wages, 24s. per week.—Apply, The Firs, Rumney, at Cardiff.

WANTED, a young MAN, with some experience of Geraniums, Chrysanthemums, and Tomatos. State wages required and full particulars, to MANAGER, Llys-onen Gardens, near St. Clears, Carmarthenshire.

WANTED, a MAN, with a knowledge of Propagating and Growing for Small Nurseries, mostly under Glass.—Apply, JOHN E. KNIGHT, Nurseryman, Wolverhampton.

WANTED, a respectable young MAN; one accustomed to Ferns preferred. Wages, 20s. per week.—E. CURRY, West Green Nursery, Tottenham.

WANTED, a young MAN for Potting, Watering, and Tying. Must be well up in Growing Ferns.—T. BALDWIN AND SON, Edith Nurseries, Burchall Road, Leyton.

WANTED, an ASSISTANT, as SOFT-WOOD PROPAGATOR.—Age about 20; permanent and progressive situation.—State age, wages and references, W. TROUGHTON, Nurseryman, Preston.

WANTED, a smart YOUTH as IMPROVER in the Nursery. Must be quick at Potting.—Apply, stating all particulars, to JAMES GOLD, Southfields Nursery, Wandsworth, S.W.

REQUIRED IMMEDIATELY, a young MAN, as SHOPMAN; General Knowledge of Florist and Seed Business. Small security necessary.—State age, experience, salary, &c., to ROBT. WILLIAMS, The Nurseries, Cholsey, Berks.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. *on Wednesday will, in all probability, be held over to the next week.*

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character, and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—

F. SANDER AND CO., St. Albans.

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RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

GARDENER (HEAD); age 30.—J. DUMBLE, Gardener to Sir Charles Philipps, Bart., Picton Castle, Haverfordwest, is desirous of recommending his General Foreman, H. Butcher, to any Lady or Gentleman requiring a thoroughly competent man. He has a good knowledge of the different branches of Gardening, is well acquainted with the Cultivation of Fruit (Indoor and Out), Flowers and Vegetables, is also a most successful Grower of Chrysanthemums for Exhibition.

GARDENER (HEAD).—G. E. MARTIN, Esq., Ham Court, Upton-on-Severn, wishes to recommend a young Man as above. Thoroughly experienced in all branches of Gardening (Orchids included). Unexceptional references from last and previous employers.—Mr. BATTEN, Head Gardener.

GARDENER (HEAD); age 36, married, one child.—A GENTLEMAN can with every confidence recommend his Gardener, who has been with him upwards of six years. Thoroughly experienced in all branches. First-class references from good establishments. Successful Fruit Grower. Can Manage Stock if required.—J. VOSS, Finches, Lindfield, Sussex.

GARDENER (HEAD).—Age 30. WM. HOVELL, Gardener to G. H. Morrell, Esq., Headington Hill Hall, will be pleased to recommend his General Foreman, THOS. PORTER, to any Lady or Gentleman requiring the services of a good all-round hand. W. H. will be pleased to answer any questions.

GARDENER (HEAD), Scotch.—Age 31, married; well recommended. Seventeen years' practical experience in good establishments; left through a death.—J. M. R., Messrs. Dicksons, Chester.

GARDENER (HEAD), where two are kept.—Age 26, single; twelve years' good experience, Inside and Out. Three and a half years' good character from last situation.—F. B., Orleans House, Twickenham, S.W.

GARDENER (HEAD).—J. MAYNE, Bicton Gardens, Budleigh Salterton, recommends a man as above; thoroughly acquainted with all matters relative to Horticulture. Testimonials of the highest order.

GARDENER (HEAD WORKING), or GARDENER and BAILIFF.—A GENTLEMAN can highly recommend his Gardener as above. Thoroughly experienced in all branches, Indoors and Out, Fruit, Flowers, Vegetables, and Kitchen Garden. Land and Stock. Good judge, buyer, and seller. Wife can manage dairy, poultry; or Caretaker if required. Fifteen years' reference, no incumbrance.—F. D., 48, Disraeli Road, Putney, S.W.

GARDENER (HEAD WORKING), where two or three others are kept.—Age 26; thirteen years' good practical experience Inside and Out. Excellent character and references.—Mrs. LLOYD, Caythorpe Hall, Grantham.

GARDENER (HEAD WORKING).—Age 34, married; twenty years' experience in all branches. Good Chrysanthemum Grower. Good reference.—ALFRED FRY, Gardener, Brooklands, Broughton, Preston, Lancashire.

GARDENER (HEAD WORKING).—Age 37, married; thorough practical all-round man. Ten and a half years' good character from last place, six from previous.—H., 48, Bedford Road, Ealing Dean, W.

GARDENER (HEAD WORKING), where three or four are kept.—Age 42, married; life experience in all branches. Left through a death. Good references.—P. J., 99, Hamilton Road, Norwood, S.E.

GARDENER (HEAD WORKING).—Age 34, married; thoroughly experienced in all branches of Gardening. Leaving through establishment breaking up. Good character.—F. FITZWATER, Gardens, Hillfield, Ashtead, Surrey.

GARDENER (HEAD WORKING).—Married; thoroughly experienced.—A GENTLEMAN highly recommends the above, who has been in his service over fourteen years.—B., Tollerton Hall, Notts.

GARDENER (HEAD WORKING).—Married no family; good practical experience in all branches. Good recommendations.—L. N., 3, Pownall Road, Fulham, S.W.

GARDENER (HEAD WORKING); age 40, married.—FRANK SOMERFORD, who has been twelve years Head Gardener at Crisworth Park, Doncaster, and has left through the death of his employer, will be glad of a re-engagement where the services of a good practical Gardener are required.—44, Catherine Street, Doncaster.

GARDENER (HEAD WORKING).—Age 30. THOS. NEWTON, Campsall Gardens, Doncaster, will be pleased to recommend to any Lady or Gentleman a good practical all-round Gardener.

GARDENER (HEAD WORKING), where two or more are kept.—Age 43, married, one girl. Thoroughly understands the Forcing of Flowers, Fruit, and Vegetables, Stove and Greenhouse Plants, Flower and Kitchen Gardens. Nine years' excellent character; first-class references.—ALPHA, Mr. Bearcroft, 61, South End, Croydon.

GARDENER (HEAD, or SINGLE-HANDED).—No family. Wife could assist in House, Caretaker, or Poultry. Both trustworthy. Good characters.—J. HALLETT, Grove Road, Chertsey, Surrey.

GARDENER (good SINGLE-HANDED), or where another is kept.—Mr. COOK, Compton Basset Gardens, Calne, Wilts, will be pleased to recommend a thoroughly experienced young Man, age 25, as above. Eleven years' experience.

GARDENER (SINGLE-HANDED), or with help.—A GENTLEMAN wishes to recommend an experienced man as above. Has lived with him six years, and only leaves to be married.—J. GRIFFITHS, Burcher, Titley, R.S.O., Herefordshire.

GARDENER (SINGLE-HANDED), or otherwise.—Age 26. Good knowledge of Vines, Cucumbers, Tomatos, &c. Three years in last place.—A. P., 25, New England, Peterborough.

GARDENER (SINGLE-HANDED, or SECOND), where three or four are kept.—Age 23; nine years' experience Inside and Out. Good references.—C. LONG, Kitlands Garden, Holmwood, Dorking.

GARDENER (good SINGLE-HANDED, or SECOND, where three or four are kept).—Age 28, single; four years in last place, Inside and Out. Good character.—A. CHAPMAN, 3, Lewis Road East, Loughboro' Junction, S.E.

GARDENER (SINGLE-HANDED), or where help is given—Age 28, single. Fourteen years' experience in Growing Flowers, Fruit, and Vegetables; two years and six years previous good character.—C. GIBBONS, 24, Brayards Road, Peckham, S.E.

GARDENER (SINGLE-HANDED, or where assistance is given.—Age 46, married, two in family (sons), aged 16 and 12, able to assist in Garden. Wife a good Laundress. Eleven years in last situation.—F. TROTT, Letchmore Cottages, Letchmore Heath, near Elstree, Herts.

GARDENER (SINGLE-HANDED).—Age 27, married when suited; Stove and Greenhouse Plants, Flower and Kitchen Garden. Good references; abstainer.—H. WAYLING, 2, Canterbury Terrace, Maida Vale, W.

GARDENER (SINGLE-HANDED, or SECOND where four are kept).—Age 27, single; disengaged. Twelve months' good character, and two years and a half previous.—F. COLES, Empshott, Petersfield.

GARDENER (SINGLE-HANDED, or where help is given).—Age 26, single; understands Greenhouse, Flower and Kitchen Garden. Good character. Now disengaged.—BLUNDELL, West Lodge, Addington Park, Croydon, Surrey.

GARDENER (KITCHEN, or SINGLE-HANDED).—Age 30, married, one child age 5; twelve years' good character from present employer.—W. BASS, Great Gearies, Ilford, Essex.

GARDENER (SINGLE-HANDED, or otherwise).—Single; good at Grapes, Tomatos, &c. Good reference.—S. WOOLASTON, Baginton, Coventry.

GARDENER (SINGLE-HANDED, or where help is given).—Age 28; experience Inside and Out. Married when suited. Excellent character.—W. L., Mr. Norris, Gunnery Farm, Milverton, Leamington.

GARDENER (SINGLE-HANDED, or otherwise).—Single; experienced in Glass, Flowers, Vegetables, &c. Town or country. Thorough references. Abstainer. F. C., 36, Wellington Road, Stoke Newington, N.

GARDENER, where two are kept.—Age 29, married; understands Gardening in all branches. Leaving through Gentleman going abroad. Good references. C., 44, Friendly Street, St. Johns, S.E.

GARDENER, where help is given.—Age 26, single; experience in good all-round Gardening, Inside and Out. Well recommended. Good references.—W. TURNER, Church Fields, West Malling, near Maidstone, Kent.

GARDENER; all-round man; age 30, single.—A Gentleman highly recommends the above.—F. R., Mr. J. Park, West Mount, Barrow-in-Furness.

GARDENER.—A GENTLEMAN wishes to recommend as SECOND, a young Man, age 25, single, abstainer, with four years' good character.—HOWARD ABBOTT, Lytchett Matravers, Poole, Dorset.

GARDENER (SECOND), in a good establishment.—Age 23; first-class refereences from present and previous situations.—H. W., Cropredy, Leamington.

GARDENER (SECOND).—Age 25; ten years' experience in good establishments. Two years' good character. Bothy preferred.—A. B., 6, St. Matthew's Road, Ealing Common, Ealing.

GARDENER (SECOND), Inside and Out.—Age 22; can be highly recommended.—J. SARGENT, The Gardens, West Lodge, Barnet, Herts.

GARDENER (SECOND, or good SINGLE-HANDED).—Age 23; abstainer. Understands Vines, Stove and Greenhouse Plants, Kitchen and Flower Garden. Highly recommended.—T. W., The Cottage, Gainsborough Road, Leytonstone.

GARDENER (SECOND, or SINGLE-HANDED).—Age 25, single; eleven years' experience Inside and Out, Vines, Peaches, Flowers, Vegetables, &c. Good references.—A. CARTER, Brettenham, Thetford, Norfolk.

GARDENER (SECOND), where four or more are kept.—Age 24; ten years' experience in both Plant and Fruit Growing, and Conservatory Decoration. Good references.—E. R., 20, King Street, Chelsea, S.W.

GARDENER (SECOND), in a good Establishment.—Age 26; ten years' experience in good places. Good character and testimonials from present and previous employers.—H. C., The Gardens, Hatchford Park, Cobham, Surrey.

GARDENER (SECOND).—Age 26, single; fourteen years' practical experience Inside and Out. Has good character and references. Abstainer.—H. HENDERSON, Uphill, Weston-super-Mare.

GARDENER (SECOND or UNDER).—Age 21, single; three and a quarter years in present situation. Good references. Inside, and bothy preferred.—A. COOPER, Woodley Garden, Romsey, Hants.

GARDENER (SECOND), Inside and Out, where about four are kept.—Age 24; ten years' good practical experience. Good references.—G. L., 85, Homesdale Road, Bromley, Kent.

GARDENER (SECOND), in the Houses.—Strong active young Man. Good experience and excellent character.—W. LAVENDER, 24, River Street, Bedford.

GARDENER (SECOND), in the Houses.—Age 24; eleven years' experience; five in present situation, six years in previous. Good character; can be highly recommended.—J. HIBBITT, Nork Park, Epsom, Surrey.

GARDENER (SECOND).—Age 25, single. Well up in Stove and Greenhouse Work, Table Decorating, &c. Ten years' experience. Can have good characters.—E. BARKER, Barkly Road, Syston, near Leicester.

GARDENER (UNDER), in a private establishment, Inside or Inside and Out.—Age 22; good references.—G. WHITEMAN, The Gardens, Grimsthorpe Castle, Bourne, Lincolnshire.

GARDENER (Under), Inside, or Inside and Out.—Age 21; good references. Two years in present situation.—E. J. GEARY, Nursery Cottage, Burbage, Hinckley.

GARDENER (Under), Inside, or Inside and Out.—Age 19: two years in present situation, and four years in former. Good character; bothy preferred.—W. THURSTON, Harleyford Gardens, Gt. Marlow, Bucks.

GARDENER (Under), Inside and Out.—Age 20; five years' at present situation. Good character—C. MAXWELL, The Gardens, Priory, Hitchin.

GARDENER (Under), in a Gentleman's Establishment, Inside, or Inside and Out.—Age 20; five years' experience. Two years in present situation. Abstainer. Good references.—A. B., 28, Finchley Park, North Finchley, N.

GARDENER (Under).—Age 20; five years' experience. Good character.—H. C. WEADEN, Norton Kewstoke, near Weston-super-Mare, Somerset.

GARDENER (Under).—Age 24, single; seeks a situation. Kitchen and Flower Garden. Used to Scythe and Lawn Mowers.—H. K. HOLMBUSH, Potteries, Faygate.

GARDENER (Under).—Age 25, married when suited; no objection to Cows. Abstainer. Can be well recommended.—WILLIAM WHEELER, Bourne Park Gardens, Canterbury.

GARDENER (Under).—Age 25, single; eight years and seven months' experience in Private Gardens last situation. Foreman in the Houses at Nobleman's establishment. Leaving through alteration. Characters good.—W. BREWSTER, Deanwood House, Pittville Circus, Cheltenham.

GARDENER (Under).—Age 21; four years and a half good character.—T. P., 21, Milstead Street, Cornwall Road, Brixton Hill, S.W.

GARDENER (Under).—A respectable young man. Age 24. Good reference.—E. B., 2, Brazier's Cottages, New Park Road, Brixton Hill.

GARDENER (Third), Inside and Out, where five or six are kept, by a young man, age 20. Three years' good character. Total abstainer.—W. CHUTER, 2, Arlington Cottages, Gunnersbury.

MANAGER or FOREMAN.—Age 35; life experience in Growing large quantities of Cut Flowers and Plants for Market purposes. Also Tomatos, Cucumbers, Grapes, Mushrooms, Strawberries, &c. Excellent references.—S. C., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

PROPAGATOR or GROWER.—Age 26; eleven years' experience, six of which in London Market and Trade. Good references.—H. P., Low's Nursery, Clapton, London, N.E.

PROPAGATOR or GROWER.—Age 23; well up in Chrysanthemums, Ferns, Bouvardias, Cyclamens, Cucumbers, Tomatos, Soft-wooded Stuff. Wreath Making, Decorating, &c. Nine years' experience. State wages.—W. WELLS, 60, Earlsbrook Road, Earlswood, Surrey.

FOREMAN, or good Second.—Age 26; ten years' experience in good places. Well up in House and Table Decorating, and general work of good place. Three and a half years Foreman in two good places.—J. G. R., The Gardens, Farnham Castle, Surrey.

FOREMAN, in the Houses.—Age 27; ten years' experience in Plant and Fruit-houses. Four years' good character.—E. R., The Gardens, Buccleuch House, Richmond.

FOREMAN, or JOURNEYMAN (First), in a large Establishment; age 23.—D. McINTOSH, Ashby Hall, Lincoln, can confidently recommend a young Man as above.

FOREMAN (Inside or General).—Age 26, single; eleven years' practical experience in good establishments. Two years in present situation. Excellent references. Life Abstainer.—A. JENKINS, The Gardens, Blendon Hall, Bexley, Kent.

FOREMAN (General), age 26.—Mr. North, Gardener, Fletchwood Gardens, Lyndhurst Road, Hants, wishes to recommend his Foreman, V. Dallimore, to any Gardener requiring a practical, trustworthy Man. An excellent character and testimonials.

FOREMAN.—Eight and a half years' experience; three and a half years in present situation. Good character. Used to Table Decoration.—F. EVASON, Down House Gardens, near Blandford, Dorset.

FOREMAN, PROPAGATOR and GROWER.—Age 30; Stove and Greenhouse Plants. Well up in Palms and Ferns. First-class references.—H. WILLIAMS, 28, Gladstone Street, Woolton, near Liverpool.

FOREMAN; age 24, single.—T. Heath can thoroughly recommend the above where several are kept. Four years in present situation. Thoroughly experienced, Inside and Out.—T. HEATH, Bradfield, Cullompton, Devon.

FOREMAN; age 27.—Mr. Hunter, Lambton Castle Gardens, Fence Houses, co. Durham, would be pleased to recommend William Dryden as above.

FOREMAN or MANAGER, in a small Nursery.—Middle-aged Man. First-class references.—Z., Messrs. John Laing & Sons, Forest Hill, S.E.

FOREMAN, PROPAGATOR, or GROWER.—Age 28; fifteen years in the Trade; ten years with one of the leading Firms.—M. BURNS, 20, Slitrig Crescent, Hawick, Scotland.

FOREMAN, or place of Charge.—A young Man, age 26. Well up in Grapes, Cucumbers, Tomatos, &c. Three years' references in a well-known London Nursery; seven previous.—G. S., 52, St. Leonard's Street, Stamford.

FOREMAN, in the Houses.—Age 28. Understands the cultivation of Fruit, Orchids, Stove and Greenhouse Plants, &c. Has been in good Establishments.—E. SELF, Sudbury, Suffolk.

FOREMAN.—Age 28; thorough practical experience. Indoor. Fruit Growing for Market. Good references.—A. M., 2, Wolsely Terrace, Windmill Road, Hampton Hill.

FOREMAN (Inside).—Age 27; ten years' experience in Plant and Fruit-houses, &c. Good references. GEORGE THOMPSON, Park Gatehouse, Westwell, Ashford, Kent.

JOURNEYMAN (Under), or IMPROVER, Inside.—Age 19. Five years' experience; good character.—H. WEST, Copt Hall Green, Waltham Abbey, Essex.

JOURNEYMAN, Inside.—First-class experience in Stove and Fruit-houses. Good references.—H. STACEY, Hyde Heath, Little Missenden, Bucks.

JOURNEYMAN (First, or Second).—Age 24.—H. EDWARDS, Eagle Gardens, Highgate, N., can with confidence recommend W. Baker as above. Nine years' experience. Apply as above.

JOURNEYMAN, in the Houses, in a good Establishment.—Age 19; six years' experience. Strong and willing; well recommended.—E. HEARN, J. Heelas, Esq., Whiteknights, Reading.

JOURNEYMAN (Under), in a good Establishment.—F. ATKIN, age 23; abstainer. Bothy preferred. Three years' experience; good character.—From J. Sharpe, Esq., The Gardens, Bardney Manor.

JOURNEYMAN (Second).—Mr. H. Drover can highly recommend a young Man (age 19) as above, who has had two years' good experience with him. Good previous character.—A. HUNT, Madeira Cottage, Whitwell, Isle of Wight.

JOURNEYMAN (First), Inside and Out in a good establishment.—Age 22; seven years' good character from present and previous places.—G. BINLEY, Patrick St., Market Harborough.

JOURNEYMAN, Inside.—Age 22; first-class experience in Stoves and Fruit Houses. Good references. Three years in last place.—H. STACEY, Hyde Heath, near Amersham, Bucks.

JOURNEYMAN (First), in a good Establishment.—Age 22; eight years' experience. Four years in present situation. Highly recommended.—Mr. MAYNE, Bicton Gardens, Budleigh Salterton, Devon.

JOURNEYMAN (First), Inside.—Age 23; nine years' experience. Good characters.—W. SEARS, Whatton Manor, Nottingham.

JOURNEYMAN (First), in the Houses.—Age 23; ten years' experience. Can be well recommended.—W. WILKINSON, The Gardens, Lexham Hall, Swaffham, Norfolk.

JOURNEYMAN, in the Houses.—Age 22; five years' experience. W. JONES, Gardener, can highly recommend G. Rush as above.—Great West Hatch, Chigwell, Essex.

JOURNEYMAN.—Age 21; well up in Carnations, and general Nursery Work. Six and a half years' experience.—A. W. CHAPELON, 132, Angel Road, Upper Edmonton.

JOURNEYMAN, Inside and Out.—Advertiser can strongly recommend a youth; five years' practical experience as above; strong and active.—A. J. SANDERS, Gardener to Viscountess Chewton, Bookham Lodge, Cobham, Surrey.

JOURNEYMAN, in the Houses, in a good Establishment.—Age 23; nine years' experience. Excellent character.—H. BEAUCHAMP, Cowesfield Gardens, Salisbury, Wilts.

JOURNEYMAN, in the Houses.—Age 20; six years' good experience. Excellent character from present and past situations.—R. SHELTON, Pinkney Park Gardens, Malmesbury.

JOURNEYMAN (Under).—Mr. Wingrove, Rousham Park Gardens, Oxon, would be pleased to recommend a strong youth as above. Age 18. Good references.

JOURNEYMAN (First), Inside in a good Establishment.—Age 24; five years in present situation. Excellent character. Bothy preferred.—F. FOOTE, The Gardens, Hume Towers, Bournemouth.

JOURNEYMAN, in the Houses.—Age 20; eight years' experience; excellent character.—H. WARREN, The Gardens, Franks Hall, Farningham, Kent.

JOURNEYMAN (First), in the Houses, age 22; eight years' experience; abstainer.—Alfred Tomalin, The Gardens, Oakwood, Crayford, Kent, can with confidence recommend H. Gibbs, to any Gardener requiring a trustworthy respectable young man.

JOURNEYMAN wants situation. Eight years' experience, both Inside and Out. Can be well recommended. Age 24.—HALLITT, Northleigh Gardens, Bradford-on-Avon.

JOURNEYMAN, in a Private Establishment; age 20.—H. Alford, Head Gardener, Lower Wyke Lodge, Worcester, can recommend his Son as above; six years' experience. Bothy preferred.

JOURNEYMAN, Inside and Out, under a Foreman.—Age 24; ten years' experience. Good character from present situation. Bothy preferred.—A. B., 41, Wellington Street, Strand, W.C.

JOURNEYMAN, in the Houses.—Age 22; eight years' experience. Can be well recommended. Bothy preferred.—T. B., 4, Pond Square, Highgate, London, N.

JOURNEYMAN, Inside, or Inside and Out.—Age 20. Six years' experience; eighteen months' good character from present situation.—H. COOKE, Kiddington Hall Gardens, Woodstock, Oxon.

JOURNEYMAN, Inside, or Inside and Out.—Age 21; seven years' experience.—E. GOULD, 107, Whitehorse Lane, South Norwood, S.E.

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IMPROVER, under a Foreman.—W. Vaughan, age 18, seeks a situation. Three years' experience. Good reference.—W. VAUGHAN, The Gardens, Charlecote Park, Warwick.

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IMPROVER.—W. Griffiths, Strensham Court Gardens, Tewkesbury, wishes to recommend John Lewis to anyone requiring a good strong Lad (age 17), with two years' experience here.

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CONTENTS.

Advertising, open-air ...	450	Papaver umbrosum ...	454
Apple Cockle Pippin ...	457	Petroleum and insects ...	453
,, Sturmer Pippin ...	457	Rose show at People's Palace ...	451
Apples, good dessert ...	457	Rosery, the	444
Auricula, the	445	Scotland	457
Count Kerchove de Denterghem	449	Societies—	
Cultural memoranda ...	444	Birmingham	456
Daveau, M.	452	Brighton and Sussex New Hort.	457
Fruit from Australia ...	452	Dundee Horticultural	452
Gardeners' Orphan Fund	450	Linnean...	449
Ghent, nurseries, &c., at	441	Royal Horticultural ...	454
Ghent, arrangement of the show	442	Torquay District Gardeners'	450
Lapagerias	452	United Horticultural Benefit and Provident	450
Mucuna rostrata... ...	446	Stock-taking, March ...	450
Narcissus show at Birmingham, proposed ...	452	Strawberry J. Ruskin ...	452
Narcissus "Snowdrop"...	454	Sunshine and drought in March	451
New plants to be shown at Ghent	442	Trees in towns	453
Obituary	457	Weather last month, the	453
De Candolle, Alphonse	448	Week's work, the ...	436
McKelvie, W. R. ...	458	Apiary, the	447
Orchid notes and gleanings	443	Flower garden, the ...	447
Cypripedium Paris ×	444	Fruits under glass ...	446
Lælia-Cattleya amœna × var. delicata ...	443	Hardy fruit garden ...	447
Orchids at Castle Hill	444	Kitchen garden, the ...	446
Orchids at The Dell ...	443	Orchid-houses, the ...	446
		Plants under glass ...	447

ILLUSTRATIONS.

Count Kerchove de Denterghem, portrait of 449
Dracæna Sanderiana 445
Ghent Exhibition, ground plans of 453, 455
Ludovia crenifolia 443
Oreopanax Sanderianum 451

"GARDENERS' CHRONICLE."

LARGELY INCREASED CIRCULATION.

IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

Increased to the extent of 75 per cent.

Advertisers are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS *at home and abroad, and is preserved for reference in all the principal Libraries.*

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VANDA KIMBALLIANA.

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All are fine.

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AMARYLLIS (HIPPEASTRUM).

On SATURDAY, April 22, 1893, at 10 o'Clock, at No. 2, Wagenweg, Haarlem, Holland, will be offered for SALE by PUBLIC AUCTION, the entire highly-renowned collection of

AMARYLLIS (HIPPEASTRUM)

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BURBIDGE, F. W., Botanic Gardens,
CLARKE, Col. Trevor. [Dublin.
CLARKE, C. B., F.R.S.
CORNU, Prof. Max, Director of the Jardin des Plantes, Paris.
DE CANDOLLE, A., Geneva.
DYER, W. T. T., Director, Royal Gardens, Kew.
ELWES, H. J., Cirencester.
FRANCHET, M., Paris.
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HOOKER, Sir J. D., K.C.S.I., late Director, Royal Gardens, Kew.

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MOORE, F., Royal Gardens, Glasnevin.
MORRIS, D., Assistant Director, Kew.
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FORD, C., Hong Kong.
HART, J. H., Superintendent, Botanical Department, Trinidad.
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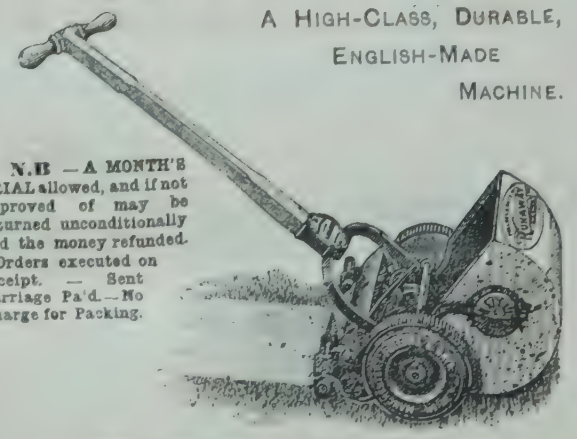

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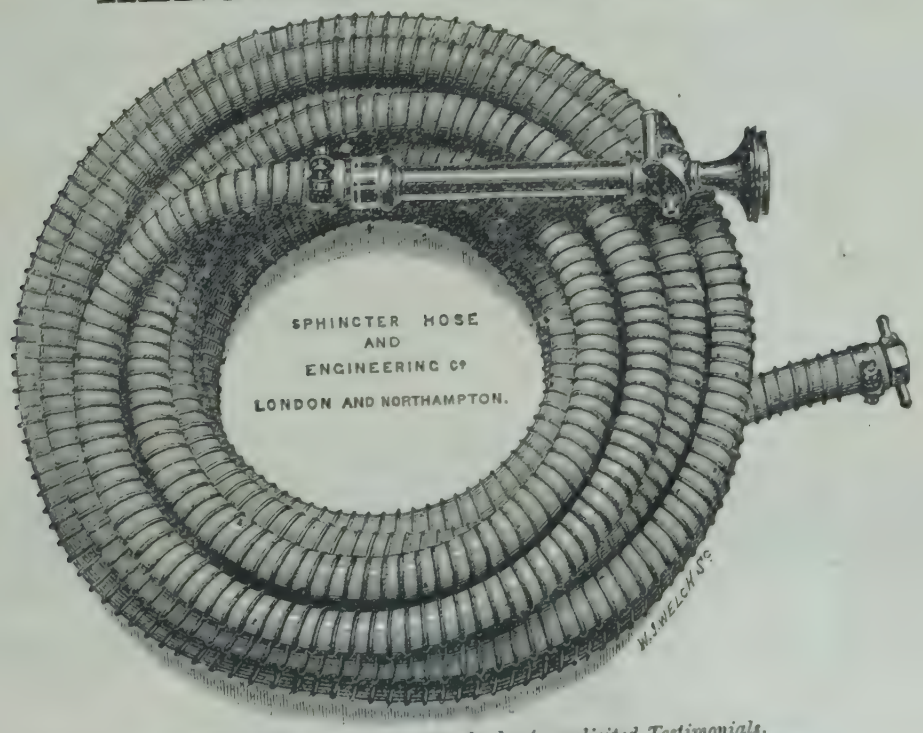

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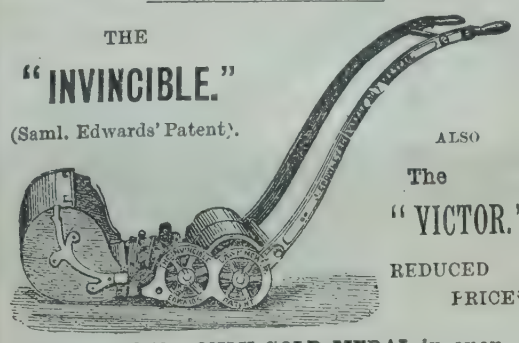

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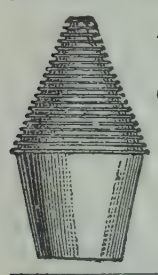

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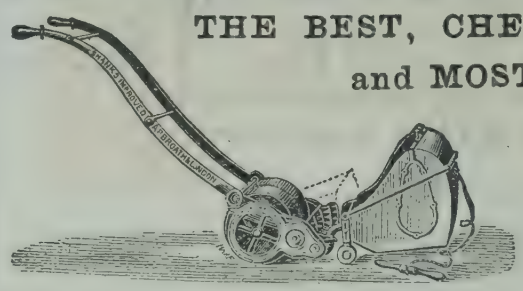

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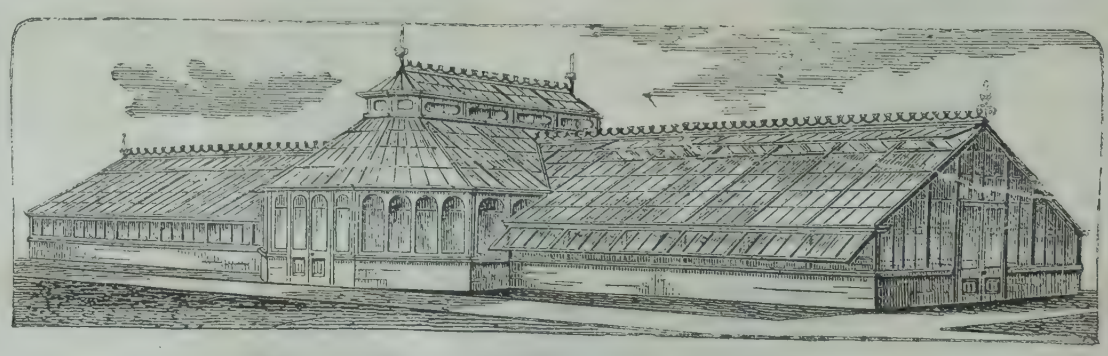

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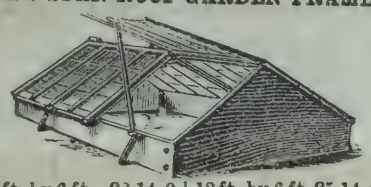

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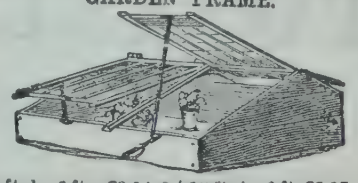

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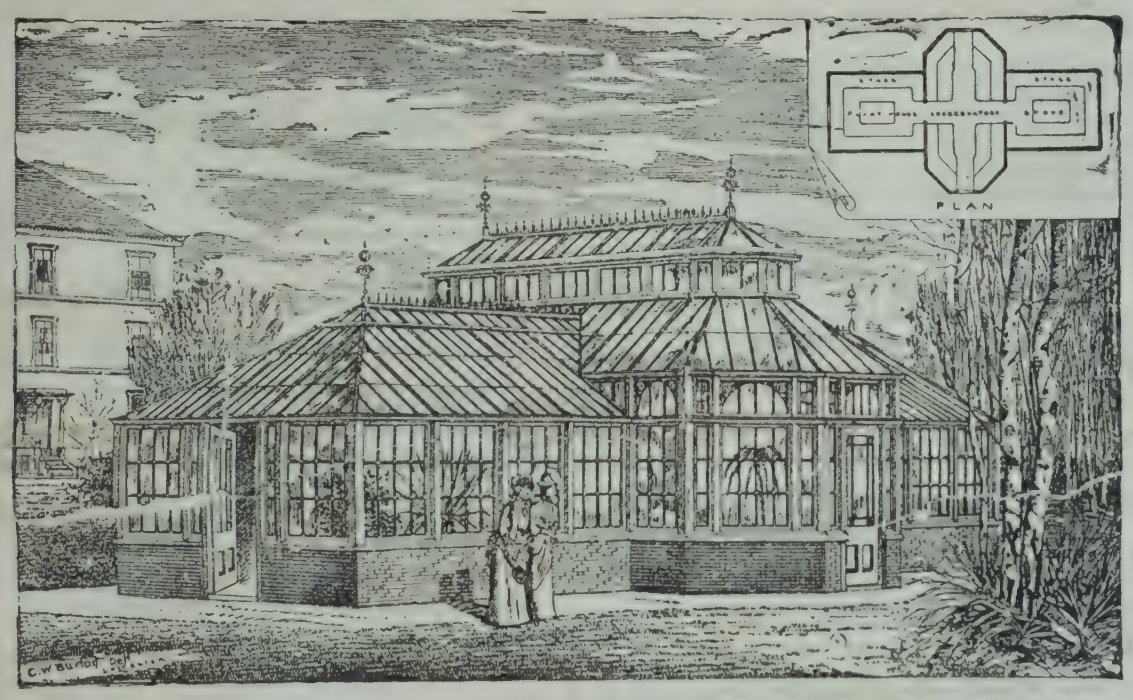

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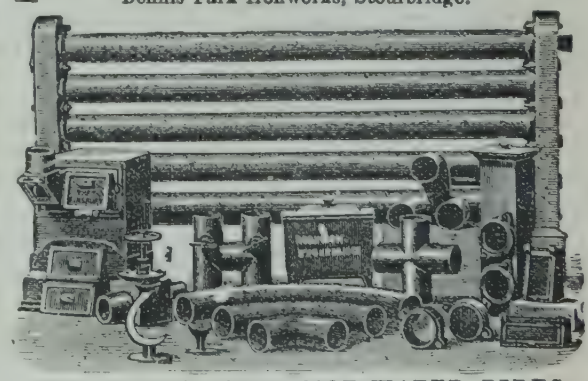

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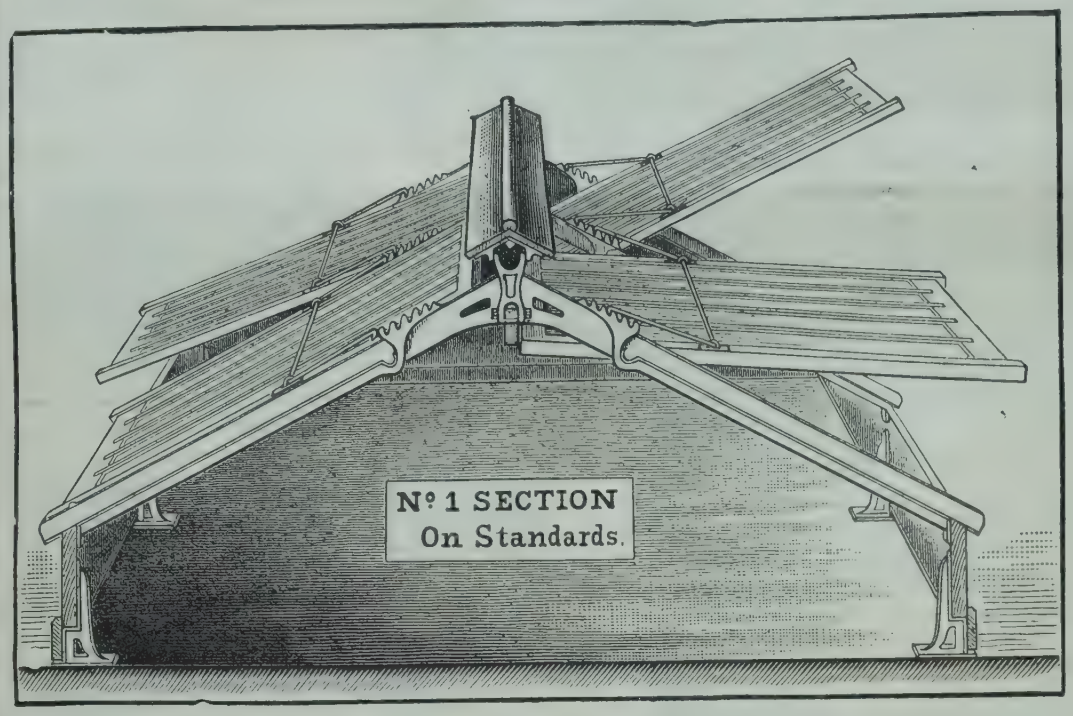

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Price 6s. each; 3 for 15s.; 6 for 27s. 6d.

No further trade reduction from these prices. Orders will be executed in rotation, and in case of insufficiency of stock, Cash Orders will receive priority.

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Pyrethrums, Double-flowered. A grand collection, including the newest and choicest sorts. Established plants ... ... 6*s.* and	9	0
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Hardy Flowering Plants. We have a splendid collection of these, which we offer as follows, including such fine subjects as Anthemis pallida, Chrysanthemum maximum, Doronicums, Erigeron, Helenium, Heuchera sanguinea, Senecio pulcher, &c. :		
100 in 50 varieties } Established plants from single pots.	25	0
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Lilium Speciosum Roseum ... ... each	9*d.*	8 0
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Lilies. Choice named, from our fine collection, 6*s.*, 9*s.*, 12*s.*, 18*s.*, 24*s.*, and	30	0
Begonia, Tuberous-rooted, Single. Large brilliantly coloured flowers, of all the most beautiful shades. Good strong flowering tubers in splendid mixture, per 100, 30*s.*	4	6
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Calla "Little Gem." Elliott's variety. True charming miniature Arum, each, 1*s.* 6*d.*	15	0
Tuberoses, Americaa Pearl. Fine bulbs. Per 100, 17*s.* 6*d.*	2	6

All carriage free at prices quoted.

THE

Gardeners' Chronicle.

SATURDAY, APRIL 15, 1893.

GHENT.

HINTS FOR VISITORS.—The accommodation at the principal hotels has, we understand, long since been secured in advance; but those who may find a difficulty in obtaining a domicile in Ghent, will have none in finding quarters in Brussels, Bruges, or Antwerp, all within about an hour's ride of Ghent, and to all of which access by rail is easy.

For the convenience of intending visitors, we append a list of the principal nurseries in the vicinity of the city, together with indications of the distance from the centre of the town, and of the readiest means of reaching the desired spot. Among some two hundred establishments, it is obvious that we can only enumerate a few of the more prominent; but any one of them will be found instructive to the visitor.

Starting Point.—The Place d'Armes, in the centre of the town. Tramways in every direction. Cab-stand.

GHENT.

Pynaert Van Geert.—Porte de Bruxelles (the tram stops at the door). Miscellaneous collections, Azalea indica, hardy Rhododendrons and Azaleas, Palms, Cypripediums, &c.

Bernard Spae.—Coupure (facing the Exhibition Buildings). Palms and Araucarias.

Liévain Spae-Vandermeulen.—Boulevard du Jardin Zoologique (fifteen minutes walk). Palms and Cycads.

Emile De Cock.—Boulevard d'Okkerghem (fifteen minutes' walk from the Exhibition). Palms.

State School of Horticulture, Botanic Garden.—M. Rodigas.

GENDBRUGGE.

Société Louis van Houtte, père (Five minutes from the stopping-place of the tram).—Hardy Greenhouse and Stove Plants, Palms, Greenhouse, and hardy Bulbs, pot Roses, &c.

D'Haene, Chaussée de Bruxelles.—(Five minutes' walk from where the tram stops.) Ornamental plants of every kind, Azalea indica, Palms, &c.

De Smet frères, Chaussée de Bruxelles.—(Three minutes from where the tram stops.) Palms, Araucarias, &c.

Louis De Smet.—(Two minutes from the stopping-place of the tram.) Palms, Araucarias, Anthuriums, &c.

Fréd. Burvenich, pére, Dries (Gendbrugge, Nord).—Fruit trees and bushes, ornamental shrubs, &c.

Delaruse-Cardon, Chaussée de Bruxelles.—(Facing the stopping-place of the tram.) Araucarias, Gloxinias, &c.

LEDEBERG.

Alexis Dallière, Chaussée de Bruxelles.—(About five minutes from where the tram stops, opposite the Etabl. d'Haene.) Hot-house plants, Palms, Anthuriums, Cypripediums, &c.

Jules de Cock, Chaussée d'Hundelghem, auction sales. Five-and-twenty minutes in a cab. Plants of every variety.

Joseph Vervaene, Chemin de Rodes. Azalea indica.

PORTE DE COURTRAI.

Société Horticole Gantoise, Chaussée de Courtrai.—The tram stops fifteen minutes' walk from the door. Palms, &c.

*

Porte de Bruges.

Story.—(Twenty-five minutes by tram.) Palms, Araucarias, Dracænas, &c.

Porte d'Anvers (Mont St. Amand).

(Tram to the beginning of the Commune. It is better to take a cab all the way.)

Edm. Vervaet et Cie.—Orchids in great variety; Cattleyas a specialty.

François Desbois.—Soft-wooded plants and Cypripediums.

Auguste van Geert (*H. J. Kuik*, successor).—Bulbs, Palms, Azalea indica, hardy Azaleas, New Plants, &c.

Louis De Smet-Duvivier. — Greenhouse Plants, Anthuriums, Dracænas, Aroids, Orchids, &c.

Loochristy.

(The tram goes to the Pays de Waes station, thence ten minutes by rail.)

Charles Vuylsteke.—Orchids of every kind; Odontoglossums and Cypripediums a specialty; Palms, Azalea indica, Outdoor Plants, &c.

La Pinte.

(Ten or fifteen minutes by rail from Ghent, south station.)

Jules Verhoost.—Camellias, &c.

The neighbourhood of the Portes de Courtrai and de Bruges, as well as the suburbs of Loochristy, La Pinte, Meirelbeke, Wondelghem, and Everghem are important horticultural centres, well worth visiting by strangers.

THE ARRANGEMENT OF THE EXHIBITION.

We are enabled to lay before our readers the plan of the arrangement in the great hall of the Casino and of the Annexe (see figs. 68, 69, on pp. 453 and 455). In the great hall are arranged the large groups, including Palms, Cycads, &c. Above the great hall are other apartments, in which the new plants, Orchids, and miscellanea are exhibited. In the grounds are greenhouses and other miscellaneous exhibits.

During the twenty-five years that the great hall has been built, the difficulty has been at each successive quinquennial to vary the arrangement, and to contrive something new. On the occasion of the last Chrysanthemum show in November, a symmetrical arrangement of straight and regular lines was adopted. The result was excellent, and the general impression was that some similar scheme must again be adopted. M. Pynaert, the designer of the plan which has been finally selected, thought that for a great quinquennial exposition, a geometric arrangement would not produce a satisfactory result, and his opinion was based upon the following circumstances:—A formal arrangement requires to be seen as a whole; for this purpose all the tall decorative plants are placed in the background or at sides of the building to hide the walls, and at the same time to act as a frame to the masses of lower-growing flowers which occupy the centre.

In a general exhibition, where the collections of Palms, Cycads, Tree Ferns, &c., are very numerous, it is no longer possible to confine them exclusively to the background or to the sides of the building. They must, on the contrary, be made to serve as verdant masses to break up, set off, and serve as contrasts to the brilliant groups of Indian Azaleas, Anthuriums, Cliveias, &c., as well as the less highly coloured, but none the less beautiful, plants such as the Medinellas, Gardenias, Dipladenias, &c. In the plan adopted for the great hall of the Casino, the originator was influenced by the desire to take precautions against the time when crowds will flock to the exhibition. On some days the numbers admitted will reach 25,000, and this rush must be guided and regulated. For this result it is sufficient to block the secondary paths. The great stream will thus pass along the three aisles in succession, passing before all the exhibits, and forming one long train, the progress of which can only be in one direction.

The Annexe.

Here the architect has proposed to himself to make manifest the grand proportions—shall we say the boldness—of the design, of this temporary structure. This building has a nave 80 feet wide and 130 feet in length, expanding at one end between the supporting columns into a hall of 152 feet in width and a length of 130 feet. In the centre are flower beds, whilst banks for ornamental shrubs occupy the sides. A circular basin, with a fountain, occupies the middle of the hall. The groups of plants are disposed according to their height, rising gradually from front to back.

NEW PLANTS.

Among the new plants exhibited are the following:—

New Plants from Hort. Sander.

Ludovia crenifolia, Drude * (fig. 64, p. 443).—This is a noble stove plant belonging to the Cyclanths, a small order allied to Palms and to Aroids, but quite distinct from either. The plant is of large size and (at first) tufted habit, with the sheathing leaves closely set in two ranks. The blades of the leaves are about 18 inches long, dark green, leathery, somewhat plicated, obovate lanceolate, slightly crenate at the margin, gradually tapering at the base into a long amplexicaul stalk, about 8 inches long, midrib prominent on both surfaces, secondary veins rather closely set, running from the midrib upwards and a little outwards towards the apex. In its fully developed condition the plant is described as being an epiphyte, or as scrambling along the ground, emitting adventitious roots from the stem, after the fashion of some Aroids, e.g., Philodendron. From its peculiar habit and noble aspect it forms a highly ornamental stove plant where space is of secondary consideration. The plant is a native of the Amazonian provinces of Brazil. *M. T. M.*

Oreopanax Sanderianum, Hemsley (fig. 67, p. 451).—This is a very striking evergreen Araliad, with Ivy-like leaves of peculiar and very variable shape, and bears handsome panicles of very numerous whitish flowers. The shrub will make a highly ornamental decorative plant for the conservatory. It is a native of Guatemala, and was fully described in our columns (*Gardeners' Chronicle*, June 4, 1892, p. 718), by Mr. W. B. Hemsley, F.R.S. A reference to the figure, and to Mr. Hemsley's description, precludes the necessity of entering into further detail.

Strobilanthes (*Goldfussia*) *Dyerianus, Hort. Sander.*—A stove shrub of the Acanthad family, with leaves opposite, connate at the base, ovate, oblong acuminate, rosy-lilac on the upper surface, paler beneath, with prominent veins. The flowers are borne in erect, four-sided spikes, with rounded, boat-shaped bracts, and slightly irregular, funnel-shaped corollas of a violet-blue colour, each about 1 inch in length. A very beautiful foliage-plant, resembling some of the Bertolonias in the colouring of the leaf, and having an additional but subordinate attraction in its flowers. East Indies.

Dracæna Sanderiana, Hort. Sander (fig. 65, p. 445).—A very beautiful stove species, with rather slender, erect stems, covered by the sheathing bases of the leaves. The whole surface of the plant is covered with a silvery bloom. The leaves are spreading, about 7 inches long by 1½ inch broad, rather rigid, lanceolate acuminate, flat, or often twisted, disc green, with alternating bands of silvery-white of various widths. This is one of the most attractive coloured foliage plants that we know of, and from its moderate size and freedom of growth, it is likely to be a great favourite. It is a native of West Africa. *M. T. M.*

Vriesea tesselata, var. Sanderæ, Hort. Sander.—A beautifully-marked Bromeliad, with tufts of oblong acute leaves, with longitudinal bands of white, ivory, and yellow, on a tesselated green ground, the tesselations pale green in the centre, limited by dark outlines. Native of South Brazil.

Salmia Laucheana, Hort. Sander.—A Cyclanth of the genus Carludovica, and allied to C. plicata. The leaves are tufted, two-ranked, coriaceous plicated, dark green, obovate oblong, deeply dividing at the apex into two pointed lobes, tapering gradually at the base into a long sheathing stalk. The plant is a native of Antioquia. [A figure of this will probably be given in our next issue.]

* *Ludovia crenifolia*, Drude in *Martius' Flora Brasiliensis*, vol. iii., part 2, p. 213, t. 60, f. 1 (1881).

Alocasia Watsoniana, Hort. Sander.—This is a handsome stove Aroid from Sumatra, closely allied to A. Putzeysii. The leaf-stalks are about 2 feet in length, pinkish, cylindrical at the base, gradually tapering upwards, and curved at the apex, so as to bring the base of the peltate leaf upwards, and its upper surface to the front. The blades are about 1 foot 9 inches long by 1 inch in greatest cross measurement, somewhat thick in substance, peltate, sagittate at the base, oblong-ovate, acuminate, wavy at the margin. Midrib and principal veins prominent, like the margin white, front surface rich olive-green, bullate; back rich wine-purple, with large circular yellow translucent spots at the junction of the veins with the midrib. *M. T. M.*

(*To be continued.*)

NEW OR NOTEWORTHY PLANTS.

BLETIA GODSEFFIANA, *n. sp., Kränzlin.**

The plant is quite in the way of all the old West Indian Bletias known from the earliest times of Orchid cultivation. The flowers are in shape and general appearance very near to those of Bletia florida, R. Br.; B. gracilis, Lind.; and smaller than in B. verecunda, R. Br., to which it has great resemblance. The side-lobes of the lip have straight and by no means waved borders; this character is only developed in the middle lobe; the dimensions of the flower are much smaller, and the colour is quite different. If we judged only by descriptions, we might presume it to be Bletia Shepherdi, Hook., described and figured in the *Botanical Magazine*, pl. 3319 (united by Reichenbach with B. verecunda), but the abundant material at hand in a living state proves it at once new and distinct. The flowers of B. Godseffiana are smaller, and dark green outside; the leaves narrower, and not half as broad as in B. verecunda and B. Shepherdi. The plant has been imported by Messrs. F. Sander & Co., and is dedicated to Mr. J. Godseff, the manager. *Dr. F. Kränzlin.*

Odontoglossum Kranzlinii, *n. sp.*†

This pretty new species of Odontoglossum has much the same form and manner of marking in the flowers as O. elegans; the form of the labellum and its crest partake somewhat of the arrangement of the same organ as in O. nævium, while the downy, or velvety, reddish-brown blotch in the middle of the labellum is suggestive of O. Schillerianum. Nevertheless, there is nothing about the plant to lead to the supposition that it is a natural hybrid or any other than a good species; at all events, as well worthy of the rank as the majority of those to which it is accorded. The flowers are about 2 inches across. Sepals and petals nearly equal, lanceolate, and with a tapering thin point, pale yellow, blotched reddish-brown; lip lanceolate, apiculate, white, with a velvety reddish-brown blotch in the centre, and a few purple spots at the sides. It was imported by Messrs. F. Sander & Co., and flowered in their nursery. *James O'Brien.*

* *Bletia Godseffiana*, n. sp., Kränzlin.—Affinis Bl. floridæ R. Br. Bulbo v. cormo globoso; foliis longissimis linearilanceolatis acuminatissimis sesquipedalibus ¾ pollic. latis; scapo gracillimo ad 2 pedes alto supra racemoso ad 10-floro; bracteis minutis triangulis; ovariis levit-rasperatis; alabastris ante anthesin sparsim hyalino pilosis; sepalo dorsali ovato recto. lateralibus mentum modicum efformantibus triangulis subfalcatis viridibus extus et præcipue intuse purpureo-suffusis; petalis multo tenerioribus ovatis acutis albis roseo suffusis margine minutissime erosulis; labelli lobis lateralibus semiorbicularibus antice liberis obtusis; lobo intermedio e basi lato-lineari orbiculato (sc. expanso) margine quam maxime undulato medio emarginato; disco lineis elevatis 5 (adjectis 2 brevioribus) e basi labelli fere apicem usque decurrentibus ibique in dentes elevatulos exeuntibus; lobis lateralibus venis lobo intermedio) intense violaceo; lineis loborum lateralium ramulosis elevatulis instructis; labello albido antice, præsertim violaceis, carinis disci aureis; gynostemio valde curvato basi in pedem brevem producto, apice paulum dilatato. Totus flos pollicem diametro.

† *Odontoglossum Kranzlinii*, n. sp.—Pseudobulbs ovate, compressed, marbled with brown, diphyllous; leaves ovate oblong, ascending; scape longer than the leaves, branched; flowers many, 2 inches diameter, sepals and petals narrowly lanceolate, and with a tapering point, lip three-lobed, the middle one lanceolate, toothed, apiculate, bearing a reddish-brown velvety blotch in the middle, crest, two small, plain, blunt, white teeth; column white, spotted with red at the base, the wings bearing two long recurved cirri, with a few inconspicuous hairs at the base.—Introduced from Colombia, and flowered by Messrs. F. Sander & Co. *J. O'Brien.*

Orchid Notes and Gleanings.

Lælio-Cattleya amœna × Var. delicata.

Lælio-Cattleya amœna is a hybrid out of Cattleya Loddigesii, by the pollen of Lælia Perrini. The variety in question flowers in October and November. The flowers are large, with lanceolate rosy-lilac segments, the lip convolute at the base, is white, the throat yellow, the anterior lobe pointed, and of deep violet at the extreme tip. *Lindenia*, 367.

(crassinode × Wardianum); the lovely D. euosmum leucopterum (endocharis × nobile), D. × dulce (Linawianum × aureum), a pretty Veitchian hybrid; D. × Venus, D. Wardianum album, the varieties of D. Dalhousieanum, &c.; and to continue the show of Dendrobiums, a large number are being kept in cool-houses, to be brought on as they are required—the D. densiflorum, D. thyrsiflorum, and others of that section, are only just commencing to flower.

In the cool-houses was a great show of Odontoglossums, including superb spotted forms of O. crispum. Among them we noted O. c. xanthotis, a fine white, with yellow spots; O. c. Stevensii, which is well known to fame; O. Pescatorei Schroderiana, which is only to be excelled by that other fine purple-spotted form, only existing at The Dell, O. P. Veitchianum; O. Wilckeanum, of all shades of yellow and brown, the richest and finest being O. W. Godefroyanum. Two plants, each with several spikes, of the fine O. elegans, and a grand form of O. excellens were in bloom, as well as a quantity of O. excellens were in bloom, as well as a quantity of O. triumphans; O. Œrstedii, with thirty flowers; O. triumphans; O. Œrstedii, with thirty flowers; the unique pale yellow O. Amesianum, and many handsome hybrid Odontoglossums; the houses being brightened with pans of Sophronitis grandiflora; the rich dark scarlet Cochlioda Noezliana, Ada aurantiaca, and the mauve-crimson Cochlioda Vulcanica grandiflora.

In the Cattleya-houses, the forms of the beautiful and fragrant C. Schroderæ made the best show, and among these there was one with its labellum marked with purple, as in the typical C. labiata. Forms of C. Lawrenceana, too, were in bloom, one of the most striking being the wholly rosy-lilac C. L. concolor, with two spikes of four and five flowers respectively. Also among others in bloom were C. × calummata and that beautiful Dell hybrid C. × Baroness Schroder (Trianæ ♀, Jongheana ♂), with large soft pink flowers, the lip of a rich orange tint. In one corner was an interesting group of Epidendrums in flower, comprising E.

Fig. 64.—Ludovia crenifolia. Ornamental palm-like plant (see p. 442.)
(greatly reduced.)

Orchids at The Dell, Egham.

Those who have never seen the show of Orchids in Baron Schroder's famous garden in the flowering time of the spring Dendrobes, can have no conception of the beauty of the display that these plants then make. At the present time, despite the heavy requisition put upon them for cut flowers, some of the specimens of the varieties of D. nobile, D. × Ainsworthii, D. Wardianum, &c., are literally sheaves of flower. Some idea, however, may be gained when it is stated, that one of the plants of D. Wardianum bears over 200, and a single specimen of D. × Ainsworthii, over 400 blooms, and that the D. nobile varieties in some cases exceed these in numbers. Prominent by their beauty and distinctness, however, were D. Wardianum var. Schroderi with noble flowers, the segment coloured with purple back and front; D. × melanophthalmum, Reich.

In the Pitcher-plant-house plants of Dendrobium Dearei and Vanda teres were throwing up spikes most profusely; in an adjoining house was a fine show of varieties of Calanthe Regnierii, and a fine dark hybrid raised at The Dell between it and evectum, E. O'Brienianum ×, E. xanthinum, E. rhizophorum, E. Dellense ×, and E. Wallisii.

Among the many noble Cypripediums in flower, C. × Southgatense (bellatulum × Harrisianum) was distinct, its flowers spotted with purple. C. × Morganiæ was a grand sight in itself, one specimen having nine spikes, and bearing altogether twenty-nine flowers. C. Elliottianum was grandly in bloom, and the shining wax-like yellow flowers of C. Mastersianum exhibited it as one of the most distinct of the genus. Other Cypripediums finely in flower were C. × mycrochilum, C. × Harrisianum superbum, C. lævigatum, C. Lawenceanum Hyeanum, &c.

C. vestita oculata gigantea. Schomburgkia tibicinus was sending up flowers strongly, and the fine specimen of Sobralia xantholeuca will soon have fifty or sixty flowers open at one time.

Effectively arranged in the various houses were numerous specimens of Odontoglossum Rossii majus and O. Cervantesii, among the latter being several brightly-coloured O. C. lilicina; Dendrobium infundibulum and D. Jamesianum in the cool-houses, Angræcum Sanderianum and various species of Vandas in the Vanda-house, Masdevallia Houtteana, with over 100 buds; large plants of M. ignea, M. Veitchiana, M. Arnimii, M. × Chelsoni, M. Harryana, M. × Courtauldiana, the true M. Lindenii, the fine crimson and white M. Schroderiana, and other species in the Masdevallia-house. And in other houses were in bloom a beautiful specimen of the yellow and red Maxillaria Kimballiana, Oncidium Phalænopsis, O. luridum, O. ampliatum, Cymbidium Lowianum, with twenty spikes; the curious little Pleurothallis ornata; the new Lælia × vitellina, Mr. Ballantyne's latest hybrid production; a grand plant of the rare salmon-coloured Cœlogyne tomentosa, sending out numerous spikes; a noble specimen of Platyclinis glumacea; a fine plant of Cymbidium Devonianum, with several spikes; some noble Cœlogyne cristata alba, C. c. Lemoniana, &c.

Cypripedium Paris ×.

I see in the *Orchid Review* a Cypripedium called Paris, a cross between C. bellatulum and C. Stonei. This brings to my mind the last time that I went round the late Mr. Hall's Orchid-house, and his pointing with pride to a seedling having the same parentage as the above, and saying he thought he would be among the first with a C. bellatulum ×. It would be interesting to know who got his Orchids, as possibly this plant may have found its way to Mr. Measures' collection. Perhaps some of your correspondents may know what Mr. Hall's Orchids realised; as although not very numerous, they were very select. *Crispum.*

Orchids at Castle Hill.

In the gardens of Geo. C. Raphael, Esq., at Englefield Green, the cool Orchid-house contains a very beautiful and varied assortment of showy species in flower, the fine forms of the favourite Odontoglossum crispum, of course, predominating, and these are of excellent quality, embracing both the pure white and the spotted forms. Flowering out of them also are several very handsome hybrids, and among other noteworthy things are good forms of O. Hallii leucoglossum, O. H. xanthoglossum, and the various forms of O. luteo-purpureum; while giving a welcome show of brilliant colour are many suspended pans of Sophronitis grandiflora, with from ten to eighteen flowers each, and on the stages some bright orange-coloured Ada aurantiaca. The arrangement of the house, with its water-tanks the whole length, and its border of Ferns and Begonias on each side of the walk, seems well adapted to the culture of the plants grown in it, and, like other plants when really thriving, they are pleasant to look upon either in or out of flower.

In the other houses—in which Mr. Adams, the gardener, is doing his best to bring their occupants up to the good condition of the cool-house Orchids—there is a good show of Dendrobiums, from the charming D. linguæforme, with its numerous elegant sprays of white flowers, up to the noble D. Wardianum. D. aggregatum majus has many spikes, D. nobile albiflorum, and D. n. elegans are fine, and Cœlogyne ocellata maxima, Leptotis bicolor, Trichopilia suavis, Anselia africana, Angræcum citratum, Vanda tricolor, Cypripediums, and various other species are in bloom.

Among the Phalænopsis, the pretty ivory-white P. Micholitzii is found to be one of the most satisfactory, as it is free to grow, and an almost perpetual flowerer. Two other highly satisfactory plants which are in great favour with Mr. Raphael are in flower, Cochlioda Noezliana having three branched spikes of its dark scarlet bloom, one of the plantsmanship; and Cochlioda Vulcanica grandiflora, the plants of which have been blooming here for the last six weeks, and will continue for six weeks or so longer. They are in fine health, and both these species are grown suspended in a cool intermediate-house.

The Rosery.

ROSES IN A COLD HOUSE.

There are few subjects more suitable for cultivation in an unheated greenhouse than Roses, and when well attended to, perhaps, none give better results. The flowers are easily secured some six weeks earlier than any appear out-of-doors, and will continue until midsummer. Blooms that have been grown on steadily, as must necessarily be the case in an unheated structure, are much heavier, and last considerably longer, than those produced under hard forcing. The protection given from severe frost and keen winds, together with their exemption from the too sudden changes of spring-time, are all in favour of really good blooms. The chief point is to avoid bringing the plants on too early. This is best secured by starting them as late as possible, and by affording all the ventilation they will bear up to the time young growth has started. After this period, it is better to avoid the admission of air as much as possible, because there is no more fruitful cause of mildew than a draught of any kind, and sudden changes in the temperature. By the end of March and April the plants are in young leaf, and it needs some care and judgment to avoid the temperature of the house rising too high upon bright days. If possible, it will be much best to have some blinds fitted to rollers, so that the sun's rays can be subdued during mid-day of such weather. It is not necessary to shade all of the glass; narrow portions of blind at intervals would answer the purpose; or the glass may be very slightly shaded with a thin summer wash. More often than not, these washes are not put on soon enough; a little down the centre of the pane is a great help, and does not shade or darken the house too much. Aridity of the air may also be obviated considerably by sprinkling a little water about during bright days, and the foliage will derive much relief from such practice. Very little atmospheric moisture will be sufficient, and a dry air is better at night until the season is more advanced.

Too much care cannot be given to the destruction and checking of insects affecting these plants as soon as they appear. Taken in time, this is a very easy matter; but when left for a few days, they increase at an astonishing rate. I would caution growers against using any of the insecticides now in the market in a too strong solution, it being better to do the work twice over than spoil the prospects of a season; and two applications of a weak solution will usually effect the required object without hurting the plants.

In my own cool-house of Roses, I am about to commence pruning [last month. Ed.] The plants are turned out into the borders, and consist of strong-growing Teas of the Dijon class, and a few of the choicer kinds, such as Comtesse de Nadaillac, The Bride, C. Mermet, J. Ducher, Souvenir d'un Ami, P. des Jardins, Anna Olivier, &c. There is very little pruning to be done, because all weakly-growing shoots were removed at the end of the summer. I am more than ever convinced that more pruning and thinning of the wood should be done during summer and autumn. This aids in the production of good, strong, and well-matured wood. All of the numerous, weak lateral growths take their share of nourishment from the plant to waste, as they are cut away at pruning-time, and it is much better to concentrate vigour in the wood that is destined to bear good blooms the following season; at the same time you are admitting more air and light into your plant, and this is a great essential in producing well-matured wood. Instead of cutting a strong sucker-like shoot of C. Mermet or Perle des Jardins back to three or six eyes, I prefer to leave them quite two-thirds of their length, and bend them over, as much as room will permit. In fact, treating them somewhat after the way adopted with pegged-down Roses out-of-doors. This results in many more good blooms being secured from the first crop, and, needless to say, these are of more than double the value of those produced at the second cutting. It seems such a pity, as well as being unreasonable, to cut away so much of these sound and well-ripened shoots, as is the practice with many.

There is the further advantage attached to the bending down of these shoots, in admitting more air to the centre of the plants, and thus giving more room and encouragement for other strong growths from the bottom of the plants, either in the way of suckers, or those from the base of strong shoots.

After pruning is done, and previous to tying, or otherwise securing these shoots, I rake off as much of the surface soil as can be done without injuring the roots, and mulch heavily with a compost of loam and thoroughly rotted manure, using these in about equal proportions. The borders do not receive any water then, as I have no wish to excite either the wood or roots for some time afterwards. During March, when young growths are active, the borders should receive a thorough soaking with weak liquid manure, and from this time onwards they will be similarly treated at intervals of about three weeks. Mere surface-waterings are useless.

Some of the best Roses I have ever seen from under glass have been grown in this way, and very heavy crops of blooms are easily realised during the late spring months. The plants will also produce a grand second crop of flowers during early summer, after which it will be well to throw the house open as much as possible; but I would still attend to the plants in the matter of water, and cleanliness from insect pests. All through the summer and late autumn you may cut some good and beautifully clean flowers from such plants, and which will be doubly acceptable during stormy or wet weather.

In the budding of Teas and Noisettes it is often a difficult matter to find buds that are sufficiently ripe for the purpose upon plants growing in the open air, and, under the most favourable conditions, these are found somewhat late in the season. A few plants under glass will throw a large number of well-matured buds, and which will come in very handy for working the earliest stocks. Of the two, I prefer buds of Teas from under glass to those grown in the open air, and it is easier to get buds of such succulent varieties as Marie van Houtte, Souvenir d'Elise Vardon, Comtesse de Nadaillac, &c., under these conditions. Our more tender Roses, such as the last-named, and also the extra double and globular varieties, like La Boule d'Or, are almost sure to succeed in a cool house, if treated as here described. When fastening the long shoots of climbers, whether to the walls or rafters, it is much better to have them some 6 or 9 inches away from the wall or glass, especially the latter. The young growths are certain to turn towards the light, and a frost is very disastrous to the tips of the young shoots when they are in contact with it. *A. P.*

Cultural Memoranda.

ASCLEPIAS CURASSAVICA.

This attractive, though little grown stove herb, when seen at its best is a beautiful plant, and it is surprising that it is not more frequently met with in gardens. Its orange-scarlet flowers, which are produced in large clusters from the axils of the leaves, produce a pleasing display, and they are produced from six to eight weeks in succession. Its culture is not difficult, although careful attention is required for the fullest success. From seeds sown in a gentle heat in March and April, nice useful plants may be raised that will flower from July to September. The young plants should be pricked-out singly when large enough into 60's, and shifted

on as often as the pots become filled with roots, up to the time that flowering commences. In order to have very bushy specimens, the points of the shoots should be stopped when they have made three or four joints, and at which stage the plants require to be kept close in a moist atmosphere, and well syringed to encourage a free break. A compost of fibrous pasture-loam, leaf-soil, and a sprinkling of rooted, potted and treated like the seedlings. Firm potting is a means to secure short-jointed bushy growth. When the pots have become full of roots, liquid farmyard manure may be applied with advantage. *G. Parrant, Rugby.*

Mulching and Watering Wall-Fruit Trees.

No time should be lost in loosening the surface-given at the roots of the trees after the fruit has stoned. There is no need to dwell upon the beneficial results attending the carrying out of the work indicated, further than saying, that were this work more generally practised, fewer complaints would be heard of stunted and blighted growth in wall trees, and consequently premature decay. If the fruit borders are heavily mulched from end to end and

Fig. 65.—Dracæna sanderiana, leaves with green and silver stripes: Hort. Sander. (see p. 442.)

sand is a suitable one. After flowering is past, they may be gradually dried-off for one or two months at the depth of winter, but water must never be quite withheld. In March the plants are pruned-back to within 6 inches of the soil, and carefully watered and syringed to encourage growth, and when this has advanced somewhat, they are shook out of the soil and repotted. Cuttings may be taken when the shoots have made three or four joints, and placed in a hot-bed frame, and as soon as well

soil of borders in which Peach, Apricot, Cherry, and Plum trees are growing against south, east, and west walls, afterwards laying on 2 or 3 inches thick of short dung over the loosened soil 2½ feet on either side of the stems of the individual trees, and the same distance out from the wall, and then giving the whole a tub or two of water each, according to the size of the tree; repeating the application several times during the next few months. Where liquid manure is plentiful, good waterings of it should be

to a breadth of 4 feet, it will be all the better for the trees, first loosening the surface-soil to that extent. Having just completed the above-mentioned work here, it has occurred to me that a short note on the subject would prove both useful and opportune. *H. W. Ward, March* 28.

The Auricula.

There is now a goodly display of bloom, both on show and alpine varieties. The season has been very propitious, and the blossoms have opened well. It

is rather remarkable that an alpine plant should be so sensitive in its flowers as is the Auricula, for should they be caught by frost the chances are that their development will be stopped, and they will not open. This refers more especially to the edged varieties, the selfs and alpines not being so easily injured, and the yellow-flowered alpine wilding never fails to open well. The plants arranged in a low span-roofed house are a source of much enjoyment to the cultivator, and as the trusses develop, the seedlings flowering for the first time are eagerly watched in the expectation that something good may be found amongst them. The bloom will not remain long in good condition, unless the plants are shaded from bright sunshine. The effect of sun upon the flowers is to cause them to wither up, however fresh they may be. Shade from bright sunshine; ventilate as much as possible, without exposing the plants to high winds, which are very injurious. On calm dry days the lights may be drawn off entirely, so that the plants may be fully exposed to light and air. If a sharp frost set in, I keep it out by turning on the hot water. In our garden, the fires are kept going at this season, and the turning a valve lets in much or little heat; but the Auricula must not have more heat than is needed to keep out frost—forcing the Auricula is out of the question. I received a note from the Rev. F. D. Horner on this point; and he has discontinued, he says, the use of any heat in his Auricula-house for about twelve or fifteen years, and adds, that the flowers have done far better with a sufficiency of some non-conducting covering. The flowers are small in size, and the colours are not good, if the plants are forced into bloom before their natural time.

Repotting should commence as soon as the bloom passes away, unless it is intended to obtain seed, for it will not do to repot them if seed is being saved; but an Auricula fancier does not care to leave his plants to be burdened with ripening seeds, which do not mature until July, thus preventing the repotting of them until that time, and causing certain injury to the plants. *J. Douglas.*

Colonial Notes.

TRICHOCENTRUM IRIDIFOLIUM, *Lodd.*

During the past year (1892), a small epiphytical Orchid was brought in from the woods by one of our native plant collectors, who prides himself on knowing the home of every indigenous Orchid in the colony. This was submitted by Mr. Hart to the authorities at Kew, who kindly identified it as Trichocentrum iridifolium, Lodd. It is not mentioned in the *West Indian Flora*, and is probably new to this area.

Mucuna rostrata, *Benth.*

In the early part of the present year, I met with this plant climbing trees and shrubby vegetation near the sea-shore at Carenage, some 5 miles distant from Port of Spain, our chief town. The large red flowers are very handsome, and from a long distance form a marked contrast to the surrounding vegetation. I also met with the same plant on the banks of the Caroni, our largest fresh-water river, a few days subsequently. Dr. Rake, of the Island Medical Service, who takes great interest in all natural history objects, informs me that the plant is a friend of his of many years standing. It was previously brought into the Departmental Herbarium by D. W. Alexander, our native collector. In drying for the herbarium, great care has to be exercised to prevent both leaflets and flowers falling to pieces, and turning black. This plant was previously known only as a Guiana species, but, like many continental species, is now to be added to the insular flora of Trinidad. *W. E. Broadway, Botanical Department, Trinidad, B.W.I.*

The Week's Work.

THE ORCHID HOUSES.

By W. Holmes, *Gardener, Pickering Lodge, Timperley.*

EPIDENDRUM VITELLINUM MAJUS, if treated as advised in a previous Calendar, will now be making good spikes, and plants must receive more water and a daily syringing. We are now potting our stock of Calanthe Veitchii, C. vestita oculata, C. v. lutea. The best material I find is good fibrous loam, a little peat and fresh sphagum moss, with a little silver-sand well mixed. They were turned out of their pots a few weeks before potting-time, and laid in damp moss, and have now some nice new roots. The pots are half filled with clean crocks, upon which a layer of moss is put, finishing the operation with the above material, but leaving space for watering. I have seen good Calanthes grown by potting each bulb singly in small pots, and when nicely rooted potting them into their flowering pots; they require a hot moist atmosphere, such as a good plant-stove or Dendrobium-house, but should be placed so as not to get any water from the syringe, as the leaves are very sensitive to water lodging on the foliage. Fumigation is very injurious to them, causing the leaves to become spotted. Always remove the plants when this is done.

THE CATTLEYA-HOUSE.—The various specimens of Lælia purpurata and its varieties having made up their pseudobulbs, and been carefully rested for some weeks past, will now be showing flower-spikes, and they should be afforded a moister atmosphere, also more water than hitherto at the root. These species should always be grown at the warmer part of the Cattleya-house. As they make growth in the winter, it is very essential that progress be not checked from want of water, or from the admission of cold air. Amongst Lælia purpurata some very distinct forms are found, all of which are worthy of a place in the choicest collection. Lælia p. Russelliana and L. p. Schroderiana are light-coloured varieties, and very distinct from the type. All of these species and varieties flower at the same time, that is from the end of May to July. Then there is Lælia grandis, a good old plant and very distinct, nearly yellow in colour; and L. grandis tenebrosa is one of the finest of recent introductions, differing in its colour from L. purpurata or any other known Lælia or Cattleya. I find it one of the easiest plants to establish, having a good constitution, and growing freely under the treatment afforded L. purpurata. Any plants of these imported this spring, should be carefully washed in tepid water and potted in the usual manner, in clean crocks, no peat or moss being made use of till such time that formation of roots has begun. The plants can be kept firm in the pots by means of a few flower-sticks. After fixing them in pots, they should be syringed about the roots twice a day as a general rule, and by the end of six weeks the pseudobulbs will have become plump and fit for being potted and placed in growing quarters. The compost should consist of fibrous peat and broken brick.

FRUITS UNDER GLASS.

By M. Temple, *Gardener, Carron House, Stirlingshire.*

MELONS.—March was most favourable to the growth of early Melons, which should now be strong in stem and foliage, a condition imperative to fine development of fruit. It is unfortunate if shading has to be applied to protect foliage of Melons, as the fruit cannot have too much sun to give solidity and flavour. Laterals should be rubbed off when the fruit approaches the ripening stage; air should circulate freely, avoiding cold draughts; but foliage which has been well exposed will not suffer by judicious airing. The leaves should be green and healthy till the fruit is cut. Support to fruits not resting on the soil should be given before there is danger of the stems giving way from the weight of the fruit; net, wood in squares or circles, or flattish pans, perforated in the bottom to allow moisture to escape, are in general use for suspending the fruit. Withhold water somewhat, and liquid manure especially, as the ripening period approaches, but the foliage should not be allowed to flag. Plants, in pots filled with roots, are more liable to injury than when the plants are grown in beds. In pits, heated by manure, there is more difficulty in setting and ripening fruit; an even temperature should be maintained, as far as possible, by frequently adding fresh linings of manure and leaves, well-sweetened by turning. Hot steam should be allowed to escape by a chink of air being left at top of structure. In small close places, the fruit should be elevated clear of soil and foliage; flower-pots are very suitable for this purpose. Cracking is caused by allowing the roots to become dry, and afterwards freely affording water when the skin has become hard and woody. Plants setting their fruit must not be kept close and damp; remove fruit not wanted before it robs the plants. Keep foliage of succession plants healthy and strong, by airing liberally and preventing shoots becoming crowded. Sow seeds for succession crops as required.

PEACHES.—Early crops approaching the ripening period should not have water, except when necessary to keep the roots healthy and active. All fruits should be freely exposed to the sun and air, clear of the foliage. A circulation of air night and day does much to increase flavour and high colour. No more growths than required for next year's bearing-wood should remain, any which are growing unduly gross should be stopped; we often press such down so as to half separate them from the branches with good results. Disbudding of succession trees requires timely attention; removing ruthlessly large quantities of shoots is injurious to the present crop, and conducive to bad health in the future. Syringe freely after hot sunshine with tepid water, and give moisture liberally to the roots; liquid-manure judiciously given to the trees bearing heavy crops, or to such trees as are weakly, is of advantage. The temperature may rise to 75° when the sun is bright. Some of the well-known manures forked into the surface-soil and watered well immediately afterwards, are good fertilisers for Peaches and Nectarines. Late crops which have set or are setting their fruit, should not be unduly excited, but cold currents of air should be avoided. When the fruit is set, let the small and useless ones be removed, leaving those that are best, exposed to light. Do not thin severely till stoning is past. Fumigate if black or other aphis should appear.

FIGS.—Those in full growth should have liberal waterings, and if the roots are confined in pots or in brick divisions, liquid-manure will aid them much. Drought at the roots causes fruit dropping. Mulching may be serviceable to roots near the surface. Continuous stopping and thinning of shoots is indispensable in maintaining an even and fruit-bearing growth. Withhold water when the ripening of the fruit approaches, and increase ventilation. Late trees should be allowed to move slowly, allowing the temperature to rise gradually; give a liberal watering, and keep the surface of soil open.

THE KITCHEN GARDEN.

By H. C. Prinsep, *Gardener, Buxted Park, Uckfield.*

WATERING CROPS.—The drying winds and hot sun lately experienced have not been favourable to newly-planted vegetables, especially those not lifted with a ball of earth. Where Cauliflowers, Lettuces, and other small plants have been set out, watering and shade will be necessary till they become established. We have had no rain in this district for some time, and the ground is baked quite hard, unless recently dug. On such soil, it is impossible to sow or plant with a chance of success till the soil is moistened; and unless rain soon falls, it must be moistened artificially if fine seeds are to be sown. Even land that will be planted must be well watered, or, at the very least, the furrows where the plants will stand. In some soils it will be better to defer planting till the weather changes, for unless watering can be efficiently done, no progress would be made; many plants, on the contrary, would perish. In watering any crop it should be done early in the day, so that the soil may become warmed somewhat before nightfall.

PEAS.—These crops will now require much attention. It is seldom that Peas sown in the open ground at the end of January have progressed so rapidly as is the case this season. During the latter part of March and the beginning of this month growth was very rapid, and it is tender. In gardens which are situated in valleys where spring frosts are a danger, material for protecting the Peas should be kept in readiness. Here Peas have been cut off while in blossom in May, whilst my neighbours on higher ground have not suffered in the least. Another sowing of Peas may be made, this time selecting the choicest Marrowfat varieties. Put sticks to those far enough advanced to require them, and the early lots may have a mulching of strawy cow manure, which will keep the soil in a moist state, and when water is applied, the goodness of the manure will be carried down to the roots.

CHICORY.—A small sowing may be made, to afford some early roots, but the general sowing should be deferred for another fortnight.

FRENCH BEANS.—In warm situations a sowing should be made at this date. At the foot of a south wall, or on a warm border, are

good places. The seed should be sown rather thickly, as some will not germinate if the weather should be cold. No protection is required till the plants appear above ground, as the sun will warm the soil sufficient to cause germination. I have had good results from sowings made in the paths between the Asparagus beds, where the soil was taken out for arching over the beds. By covering with glass in the same way as is recommended for Early Peas, the sun's heat was retained in the soil, thus causing the seeds to germinate very freely. The pieces of glass should be long enough to rest on the edges of the beds, so that a space of about 6 inches would be left between them and the soil. Seeds of Kidney Beans are sown in pots, afterwards planting them out, but it will be better to defer doing the planting out of such for another week, plants so raised being very tender. Beans in pits and on hot beds must have constant attention. Ventilate freely on favourable days, and keep the soil moist, for unless pods grow quickly, they are tough eating. Syringe the plants on sunny days to keep down red-spider, but during dull or showery weather this may be dispensed with, except in pits where the hot-water pipes may dry up the superfluous moisture, and keep a night temperature of 58° to 60°.

PLANTS UNDER GLASS.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

FITTONIAS, CYRTODEIRAS, SONERILAS, PANICUM VARIEGATUM should be divided and repotted. They are very useful plants for dinner-table decoration, or for growing over the pots of large plants in a warm house, or for baskets and rockwork; they like peat, leaf-mould, and an abundance of moisture. Cycads that require potting, or the drainage attended to, should be seen to at once before they make young leaves. Useful hardy variegated plants for growing in pots for decorative purposes are Elæagnus aureus variegatus, Euonymus variegatus, Eurya latifolia variegata, Vinca variegata, and V. aurea variegata. Sow seeds of Primula sinensis for succession, also P. obconica in boxes or pans, water the soil well before sowing, and then cover the seed with fine light soil, place in heat and shade with brown paper; remove to a cool house as soon as the plants are seen. Also sow seeds of Balsams, Coxcombs, Amaranthus for growing in pots, Musa ensete, Dracæna indivisa, and D. australis.

CAMELLIAS.—Prune-in any plants requiring the knife, afford abundance of water unless the pruning is very severe, and slight shade in bright weather; freely syringe. Where shading cannot be utilised, it is best not to syringe them in the mornings of bright days, as the leaves would be scorched considerably when wet.

TUBEROUS-ROOTED BEGONIAS that were started into growth in warmth, if in small pots, should be re-potted as soon as a good start has been made, keeping them in warmth for a few days after the re-potting, and removing them to a cooler house, where there is plenty of light and air. The plants will be the better for a little shade during bright sunshine. As a potting-soil use good loam, peat and manure, with a small quantity of clean coarse sand; and the pots should be well-drained.

FUCHSIAS.—Cuttings which are rooted should be potted off in rich, finely-sifted soil on this occasion, but they should not be stopped, placing them in heat again for a time. Attend to the staking of specimen pyramid and standard plants. The less training Fuchsias are subjected to, the better they look, their natural habit being good, and there is nothing more beautiful than a fine standard Fuchsia. None of the shoots should be stopped after this date, and liquid manure should be afforded freely, with abundance of air, a little shade being applied in hot weather.

CYTISUS RACEMOSUS which have done flowering may be pruned hard, and repotted when a fresh start is made. The Cytisus likes loam, leaf-mould, a little peat, some good manure, with sea-sand, and to be grown in pots that are well-drained. The plants are useful in various sizes for decorative purposes, and one of the most attractive at this season is the hardy Bronze Broom, Cytisus scoparius Andreanus, whose flowers at a distance put one in mind of a small Pansy. It flowers well in small pots.

HERBACEOUS CALCEOLARIAS AND CINERARIAS will require frequent fumigation to keep green-fly in check, and shading from bright sunshine. Calceolarias should be neatly staked with green-painted stakes as fast as they require it. A house with northern aspect is the best place for them at this season.

MALMAISON AND OTHER CARNATIONS IN POTS should be staked and trained as the flower-stems grow in length. Fumigate well once in three weeks, do not let green-fly be seen on them, and be not stingy with manure-water in a weak state; clear soot-water or a spoonful of blood-manure being used at times.

THE FLOWER GARDEN.

By T. H. Crasp, *Gardener, Canford Manor, Wimborne.*

ANEMONE CORONARIA. — Anemones generally are plants of much beauty, and none is more valued in the flower garden than A. coronaria, which is in flower at this season and onwards till the end of the month of June, and occasionally later; and, in fact, if seeds are sown at intervals throughout the year, flowers may be had in bloom nearly all the year round. No particular kind of soil is really necessary for them, although full success is assured by good rich soil—in fact, the richer the soil is, the better the plants do. If seeds be sown now, a good display of bloom should result next spring. The soil should be made very fine on the surface and for a few inches deep, and shallow drills drawn about 6 inches apart, the seed being sown thinly, and covered with some fine light kind of soil. The seedlings should be kept free of weeds throughout the year, and when they are about 2 inches in height, a portion of them, where too thickly standing, may be transplanted to other places, choosing showery weather for this operation. The practice of sowing the seed as soon as it is ripe also answers very well, only the seedlings are longer before the bulk of them flower. It is nearly always advisable to raise a bed of seedlings yearly, although, at the same time, if the old roots are undisturbed, and the bed manured at the surface, they will continue to bloom satisfactorily for several years.

BEDDING PLANTS.—All work connected with these plants should be pushed on quickly, in order to lessen the pressure of work when bedding-out commences. Much labour and time may be saved in preparing ordinary bedding plants by making up mild hot-beds for the more tender kinds, and utilising spare frames, handlights, &c., for others that are hardier. These frames, &c., should have a layer of rich light soil about 3 or 4 inches in depth placed in them, in which seedlings and rooted cuttings may be pricked out. Here these things will grow fast, and take up less room than when boxed or potted, and make quite as good plants. The following are a few subjects which do well under such treatment:—Lobelia, Golden Feather, Ageratum, German Aster, Stocks, Zinnia, Marigold, Coleus, Alternanthera, and Iresine. The hardening-off of plants is an important matter connected with tender plants for the flower garden, for if these are not carefully inured to full exposure before being planted out, a long time is lost in recovering their vigour and health. Even in the matter of hardening off plants, the exposure should be very gradual, and at first the glass should be kept over the plants, but affording them air freely after the first four or five days, weather permitting, till the foliage acquires a greater degree of firmness, after which time the lights may be drawn off them entirely on fine days, and so on, till the glass protection is entirely dispensed with. Plants from out of shaded vineries or Peach-houses if exposed to full sunlight at once get their foliage burned, and for these and similarly-grown subjects, a thin shade is needed for a time during bright sunshine.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maiden Erlegh, Reading.*

STRAWBERRIES.—If the plantations have been hoed and cleared of weeds, they are now in the best state for the placing of litter among the plants. The litter for plantations made last autumn cannot be too long and fresh, and where the supply is limited, and it has been left to accumulate for the past two or three weeks, the freshest and longest only should be selected for the new plantation, whilst the shorter portion will be equally suitable for older plantations, as it will contain more nutriment. Litter should be afforded the plants now, because any rain that will fall whilst bleaching and leaving the litter in a clean state for the fruit when ripe, will also wash the ammonia which it contains down to the roots, and encourage growth. Afford a final watering of liquid manure before the flower trusses are too forward.

PLANTING OUT FORCED PLANTS.—Where the practice obtains of making plantations with forced plants, which, however, I do not recommend, preferring runners layered in July and planted out early in the month of August, the ground now being cleared of Broccolis, offers a suitable place for them, and should be prepared by deeply trenching the ground, and using a liberal dressing of manure; afterwards making it thoroughly firm by treading, and waiting for suitable weather before planting out. The earliest forced plants should be avoided as having been subjected to too hard forcing; and they are generally infested by red-spider. Plants from which fruit is gathered from now onwards are to be preferred. Remove flower trusses from the plants which were put out last autumn for supplying early runners, and grub up any that are blind or barren.

GENERAL REMARKS. — Unless a change to much colder weather than we have at present should occur, nets may now be entirely removed from Pears, Plums, and sweet Cherries on walls, also Apricots, and the covering on Peaches and Nectarines reduced one or two coverings, according to the weight of the nets. The cold and dry north-east wind, which has prevailed for so long, being favourable to the appearance of aphis, seize every opportunity afforded by mild days to wage war against them, and especially on Peaches, Nectarines, Sweet Cherries, and Plums, all of these being now sufficiently advanced to render them quite safe to be operated upon, and certainly no work at present is more urgent and important. Soapsuds, to every 30 gallons of which a pint or quart of tobacco-juice is added, according to the strength of the same, is the safest insecticide to use for the present.

THE APIARY.

By Expert.

SEASONABLE HINTS.—March was an exceptionally fine month, and there was scarcely a day on which bees were not flying abroad. Breeding went on at a great pace, and at the time of writing, honey is coming in from the most abundant Plum and Pear blossom, which has caused artificial feeders to be quite neglected. This natural increase of stores will stimulate bees to increased brood-rearing. When a change of weather comes, and honey ceases for a time to be brought in, it will be important to go on with store-syrup feeding until the bees can gather it again, giving just as much as they can consume, as it were, from hand to mouth. Vegetation being so much in advance this year, makes it absolutely necessary not to neglect anything that will conduce to get stocks at their full strength correspondingly earlier than would be required in an ordinary season. If a spell of cold weather come upon us, as is almost sure to be the case, it will also be advisable to keep the entrances to the hives narrowed, and to put more wrappings on to the tops of the frames or hives, so as to lessen the risk of the larvæ getting chilled, and the prosperity of the colonies retarded. Fine weather often tempts bee-keepers to go ahead too fast, and increase the capacity of hives by putting on supers, or adding frames long before the bees are strong enough to utilise them. It is only safe at present to give an additional frame or two, next the brood nest, where there is evidence that the queen has not sufficient space for depositing her eggs.

It is surprising how helpful it is to bee-keepers to keep a record of passing events in the apiary: this can be done by means of a diary, or, what is better, a slate or piece of paper attached to the inside of the roof of each hive, on which memoranda can be written. Entries should be made as to the condition in which colonies are found from time to time, age of queens, dates of swarms, when supers were put on and taken off, periods at which honey is being stored, and the time of blooming of various honey and pollen-yielding plants, &c. If these records are kept from year to year, they will be found to be not only interesting for making comparisons, but really valuable data for future guidance.

Get ready frames filled with full sheets of brood foundation, and get these made up and fitted into the crates, as the time will soon arrive when they will be required. Also make sure that enough spare hives are on hand to accommodate swarms.

EDITORIAL NOTICES.

Letters for Publication.—*All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* written on one side only of the paper, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for contributions, or to return unused communications, or illustrations, unless by special arrangement.*

Plants, &c., to be Named.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be carefully packed and numbered, and not more than six should be sent at one time.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Illustrations.—*Photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c., are particularly solicited; but the Editor cannot be responsible for loss or injury.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Advertisements should be sent to the PUBLISHER.

APPOINTMENTS FOR THE ENSUING WEEK.

SHOWS.

SUNDAY, April 16 { Ghent Horticultural Exhibition (eight days).

WEDNESDAY, April 19—Newcastle-on-Tyne (two days).

SALES.

TUESDAY, April 18 { Orchids, at Protheroe & Morris' Rooms.

WEDNESDAY, April 19 { Lilies, Roses, Ferns, and other Plants, at Protheroe & Morris' Rooms.

FRIDAY, April 21 { Orchids, at Protheroe & Morris Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—48°.7.

Alphonse de Candolle.

The death of Alphonse de Candolle removes from us one of the foremost botanists of his time. In his loss we have another factor in that great change which has come over the study of botany during the last quarter of a century. Previous to that time systematic botany held the field, and other departments of equal importance were relatively neglected. Now the pendulum has passed to the other extreme, and microscopical anatomy and physiology occupy the almost exclusive attention of the student. This devotion to one branch instead of to all in their relative degrees of importance is very unscientific, and in some respects is much to be lamented. It is part of the specialising tendency of our times—partly the outcome of the division of labour, necessitated by the enormous development of the subject, and the consequent impossibility of any one man making himself an adept in all divisions of the science. We allude to it here because there is no doubt that the death of Alphonse de Candolle will but mark another stage in the progression above alluded to. De Candolle himself, though most widely known as a systematist, was, in reality, what gardeners call an "all round man," as will be made apparent when we consider in what direction his work was carried on. By botanists throughout the world de Candolle, of course, was fittingly honoured as among the foremost of his fellows. The heritor of an honoured name, he added lustre even to so great reputation as that of his father Auguste Pyramus de Candolle, the author of the *Théorie Elementaire*, and the founder of the *Prodromus*. Among gardeners the name of de Candolle is also more or less familiar, but as the late distinguished naturalist did not devote much of his time to the applications of science to horticulture, he was not much known in horticultural circles. Nevertheless, the principles expounded in his monumental *Géographie Botanique*, are necessarily, to a large extent, those which govern the cultivation of plants, whether in the open air or under protection. On one occasion—it was a memorable one—de Candolle did come into contact with the horticulturists of the world gathered together at the London Botanical Congress and Exhibition of 1866. At that time de Candolle presided over the Congress, the meetings of which were held in the Raphael Cartoon Room of the South Kensington Museum. In his address, he laid down the proposition that it was not sufficient for horticulturists to gaze at and admire the objects exhibited at a flower-show, they must study and they must reflect; that botanists similarly must not only examine accurately and analyse minutely, they must also study the plant as a whole and in masses, individually and relatively. The president then went on to enunciate the aid which horticulture could render to botany, and reciprocally the benefits that botany could bestow on horticulture. He pointed out how some of the most important data of physiological science had been investigated and determined in the garden, and he went on to show how much more might be done were an experimental house on a large scale erected for the elucidation of problems in vegetable physiology. Something, we may add parenthetically, has been done since, as, for instance, in the erection of the Jodrell laboratory at Kew; but one small laboratory, however excellent, is nothing at all proportionate to the needs of the case, and we are calmly allowing the Americans and the Germans to outstrip us; and as Prof. Virchow told us only a few days since, in such matters we are a quarter of a century behind Germany, and not only in educational matters generally, but specially in the formation of experimental stations and laboratories. M. de Candolle then went on to instance other advantages which the botanists derived from horticulture, alluding specially to the publication of such illustrated periodicals as the *Botanical Magazine*, and to the work of the Royal Horticultural Society at Chiswick, to that of Sir William Hooker at Kew, to that of Lindley, and of others who have known how to turn their botanical knowledge to the advantage of horticulture. Adverting to the beneficial influence of botany on horticulture, and alluding in particular to the importance of a knowledge of vegetable physiology, M. de Candolle showed that if owing to the imperfections of the science, or other unfavourable conditions, it was not always possible to bring physiology directly to bear on questions of practical cultivation, yet that indirectly much was to be gained, and many errors avoided by the teachings of physiology. Should some incompetent schemer or some quack promulgate erroneous ideas, they were, nowadays, easily refuted by reference to general principles. As to those discoveries made, as it is said, "by accident," Prof. de Candolle happily compared them to dreams and presentiments. If one in a thousand of these is realised, much is said about it. We hear nothing of the nine hundred and ninety-nine failures.

Practical men are influenced by theories of their own formation, which are usually baseless, and very often absurd; whilst the theories of the man of science are, or should be, based on the due estimate and appreciation of an aggregation of ascertained facts. The bearings of botanical geography on the introduction and cultivation of plants of economic importance were then discussed. If a distinguished geologist was able to predict the presence of gold in Australia before it was actually found there, so the botanist was able to say that the Olive and the Cork Oak would flourish in Australia. Several other instances of the kind were cited, and now of course their number could be largely added to. Contrasting the purely mercantile spirit of commercial men, on the one hand, and the aspirations of pure science, on the other, the President pointed out that whilst the commercial man, by becoming imbued with the spirit of scientific method, would cease to attach an undue importance to merely mercantile considerations, the scientific man on his side would lighten the technical and arid character of his studies by the study of the grandeur of Nature and the principles of art M. de Candolle happily ended his address by pointing out that the cultivation of flowers and the practice of landscape gardening, offered the best means of counteracting and bridging over the two extremes, by developing the sense of beauty.

We have alluded to M. de Candolle's address on this occasion, because it, all unconsciously, affords a fair idea of the bent of his mind and of the scope of his studies. In the following year (1867) de Candolle laid before the International Botanical Congress at Paris his "Lois de la Nomenclature Botanique," which, discussed and modified on subsequent occasions, form the basis upon which modern botanical nomenclature is based. Of late, however, there has been a regretable tendency on the part of such botanists as Dr. Kuntze and many of the American school, to break away from traditional usage, and by a strained interpretation of the law to generate great and needless confusion. With infinite patience and labour M. de Candolle continued the publication of successive volumes of the *Prodromus* and its continuation, contributing as many as twenty-six of the monographs himself, one of the most generally interesting being that on the Cupuliferæ (Oaks, &c.). His *Géographie Botanique*, published in 1855 in two volumes, is truly a monumental work in its aggregation of facts and results, and in their skilful marshalling. In these particulars it is comparable only with the works of Darwin, some of whose views were indeed something more than foreshadowed by the great Swiss botanist. This work was analysed at much length in these columns at the time by Sir Joseph Hooker, and, though recent researches in vegetable physiology especially, have detracted from the value of some portions of the book, yet as a whole it remains a store-house of carefully sifted facts, discussed, as we have said, with logical acumen and arranged and classified in a manner to excite the admiration of the reader. It is obviously impossible for us here to allude to M. de Candolle's works in detail, but we may mention a few others—his *Origine des Plantes Cultivées*, of which an English translation has been published, is an amplification of the chapters devoted to the subject in the *Géographie Botanique*, and affords an interesting and instructive illustration of the manner in which the author brought to bear the facts of history, philology, meteorology, and geography on botanical science proper.

Another thoroughly charming book, in spite of the apparent dryness of its subject, is the one devoted to *La Phytographie*, or the art of describing plants, published in 1880. In it he considers the methods of describing plants, and of the adequate publication of the descriptions. It is quite impossible for us to speak at any length of this delightful book. To take it up and read its carefully-balanced paragraphs, its symmetrically-arranged arguments, with every

device of a practised author to facilitate the needs of the reader, is to experience such delight as only a thorough work of art can convey.

M. De Candolle advocates for technical purposes, the continued employment of Latin such as Linnæus wrote, clear, concise and having but one meaning for each word, and he points to models of good botanical writing as well as to examples of bad style. How many German books on descriptive botany are there, for instance, in which one may read page after page without coming to any definite statement! If one requires to gain an idea of the main peculiarities of any plant or group of plants, and of their resemblances to or differences from others, one has to wade through pages of involved writing, which too frequently induce headache and mental confusion before the goal is reached. Of such nature, unfortunately, are several of the accepted text-books of the present day. All this is pointed out with force by M. de Candolle in the book to which we are alluding, and we could only wish that writers and translators would carefully study and take to heart M. de Candolle's criticisms. A chronological survey of epoch-making books forms one of the most useful parts of *La Phytographie*, which ends with a series of chapters devoted to "preuves," or verification-tests of the correctness of descriptions, and of the sources whence such proofs may be obtained, including under this head a detailed list of the principal herbaria of the world. In this list indications are given of the whereabouts of the collections made by all the more celebrated collectors and travellers—information of the greatest value to working botanists. On one point we cannot agree with the distinguished author of *La Phytographie*, and that is in the low estimate he puts on the value of botanic gardens as instruments of research and of teaching. M. de Candolle seems to have had in mind the miserable establishments which used to be met with on the continent, where the plants were badly named, and worse cultivated, and the amount at the disposal of the Professor and the gardener grotesquely inadequate to the needs of the case. What gardens may do for botanical science—the only point considered by M. de Candolle—receives in this country a striking illustration in the magnificent establishment at Kew, where the interests of science are as much an object of anxious care as those of economic botany, horticulture, and refined pleasure.

COUNT KERCHOVE DE DENTERGHEM.

(President of the Société Royale d'Agriculture et de Botanique de Gand.)

Another most delightful book, and withal very ingenious, is M. de Candolle's *Histoire des Sciences et des Savants*, published in 1873. It is an application of the Darwinian principles of selection in the discussion of the condition and progress of science and its professors in various nations during the last 200 years, and is full of curious and interesting information, put together with that skill which was a special characteristic of the author. We cannot devote any more space to these books, but we earnestly commend *La Phytographie* to all in any way interested in botany, whether as amateurs or professionals; and the *Histoire des Sciences* to the intelligent general reader.

M. de Candolle did not lack marks of the esteem of his compeers; he was a foreign Associate of the Académie des Sciences, a foreign member of our own Royal Society; a Linnean Medal was conferred on him by the Linnean Society only a few years since. He was a Doctor of Laws of Oxford and of Cambridge and there was scarcely a scientific Society of any importance that was not proud to include him amongst its honorary members.

M. de Candolle died at his residence at Geneva on the 4th inst. in his eighty-seventh year. His wife had predeceased him some years, but his son Casimir, a well-known botanist, lives to perpetuate the glories of the family name.

Count Kerchove de Denterghem.—We are pleased to be able to lay before our readers the portrait of the president of the Société Royale d'Agriculture et de Botanique, as well as of the Cercle d'Arboriculture, and other associations connected with his favourite pursuits. Although an ardent politician, M. de Kerchove manages to find time to devote to agriculture, to horticulture, and to botany. He is ever to the fore when action is demanded in the interests of these subjects. He is not only a great worker, he is also a great organizer, and the quinquennial exhibition, which opens to the public on Sunday, bears the impress of his zealous co-operation and judicious management. The Count is a learned man, and a fluent and eloquent speaker. His kindness and courtesy to the foreign guests who visit Ghent on such occasions as this, are notorious, and his colleagues on the committee will readily admit that the success of these huge undertakings is largely due to the unceasing labour, the intelligence, the tact, and the judgment of their president. Like most busy men, Count Kerchove finds time to write books, and, moreover, he edits a horticultural journal, probably finding in such occupations a relief from the excitement and vexations of political life.

The *Revue de l'Horticulture Belge*, appears with exemplary regularity on the first of each month. The regularity of its appearance for years past is a contrast to the dilatory mode of publication which was once (it was long ago) characteristic of many continental horticultural journals. The *Revue* meets the wants of the intelligent amateurs and of the enterprising horticulturists of Belgium, whilst the sound sense and clearness of its cultural directions commend it to the notice of foreign readers also. In the conduct of the *Revue*, M. de Kerchove is associated with many of the best known and most respected horticulturists of Belgium. But the book by which M. de Kerchove is best known, is his treatise on Palms, entitled *Les Palmiers*. In this work are set forth in clear and elegant language, the principal facts relating to their geographical distribution at the present time, to their existence in a fossil condition in various strata, to their botanical structure, and to their classification. In addition, chapters are devoted to the history and literary association of Palms, whilst a special section is devoted to their cultivation. Forty coloured illustrations and ample indices go to make up a volume, of whose utility we can best convey an idea, by stating that it is on the most accessible shelf in the editor's library, where it is not suffered to remain undisturbed for long together.

Linnean Society.—On the occasion of the meeting on April 6, Professor Stewart, President, in the chair, Messrs. F. H. Baker and R. S. Standen were elected Fellows. The President took occasion to refer to the great loss which botanical science had sustained by the death, on April 4, of Professor Alphonse de Candolle, of Geneva, an announcement which was received with profound regret. Professor de Candolle was the senior foreign member of this Society, having been elected in May, 1850, and was the recipient of the Society's Gold Medal in 1889. Mr. Clement Reid exhibited and made some remarks upon the fruit of a South European Maple, Acer monspessulanum, from an interglacial deposit on the Hampshire coast. Mr. R. Lloyd Prosyer, who was present as a visitor, exhibited some rare British plants from the co. Armagh, and gave an account of their local distribution. A paper was then read by Mr. W. B. Hemsley, "On a Collection of Plants from the

Region of Lhassa," made by Surgeon-Captain Thorold, in 1891, and a further collection from the Kuenlem Plains, made by Captain Picot, in 1892. Some of the more interesting plants were exhibited, and critical remarks were offered by Messrs. C. B. Clarke, J. G. Baker, and Dr. Stapf. Dr. H. C. Sorby gave a demonstration with the oxy-hydrogen lantern, and exhibited a number of slides, which he had prepared of small marine organisms, many of them extremely beautiful, mounted transparently so as to show the internal structure.

—— A meeting of this Society will be held on April 20, at 8 p.m., when the following papers will be read:—"The Subterranean Crustacea of New Zealand, with some general remarks on the Fauna of Caves and Wells," by Chas. Chilton, F.L.S. "Notes on the Anatomy, Physiology, and Histology of the Chernetidæ, with special reference to the rudimentary stigmata, and to a new form of Trachea," by H. M. Bernard.

The Gardeners' Orphan Fund. — The monthly meeting of the committee took place at Anderton's Hotel, Fleet Street, on the 7th inst., Mr. William Marshall presiding. The Hon. Secretary announced that H.R.H. the Duchess of Albany had permitted her name to be announced as a supporter of the Fund; also the following special donations and subscriptions:—H.R H. the Duke of York, K.G., £5 (donation); the Countess of Shrewsbury, £1 (annual); Lady Gordon Lennox, £1 1*s.* (annual); Mr. J. Kipling, The Gardens, Knebworth, Stevenage, £7, the proceeds on throwing open the lake for skating during the winter; Mr. J. P. Leadbetter, The Gardens, Tranby Croft, Hessle, Hull, collecting card, 12*s.*; Mr. J. Willard, The Gardens, Holly Lodge, Highgate, box, £1 7*s.* 6*d.*; Messrs. H. Cannell & Son, Nurserymen, Swanley, box, £1; Mr. T. Turton, The Gardens, Maiden Erleigh, Reading, box, 16*s.*; and the Liverpool Horticultural Association box, 10*s.* 6*d.* The Hon. Secretary announced in reference to the annual dinner, that at the request of the Chairman, Baron Ferdinand de Rothschild, M.P., the date had been postponed until April 26. The Hon. Secretary was instructed to make the necessary arrangements for carrying out the annual national collection on behalf of the Fund as heretofore. A cheque was drawn for the quarterly allowances to children upon the Fund, amounting to £186 6*s.* The chairman called attention to the annual dinner, and expressed a hope that the supporters of the Fund would muster in strong force at St. James's Hall on the 26th inst., so that it might prove as successful as the last one.

Technical Instruction. — Mr. Slade, the instructor engaged by the Williton District Technical Instruction Committee, commenced his course of instruction at Williton, Somerset, on the 5th inst., when he visited Mr. J. J. Risdon's orchard in the morning and Mr. W. H. Farrar's garden in the afternoon. In the orchard he gave instructions as to thinning-out and pruning trees, root-pruning, and the best-paying sorts of Apples to grow having regard to soil and climate. In the garden he showed the methods of training wall fruit-trees, winter-pruning, disbudding, the treatment of green-fly, and indicated what sorts of Grapes, Peaches, and Plums were most likely to pay. He also dwelt on the different methods of treatment for cordon, pyramid, and espalier trees. On the following days, Mr. Slade gave instruction in other gardens and orchards. On Wednesday evening he gave a lecture in the Egremont Hotel Assembly Room. There was a very small attendance. The lecturer confined his remarks mainly to a description of the forms of grafting and the management of orchards generally. Speaking of the orchards which he had seen in the district, he said many of them were almost as bad as woods as regarded their cultivation, the trees being so close to one another; while in others he found that they were facing the north, being backed up on the south and south-western sides by Elm trees. These were most serious defects, as Elm trees were about the worst trees they could plant near an orchard; while, with regard to position, they should in planting an orchard always let it face the south or south-west so as to secure as much sunshine as possible. He next proceeded to explain the best methods to be adopted in the laying-out of an orchard, including the depth at which the trees should be planted in the ground, the distance between them, and the amount of space required between the separate rows, also giving advice as to the application of manures. In dealing with the subject of grafting, he recommended the splice method for young trees, and the crown method for older ones. Further instructions as to pruning, &c., were next detailed, this being followed by a description of the best method of ridding the trees of insect pests. Several fine specimens of Apples were shown by the lecturer, who also gave advice as to the best kinds of Apples to be grown both for cooking and dessert purposes. The remainder of the lecture was devoted to the explanation of the cultivation of Peaches, Gooseberries, Black, White, and Red Currants, Strawberries, &c. Several suggestions as to the time of planting, the distance required between each plant, the quantity of manure required to replenish the soil, and also the best time for transplanting, were made by the lecturer, who also mentioned the most favourable sites for planting any of the above-named.

United Horticultural Benefit and Provident Society.—The monthly meeting of the above was held at the Caledonian Hotel, Adelphi, on Monday evening last, the Chair being taken at 8 o'clock by Mr. George Kelf, when the usual business of the society was transacted. Five new members were elected, three others nominated, and S. M. Segar, Esq., became a honorary member.

Gardening and Forestry Exhibition at Earl's Court.—What will, doubtless, prove an interesting, educational object lesson to the visitors to this exhibition is in preparation for the Exhibition Syndicate by Messrs. J. Cheal & Sons, nurserymen, Crawley, Sussex. This consists of various forms of and planting of fruit trees. They will show an orchard, market plantations, and kitchen gardens and walls, exemplifying in these the different methods of planting, pruning, and training of fruit trees, and the fine examples the trees used are, bristling with fruit-buds. Of the various forms of training to be exhibited, may be mentioned the horizontal, oblique, and the arch-forming cordons (which latter style of fruit-growing Messrs. Cheal have done much to successfully develop), also the bush, pyramidal, and diamond-trained trees, dwarf and espalier standards, &c., all good examples of their kind. Then, again, very worthy of notice will be found various forms of training and planting Currants and Gooseberries.

Tillandsia xiphioides var. arequita.—A beautiful Bromeliad discovered by M. Ed. André in the province of Minas, Uruguay, on rocks. The leaves are lanceolate, silvery-grey in colour, and from the centre of the tuft uprises the flower-spike with numerous boat-shaped bracts, from the axil of which proceed snow-white flowers. It is a very beautiful form, which will be distributed by M. Sallier, of Neuilly, Seine. *Revue Horticole*, April, t. 156.

Torquay District Gardeners' Association.—The first annual meeting of the above society was held on March 28. The secretary reported a membership of 120, many fresh names being promised for next session. There is a balance in hand of over £10. Several additional features are contemplated, amongst them the formation of a library, prizes for essays, &c. The summer outing will probably be to Taunton Flower Show on August 10. W. Lavers, Esq., is president, and Mr. F. C. Smale, hon. sec.

Stock-taking: March.—Holidays as a rule, have a knack of altering totals and interfering with dates of publication. Thus, but for Good Friday, the Trade Returns for the month of March would have been published on the 7th instead of on the 8th of April; the decrease in imports considerably reduced, and the exports for the month balanced those for 1892. Of the items constituting the summary table of imports for the month, six show an increase, and six a decrease, the latter preponderating, as in part shown by the following extracts:—

Imports.	1892.	1893.	Difference.
	£.	£.	£.
Total value for month	£36,793,194	£34,089,413	—2,703,781
§II.—(A.) Articles of food and drink—duty free	12,025,337	11,674,465	—350,902
(B.) — do., dutiable	2,319,861	2,242,860	—77,001
§VI.—Raw materials for textile manufactures (including Flax, Hemp, and Jute)...	8,015,017	5,876,166	—2,138,851
§VII.—Raw materials for sundry industries and manufactures (including wood and timber, hewn, sawn, split, dressed; vegetable materials, for paper-making, &c.)	2,692,545	2,450,455	—242,090
§IX. — Miscellaneous articles (including Clover, Grass, Flax, Rape, Linseed) ...	1,301,134	1,487,710	+186,576
(B.)—Parcel Post ...	34,186	44,600	+10,414

The enormous importation of Wheat and Potatos is suggesting to some the fatting of pigs on the former, and the employment of the latter (boiled) in obtaining milk and butter of a good quality at a remunerative outlay. Doubtless, exhaustive experiments will determine the value of both articles of food. Here a note may be made that the imports for the past quarter of the year are valued at £96,944,949 against £110,136,369 for the same period in 1892, or a decrease of £13,191,402; this shows the improvement which has taken place in the third month of the quarter. The figures in the accompanying excerpt from the general mass in the Return possess much interest for all. As the season advances equal interest will certainly be found in the quantity of fruit and vegetables supplied by the colonies and foreign countries. The items for March are as follows:—

Imports.	1892.	1893.	Difference.
Fruits, raw:—			
Apples ... ... bush.	351,814	332,724	—19,090
Cherries ... ... ,,	...	...	...
Plums ... ... ,,	...	...	...
Pears ... ... ,,	1,754	1,100	—654
Grapes ... ... ,,	777	2,134	+1,357
Unenumerated, ,,	19,528	34,970	+15,442
Onions ... ... ,,	254,058	223,504	—30,554
Potatos ... ... cwt.	76,076	216,153	+140,077
Vegetables, unenumerated, raw, ... value	£61,082	£84,578	+£23,496

Open-air Advertising. — A correspondent writes:—"In these days of novelties in advertising, something of a startling character may be worth a fortune. Sky-signs are properly doomed, so instead of looking aloft to acquaint ourselves as to the merits of rival soap-makers, we are still content to take a lower level. To make an advertisement successful, it must, of course, be more or less of a permanent character, hence the utilisation of our roadside hedges, and the adaptation of hoar-frost has, perhaps, never suggested themselves to those whose wits for novelty in this line must often be sorely taxed. It is not that we wish to see our rural lanes or respectable suburban roads defaced by the advertising demon; indeed, if we thought it were possible for it to be taken up as a real system of advertising, we should not make known what we saw during the past winter on a well-clipped Holly hedge not a hundred miles from Kew Gardens. At the time we refer to, a hoar frost had prevailed for a day or two, so that the entire hedge was beautifully coated with a delicate setting of frosted silver, upon which some one had written very carefully, and in well-formed letters, extending the whole length of the hedge, the

title of a recently-published work, of which a resident in the neighbourhood was the author. Fortunately this kind of advertising is of a very evanescent character, the first rays of sunshine obliterating the whole; but yet the idea was novel, and illustrated how the most beautiful productions of Nature can be twisted to trade purposes.

Sunshine and Drought in March.—For the last five weeks the daily amount of bright sunshine over the greater part of our midland and eastern counties varied from seven and a half to seven and three-quarter hours, the proportion of its possible amount being in nearly all cases over 60 per cent. At the south-coast stations, the mean daily amount was about an hour greater than in the inland districts, the percentage for the five weeks being over 70, and in some places as high as 72 to 73. The rainfall for the same long period has been extremely small, the aggregate amount measured over the eastern, central, and southern parts of England being, in most instances, less than one-tenth of an inch, and in some few places less than half-a-tenth. In the western and northern parts of the Midlands, a few slight showers were experienced at the commencement of the present month, but with this exception, no rain has fallen over our eastern, midland, or southern counties since the middle of March. Unless a change in the weather sets in very shortly, it is quite certain that the present drought will rank as one of the most remarkable on record.

The Rose Show at the People's Palace.—Preparations are being made for a great Rose and flower show at the People's Palace on July 13, 14, and 15 next. It is intended to include Hackney in the scheme, and a committee is being formed to carry out the project, prominent workers on this body being the Marquis of Lorne and Sir Charles Fremantle. A novel attraction will be a representation of a battle of flowers, which is being arranged by Mr. Harold Bolton, Mr. Ernest Flowers, and other well-known West End gentlemen. The schedules and prize-list may be obtained on application to Mr. C. E. Osborne, the Secretary of the Palace.

Coals to Newcastle.—It does seem odd that we should very largely export American plants to America. The matter has for us some horticultural as well as some trade interest, for whilst it is gratifying to our professional pride to find that we can grow Rhododendrons so admirably here, as to evoke not only the admiration but also the custom of our transatlantic brethren. It is also interesting to learn that home trade is receiving impetus from remote countries, of which those narrow-minded souls who are always worrying over our immense food importations have little knowledge. A very interesting incident is told relating to the despatch of a somewhat extensive consignment of Rhododendrons to America by the well-known Hampshire nurseryman, Mr. W. H. Rogers of Southampton. Hitherto, it has been found needful to send all similar plant consignments to New York *viâ* Liverpool, and at great cost. They had to be despatched some three or four days before the sailing of the steamer from that port. But the transfer of some of the former Inman Line fleet to the American flag, and to Southampton as their British port of call, literally brought the means of transit to Mr. Rogers' own door. So that when, very recently, he had to despatch a consignment of 5000 Rhododendrons to Flushing, New York, it was quite easy work for the entire stock to

Fig. 67.—Oreopanax sanderianum. (see p. 442.)

be lifted one day, put on board by the nurseryman's own men and vans the next, for Mr. Rogers is but 3 miles from the dock side, and within a week the plants are delivered to the purchaser in the finest possible condition. This is a fact that has some concern for the London nursery trade as well, for Southampton is but two hours distant. Wagons run by the vessel's side direct, and the transit from nursery to ship may be effected in a remarkably short space of time. One very important element in the Southampton traffic is, that steamers of the heaviest burthen may leave the port at any hour. That, horticulturally, such trade facilities as are thus indicated are of the highest importance, there can be no doubt, indeed they serve to show that behind them may be great possibilities.

Prolific Apricot.—Mr. Tuff, of Lewes, sends us a photograph of an Apricot tree, 20 feet by 15 feet, growing on a south wall. The tree is shown as full of flower. Last year half a bushel of green fruits were picked for thinning, and more than 600 fruits were allowed to ripen. It looks as if the crop would be equally heavy this year.

Dundee Horticultural Association.—The monthly meeting of this society was held on Friday evening in the rooms of the Y.M.C.A., the Chair being occupied by Mr. Wilkie, the President. In the absence of Mr. M'Hattie, Newbattle Abbey, who intended giving a paper on "The Cultivation of the Chrysanthemum," the Hon. President, Mr. Alexander Hutton, gave an account of the flora of Ceylon, and the physical characteristics of that island. In concluding, Mr. Hutton gave an account of the botanic gardens of Ceylon. Among the exhibits were a large and beautiful collection of named Narcissi, sent by Mr. James Wood, Priorwood, Melrose; also a finely-flowered specimen of Chrysanthemum W. G. Drover, grown by Mr. Kennedy, Arddarroch.

M. Daveau.—This gentleman, who till lately was the Inspector of the Botanic Garden at Lisbon, has been appointed head gardener at the Botanic Garden, Montpellier. M. Cayeux has been nominated as his successor at Lisbon.

Fruit from Australia.—A consignment of fruit from Victoria was, says the *Daily News* of April 12, opened yesterday morning in the Potato Market, Covent Garden, and was found to consist of Plums, Grapes, Pears, Tomatos, and Apples. The Apples, magnificent in size, form, and colour, had travelled splendidly, and found a ready sale at a good price. The softer fruits had not fared so well, many of the Pears having lost their firmness, while few of the Plums had retained their freshness. Some of the Grapes, both Sultana and little Currant Grapes, were fresh with the bloom on them, but some of the contents of the boxes were quite soft and discoloured. It was pointed out by experts present that great care is needed in choosing the kinds of fruit for transport in the first instance, certain sorts travelling extremely well, while others will not stand any knocking about. Among the Pears sent were some Williams', which are notably transitory. Summer Pears do not keep as a rule, and those which were sent by the Department of Agriculture, Melbourne, though splendid fruit and of great size, were of course gathered in the height of the Antipodean summer. Even in these disadvantageous circumstances, however, many of them were in good condition, and, on the whole, the experiment is by no means unhopeful. The Tomatos were pronounced to be first-rate in quality by a well-known authority in Covent Garden market, and of these about a third were sound and fresh. Experience in selection is needed, and also in packing the fruit. The Apples showed an exquisite bloom, almost like that on an Apricot, and the flavour and odour were excellent. These were packed in cylinders of corrugated brown paper, and were none the worse for the long voyage. The fruit left Melbourne on February 25, having been placed in the cooling chambers of the ss, *Britannia* on the previous day. It was, therefore, six weeks on the way. It is hoped eventually to open up a market with London equal to that of Tasmania, which has done a fine trade in Apples with the mother country during the last two or three years.

Proposed Narcissus Show at Birmingham.—An exhibition of Narcissi will take place at the Edgbaston Botanical Gardens, Birmingham, on April 26 and 27, and as liberal prizes are offered for the various sections, a good display is hoped for. Blooms of new varieties are particularly invited, and experts in Narcissus culture and knowledge are engaged as judges.

Richardia æthiopica.—Mr. Sheppard, of the Toddington Orchard Company, sends us a double-spathed Arum, which is sufficiently common, but in Mr. Sheppard's specimen there is also a supplementary spadix springing from the axil of the lower spathe. The original flower-stalk, as well as bearing a spathe and spadix as usual, has produced a secondary one at a lower level. If this peculiarity could be perpetuated, we should have a succession of bloom from the same stalk.

Publications Received.—*Nova Scotia Provincial Government Crop Report*, December, 1892.—*Practical Gardening*, a series of essays read at the Devon and Exeter Gardeners' Mutual Improvement Association.—*The Nine Circles.*—*The Wild Rabbit* (W. Blackwood & Sons).—*Onions for Profit*, by T. Greiner.—*Celery for Profit*, by T. Greiner.—*Manures: How to Make and How to Use them* (W. Allee Burpee & Co., Philadelphia).—*An Essay on the Pleasures of a Garden*, by Joseph Addison, Esq. (Hatchards, 187, Piccadilly).—*Weather Predictions*, No. 2, by Hugh Clements.—*The Genus Masdevallia*, Part IV., issued by the Marquis of Lothian; plates and descriptions by Miss Florence H. Woolward.

Home Correspondence.

Strawberry, John Ruskin.—My experience of the above is much the same as that of your correspondent, "R C.," a miserable failure. I grew 100 plants side by side with La Grosse Sucrée and Keen's Seedling in two batches. The last two named varieties did well, and I commenced to pick good fruit on February 21; but altogether I did not gather a dozen fruits from John Ruskin, although the plants were strong, flowered freely, and looked in every way promising; moreover, care was taken to fertilise the blooms, but all to no purpose, and I have consigned the whole lot of J. Ruskin to the rubbish heap. Before reading "R. C.'s" note, I was under the impression that I could not have grown the true variety. I shall be anxious to learn how the variety has behaved with others who may have given it a trial. *Edwin Beckett, Elstree.*

—— I fully concur with what "R. C." said at p. 422 about John Ruskin as an early forcing Strawberry. Its constant susceptibility to attacks of mildew will prevent my using it again for forcing. Fortunately, this serious fault of the variety was noticed in the autumn, and I was on the look-out for its re-appearance when the plants were forced. Mildew soon showed itself, and the plants were forthwith isolated and placed on shelves in a small forcing-house apart, otherwise the mould would have been spread amongst a large healthy stock of La Grosse Sucrée, Noble, and President. The fruits of John Ruskin were poor, small, flabby, and insipid, and nearly white with the mildew, in spite of the usual remedies for mildew as far as circumstances would allow being applied. On the other hand, La Grosse Sucrée again proved itself to be the best early forcing Strawberry extant, possessing every good quality found in early forced Strawberries. I do not happen to know the parentage of John Ruskin, but should imagine it to have descended from our old but mildewy friend, Black Prince. I shall in future grow John Ruskin and Noble for furnishing early fruit out-of-doors. If the earliest-formed runners of the last two are well grown, and planted in a good position, nearly a fortnight will be gained over old plants of the same kinds in the open quarter. Indoors it is no earlier than La Grosse Sucrée and Vicomtesse H. de Thury. I never can get it on stalks long enough to be out of the way of manure water. *W. Crump, Madresfield.*

[Our correspondents, Mr. T. Denny, gardener, Down House, Blandford, and Mr. J. Fry, gardener, at Haydon Hall, Eastcote, speak in almost identical terms of condemnation of the variety as a forcing Strawberry, and of praise of La Grosse Sucrée, Vicomtesse H. du Thury, and Auguste Nicaise, as excellent early-forcing varieties. Ed.]

—— This variety is doing well with us. About fifty runners were put into 4½-inch pots late last summer, and being weak, were forced in them, they have given a good crop of fruit which is now ripe. The plants were started the first week in January, and have been brought on gradually. Outside, John Ruskin is equally promising, and almost every plant is showing a strong truss of bloom, although it was somewhat late when they were planted, and the plants weak. So well does this variety augur for forcing, and so prolific is it in small pots, that I will try no others for early work. "R. C." is quite correct in stating that it is subject to mildew, ours were getting bad, but three syringings with Stott's Killmright quickly annihilated it. *W. J. S., Sedgwick, Westmoreland.*

Lapagerias.—In the list of stove and greenhouse climbers given by Mr. Latham, curator of the Edgbaston Botanical Gardens, on the occasion of a paper read by him at a recent meeting of the Birmingham Gardeners' Association, he referred to the first plant of Lapageria alba which was received at the Jardin des Plantes, Paris, in the year 1843. It had been dug up in Japan [?] with a square solid hard block of clayey soil, really like a block of stone, and nearly as hard, 4 feet square and 4 feet deep, and was sent to Paris by the missionaries from Chili or Patagonia. It was planted in this state, but made very little growth, the roots having been cut away in getting it up, and remained so until 1857, when Mr. Latham was an employé in the Jardin des Plantes, the roots having been in the same condition fourteen years. It grew from the old growths only, which were very weak, never throwing up any root shoots, and the plant ultimately died. This state of the plant evidently lead Mr. Latham to study the Lapageria, for its cultivation by him at the Birmingham Botanical Gardens is productive of luxuriant growth, there being fine examples of the white and red varieties in the Palm-house. Other specimens planted out in the large glass hall in narrow borders, 15 inches wide, and 18 inches deep, in loam, peat, and sand, and trained up to the roof, now cover a very large space, and flower profusely, and are fed liberally during the growing season, but the Lapageria is impatient of water until the pots or tubs are filled with roots; and good drainage is essential. *W. D.*

Potatos.—Yet another book on the Potato. What with all that has been written in books and in the horticultural press, the Potato has been pretty well pumped-out, in a literary sense, though happily it is wonderfully lively and in evidence physically, and for all that, I think we have very little to thank the books. These lucubrations have very largely dealt with what was at one time a very attractive subject the exhibition of Potatos, and if less so now, it still has many admirers. The whole subject of culture in every possible aspect has been flogged out over and over again, and little if anything that is new remains to be said. Even the very attractive work of raising new varieties, now hardly elicits enthusiasm, for the simple reason that for several years we have had in ordinary cultivation scores of splendid varieties that it will be most difficult to excel, and will be as good twenty years hence as to-day, if the stocks be carefully and intelligently cared for. The new book tells us that varieties of Potatos soon wear out. That is an excellent booming phrase, when new ones have to be sold. We have not yet exhausted the Ashleaf Kidney, or the Lapstone where it is grown, and but for the disease, the Regent and Victoria would be as good to-day as ever. The Schoolmaster shows no signs of giving out, and many others of the older kinds are as good, especially where they find suitable soils. It is not because Potatos have inherent weaknesses that they have, in so many cases, passed out of cultivation. Their disappearance has been chiefly due to the action of the disease, which attacks weak and strong varieties alike, denuding them of leaves and stalks mercilessly, but halts at the tubers of certain sorts, and the exigencies of the case have compelled us to forego growing the soft-flesh varie-

ties for the sake of the disease-resisting powers of the others. But for the disease, we might have had popular varieties of fifty years ago still in common cultivation. However, the raising of new varieties still proceeds, and if no one grows rich over it, no one is the poorer. *A. D.*

PETROLEUM AND INSECTS.—During two or three weeks, recently, I have followed your correspondents' remarks in regard to using petroleum as an insecticide, and as an amateur florist I have experimented with the mixture so often mentioned—a wineglass of parafin and two of soft-soap to 1 gallon of water, mixed thoroughly with a syringe, say, for each draw sprayed on the plant, the alternate one sent back into the can; by this means the mixture has been thoroughly incorporated, and in most cases I have found it harmless to the tenderest plants, whilst in other instances it has killed everything it has come in contact with. So the conclusion I have arrived at, after experimenting, as I said previously, for about thirty years is, that petroleum-oil for burning may differ but little in each purchase, but for horticultural purposes it varies so much, that sooner or later it means disaster to anything it is used upon that is in the least tender. I quite agree with your correspondent that, even Vines, in a dormant state, cannot recover vitality beyond the point where it had come in contact with them. If it could be relied upon that each fresh supply be the same, it would prove to be one of the cheapest mixtures that can be used; but, finding it not to be trustworthy, in case of death to valuable specimens, I think it will prove to be penny wise and pound foolish. With a little digression, I say to amateurs and gardeners, fertilisers are equally disastrous to plant-life; used judiciously, nothing can be better; used in excess of the natural food of the plant, they are foes instead of friends. I speak principally of sulphate of ammonia, nitrate of soda, and nitrate of potash; on the other hand, say, superphosphates and sulphate of lime, even for all crops, used in excess, do no harm—it is simply a waste of money using them beyond the requirements of the soil. By a judicious use of these compounds, crops can be increased more than one hundredfold, and injudicious use means exactly the same, both in insecticides and fertilisers, as when a physician tells you to take three times a day a tea-spoonful of medicine, which will put you right, and you go on the principle that, if that quantity will put you right in a week, a wine-glassful will do the same in a couple of days. The result, both with the plants and yourself, may be equally disastrous. *S. H. Trott.*

TREES IN TOWNS.—When recently at Shepherd's Bush, my attention was drawn, in a genteel street, some 30 feet wide between the kerbs, to a large number of Sycamore trees, planted about 16 feet apart on either side. These had been planted some twenty years, and when I saw them had undergone the customary winter lopping, for that seems to be an absolute necessity. Were not the trees thus hard lopped, they would soon render residence in the street intolerable. Yet the houses have fairly deep forecourts, in which other trees had been planted, so that the putting of these Sycamore trees in the street was a superfluity, necessitating on the part of the residents much endurance of most unsightly objects, for uglier things than these heads presented for five months of the year could hardly be conceived. Well, that is just what has to be endured in hundreds of the narrow streets of the metropolis, which never were intended for trees, or fitted to possess them, because so narrow. Young trees, so far as the heads are concerned, are unobjectionable, but the streets are invariably defiled by the ugly objects called guards, generally made of stout wood, and hideous beyond conception. But apart from these things, I had authority to state, as avouched for by a leading medical man, that these dense-headed trees, when in leafage, were productive of evil to the public health, because they become strongly impregnated with sewer gases and other obnoxious elements with which town atmospheres abound [! !]. This is a very serious charge to make against town trees, and merits the closest inquiry. I do not know whether it is an evil chargeable more to the Sycamore than to any other tree. No street should contain trees, except those 50 feet between the kerbs, and then in the form of a single row down the centre, with seats beneath, and 5-feet footpaths on either side, to make a pleasing promenade. *A. D.*

STREPTOCARPUS AND REHMANNIA HYBRID.—In looking over some of the back numbers of the *Gardeners' Chronicle*, I find an article relating to the possible production of a bi-generic hybrid between Streptocarpus and Gloxinia. I thought it of interest to mention the possibility of a Strepto-Rehmannia, the seedlings of which are just showing the second leaf—this is on some plants of quite a round shape, gradually lengthening. I crossed Streptocarpus Rexii with Rehmannia chinensis in August last, and we received good and well-developed pods, which appeared to be shorter than the ordinary ones of S. Rexii. In crossing Rehmannia with Streptocarpus, no seeds were obtained. Although Rehmannia is a member of the Scrophulariaceæ, it has great similarities to Gesneraceous plants, of which Nat. Ord., if I am not mistaken, it was once considered a member. We may entertain the hope of an addition to our rockeries. *E. B. B., Botanic Garden, Cambridge.*

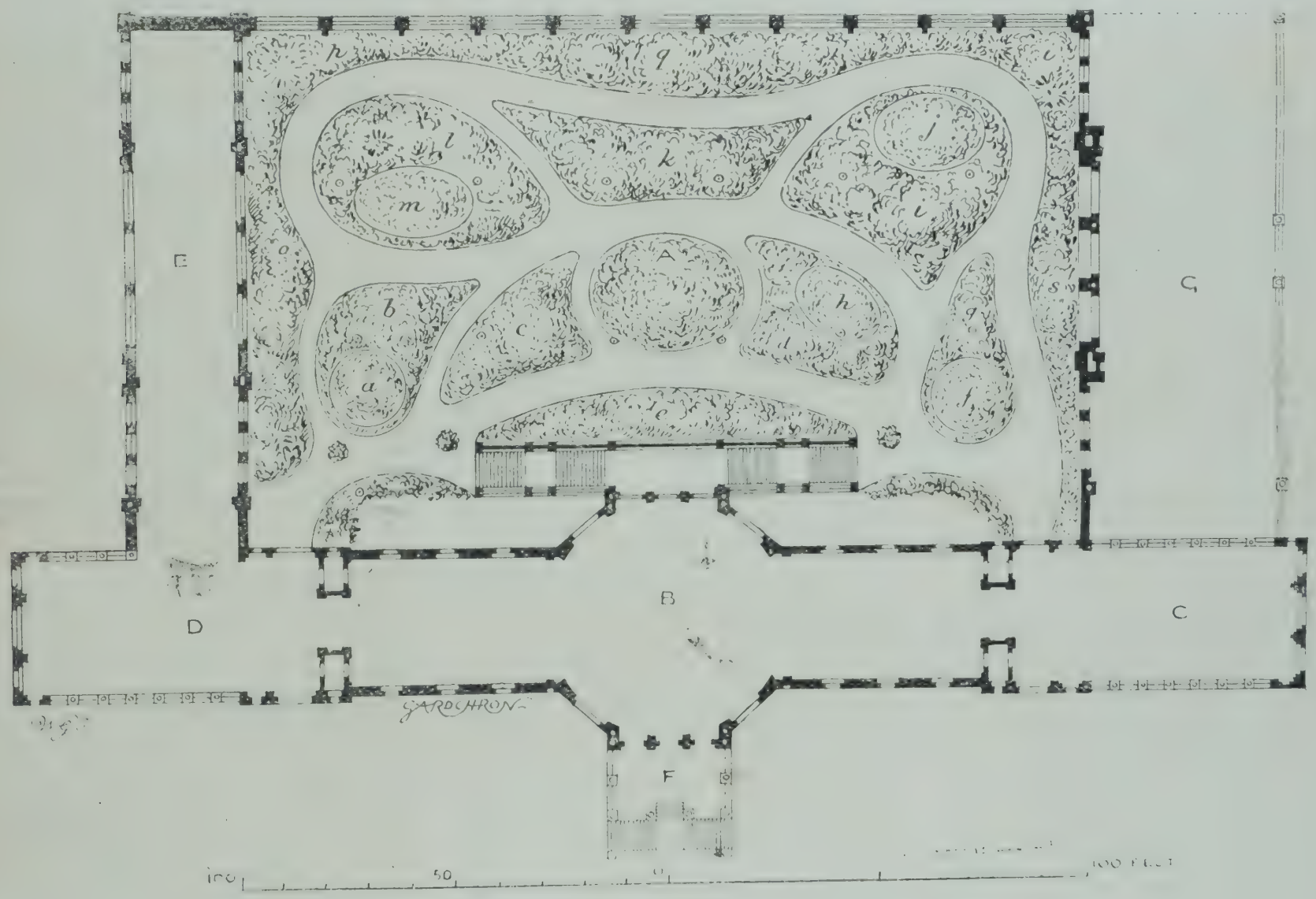


FIG. 68.—GHENT EXHIBITION: PLAN OF THE GREAT HALL, ETC. (SEE P. 442)

THE WEATHER LAST MONTH.—March has been a remarkable month in many ways from a meteorological view. The total rainfall here has only been 0·24 inch, which is 1·21 inches below the average. Rain was only recorded on seven days, and the last fourteen days of the month were quite dry. We had a small quantity of snow on the 16th and 17th. For seven consecutive days (19th to 25th) the sky was quite clear, and not a cloud was seen during the whole time. The highest shade temperature during the month was 67° on the 30th, lowest 20° on the 19th;

lowest on grass 13° on 19th and 29th; mean temperature of the month 45 19°. Frost was registered on 18 days, but owing to the great amount of sunshine and the dry weather very little damage has has been done by it, but it has to some extent subdued the excitability of vegetation which was caused by the abnormal amount of warmth and sunshine. Among hardy spring flowers, the blossoms of Anemone fulgens, Primula rosea, P. denticulata, P. polyanthus, and Ribes sanguineum have suffered severely. Narcissus, consisting of many varieties, have escaped unhurt on a south border. The prospects of fruit in this neighbourhood are abundant, and nothing is far enough advanced in the open to be injured by frost at present. Peaches and Apricots on south walls protected with double fish-nets have set well, but a few of the most prominent flowers have fallen off. The ground is now getting very dry and hard, and unfavourable for small plants and seeds. Herbaceous plants divided and replanted a month ago, have had to be watered to keep them alive. On the farms there is no growth observable in the grass, and the heavy soils cannot be sown before rain comes. *W. H. Divers, Ketton Hall Gardens, Stamford.*

DOUBLE-FLOWERING THORNS FOR CONSERVATORY DECORATION.—I believe it is an unusual thing to see the double-flowering Thorns used for the embellishment of the conservatory. Standards of 5 or 6 feet in height, with proportionate heads, are very suitable for placing in conservatories where the arrangements on the ground are after the winter-garden style. Stood amongst Palms and other ornamental plants as a background to groups, they greatly relieve the monotony. I saw them thus used with good effect in the middle of March last; they were then in full leaf and blossom, and had been forced in exactly the same way the previous year, and had remained in the same pots all last summer and winter, plunged in ashes to the rims. They seemed in no way to have deteriorated, for they were bearing an abundance of their double white, scarlet, and pink flowers, and the foliage as abundant and healthy as when in the open air. The plants were placed in the same conservatory about five weeks previous to my seeing them, and had been subject to a temperature ranging from 50° to 60°. I consider them valuable additions to the floral display at this early season of the year, even in the most favoured parts of the kingdom. The May blossom is not seen until five or six weeks later than March 20. *F. S.*

SCARLET RUNNERS PRESERVED.—During the season of French Beans, one is almost sure to have more than can be used, and yet there is nothing like keeping them gathered close to prolong their bearing. Last summer I got a quantity of common jars glazed inside, and during the summer and autumn kept gathering our surplus Beans, slicing the Beans into three. A layer of Beans was placed in the jar, and a layer of salt, and this was continued till the jar was filled. No water was added, as they make their own brine, and keep splendidly. They are most useful during the winter months, and are highly valued at the table when vegetables in variety are scarce. I ought to mention that they are better soaked in spring water for a few hours previously to cooking them, otherwise they may be too salt. *J. Rust, Eridge Castle.*

HYBRID NARCISSUS "SNOWDROP."—This fine flower, of which you gave an illustration in your last number (fig. 62), is the outcome of a cross between N. cernuus ♀ and N. triandrus ♂. It affords a noteworthy illustration of the added vigour sometimes obtained by cross-fertilisation. The hybrids between trumpet Daffodils and N. triandrus, such as the wild Portuguese forms, known as varieties of N. Johnstoni, and several artificially produced in my own garden, have hitherto been strictly intermediate in size between the two parents. But the flower shown at fig. 62 is as large as, if not larger than the finest examples of N. cernuus, and possesses great stoutness of substance. The uniform whiteness of both corona and perianth, and its drooping Fuchsia-like habit, give to this flower a very remarkable and attractive character. *G. H. Engleheart, Appleshaw, Andover.*

VENIDIUM CALENDULOIDES.—Although but very little grown, this is a summer-flowering plant of surprising beauty. If used for bedding purposes, it forms a delighful change from the conventional Calceolaria. We raise the plants of this from seed in the same manner as the Poppy. I find it more satisfactory to treat it as an annual, for the simple reason that a packet of seed takes up far less space all the winter than a batch of cuttings would. When I first started growing this Venidium, I made the mistake of sowing the seed in too rich soil, and many of the seedlings used to go off. Then I tried sowing in the refuse from the potting-bench, and planting in the poorest soil obtainable, and that proved the better way. The flowers are orange and lemon-coloured, with a black disc or centre. Seen in flower with the sun shining upon them, it is acknowledged by all to be a most glorious sight. *R. Weller.*

ROSE JAUNE DESPREZ.—What an apparent upraising from the dead past is reference to Jaune Desprez as made by "A. Y. E." Forty-three years ago it was classed as a Noisette, but Teas in those days had hardly become a distinct section, and Jaune might have been a progenitor of Gloire de Dijon, Madame Bérard, and other strong-growing buff-coloured forms. Jaune Desprez was in those days regarded as a strong grower, and worked as standards used to produce very wild heads, not flowering very profusely, whilst at that time with it our best Noisettes were Annie Vipert, Lamarque, &c.; our best Bourbons were Souvenir de la Malmaison, still the best; Coupe d'Hébé, Madame Desprez; and of H.P.'s, Jules Margottin, Géant des Batailles, and General Jacqueminot. We have gone ahead in Rose production since 1850. *A. D.*

SINGLE CHRYSANTHEMUMS.—I agree with "A. D.," p. 364, that single Chrysanthemums are not grown nearly so much as their merits deserve where flowers for decorative use in large quantities are required. But I think it is a mistake to spend time and space in cultivating seedlings for the purpose of obtaining flowers when such a number of varieties can be had which embrace all forms and colours needful to satisfy the most fastidious in either respect. From "A. D.'s" note, two years is required to test these seedlings; whereas if cuttings of selected kinds were employed, no doubt need be experienced as to the results when flowering the first year. Of course, the raising of seedlings by those who have a financial interest in them is another matter, but for the ordinary cultivator, who requires a lot of flowers, and has but little space at command, the advice to grow seedlings is not of the best. No section that I am acquainted with is so interesting as this, and certainly none that can please by its perfume like this. One or two plants of Mrs. Langtry, for instance, will scent a whole house when allowed to perfect all its blossoms. It is in this way that single Chrysanthemums are so interesting as compared with the plants grown to give a restricted number of larger blooms. *E. M.*

NEW APPLES.—It would be well if all who have, or think they have, new or distinct Apples not in commerce, would send samples of them to the Drill Hall for the judgment of the Fruit Committee, rather than merely write about them, and keep the samples in their fruit rooms. The most careful consideration is shown by the Committee to all such exhibits, and they are fairly tested and judged by a perfectly competent and impartial body. Cannot "East Somerset" send up some of his Royal Somerset also, as you advise Mr. Doe some of his Beauty of Stoke. I notice that, whilst one correspondent writes of this Apple as an early culinary variety, another refers to it as a reputed good keeper. It is in the latter section that we have most room for novelties, for of early culinary sorts we have legion, and new ones must be wonders to be improvements. *A. D.*

THE TRIMMING OF CONIFERS AND FLOWERING SHRUBS.—The following remarks were suggested by the writer recently observing a jobbing gardener ruthlessly cutting away quantities of flowering branches and shoots on some shrubs, &c., in a shrubbery. There is such a great number of kinds of flowering shrubs and Conifers, and their habits of growth, and the sorts of pruning they require are so varied, that a workman should possess considerable experience of a special character before being entrusted with this kind of work. As a general rule, only the knife should be used on Conifers and shrubs—never the shears, unless it be on a hedge, say of Sweetbriar, Pyrus japonica, Clematis flammula, Holly, Box, Yew, or Arbor-vitæ. The present season is suitable for performing the operation of pruning either with knife or shears, the young growth soon hiding the cuts, and relieving the stiffness caused by the pruning. Retinosporas, Cupressus, Thujas, &c., should always be trimmed with a knife, which should be used very sparingly, or the characteristics of most will be marred. We do not want specimen trees to grow into perfectly symmetrical as into pleasing forms. In pruning Conifers, small branches should be removed entirely, and rival leaders reduced to one, and if the few branches near the top are very strong, the tips of these should be cut off once only. Turning to the flowering shrubs, I have frequently seen the long and well-matured shoots of Weigelas shortened back to about a foot, under the impression perhaps that such strong wood was of little value, and gave the plant a lop-sided appearance, and robbed the weaker shoots of their share of sap. Weigelas, Deutzias, Prunus, Ribes, Guelders Roses and other, Viburnums, Cratægus, and Pyrus, bloom the finest on those shoots that grew away strongly the previous summer; and any pruning that may be necessary to keep the plants within bounds should aim at the removal, as much as possible, of old flowerless wood, and the weaker of the growths of the previous year. Flowering shrubs such as these are to be pruned like strong-growing Roses, which make good wood one season that flowers the next. To my mind, Conifers and flowering shrubs are never seen to better advantage than when placed on the outskirts of a lawn, and judiciously contrasted, Thorns, Weigelas, Laburnums, &c., having fine effects when so planted. But to get the best effects, the knife should be used sparingly and judiciously. *A. P.*

PAPAVER UMBROSUM.—This useful and beautiful Poppy, makes a charming bed in the flower garden. It does best for bedding out, if the seed is sown in small pots during the early part of March; any ordinary soil, if finely sifted, will suit them well. Place the pots in any warm house, such as a vinery, or Peach-house at work, until the seedlings appear, when they should be placed on a shelf as close to the glass as possible. Thinning will be necessary as the seedlings can be handled; it is advisable to do this several times, in preference to one hard thinning, until eventually there is but one strong plant in each pot. When thoroughly established after thinning, gradually inure the plants to more air, and finally plant them out in the first week in May. Slugs have a peculiar fancy for this Poppy, and close watch must be kept over them in the early stages of growth. If the seed vessels are cut off every few days, there is no difficulty in getting it to flower until frosts set in. *R. Weller.*

SOCIETIES.

ROYAL HORTICULTURAL.

April 11.—The hall was again full of plants and flowers in season. There was a good array of Daffodils, and during the day it was noticeable that an unusual number of lovers of these flowers were included amongst the members present. Although the attendance was good, the extraordinary change in the weather that brought about one of the coldest of east winds, was responsible for the absence of many who would otherwise have been present.

Floral Committee.

Present: W. Marshall, in the chair; and Messrs. H. B. May, H. Herbst, R. Dean, C. T. Bause, J. Jennings, R. B. Lowe, W. C. Leach, C. Jeffries, W. Bain, G. Gordon, C. E. Shea, H. H. D'Ombrain, J. D. Pawle, C. Noble, C. E. Pearson, T. Baines, J. Fraser, H. Turner, Ed. Mawley, and G. Paul.

Miscellaneous groups were numerous and good. A very pretty collection of New Holland and other plants was staged by Messrs. Hugh Low & Co., Clapton, and Bush Hill Park Nursery, Enfield, and included a batch of Genista Andreana, Erica in variety, Boronia, Eriostemon, Azaleas, &c. (Silver-gilt Medal).

Messrs. William Cutbush & Son, Highgate, London, N., had an equally interesting group. They showed first-class plants of Erica Spenceriana, E. Cavendishii; also Leschenaultia biloba major, a group of Calla Little Gem, some Doronicum caucasicum in pots, some Tree Pæonies, and a plant or two of Clianthus magnifica (Silver Flora Medal).

A group of a different kind was shown by Messrs. Jno. Laing & Sons, Forest Hill, S.E. There were some good Cliveias here, Azaleas, Tree Pæonies, Dracænas, Cymbidiums, Lilacs, &c. (Silver-gilt Medal).

Messrs. B. S. Williams & Son's group included some of the Amaryllis noticed in these pages last week; also some equally good Cliveias, Anthurium Siberzerianum semi-plena, A. Dickii ×, A. Devansayanum, &c. (Silver Flora Medal).

Messrs. Jas. Veitch & Sons had sprays of flowering shrubs from their establishment at Combe Wood. There were Cydonia japonica, C. Maulei, C. j. alba, C. j. atro-purpurea, and C. j. rosea; also Andromeda speciosa cassinifolia, Cerasus Watererii, Olearia Gunni, &c. (Silver Banksian Medal).

Messrs. H. Lane & Son, The Nurseries, Berkhamstead, staged a number of Polyantha Roses in the different colours; also several plants of a Ghent Azalea, named Anthony Koster. The plants were literally hid by large trusses of handsome blooms of yellow, shaded with orange. This was awarded a First-class Certificate, and the group a Silver Banksian Medal.

Messrs. Paul & Son, Cheshunt, had a group of standard Genistas, Alpines, &c. A fine Canna Progressive included in the group, obtained an Award of Merit; its petals are wide, the ground colour is of primrose, beautifully mottled with scarlet; another one, called Primrose, describes its own colour (Silver Floral Medal).

A collection of alpines, tastefully arranged in three large baskets, was from the Guildford Hardy Plant Nursery, Millmead, Guildford. There were Primula rosea var. grandiflora, P. ciliata var. purpurea, P. elatior cœrulea, Ranunculus amplexicaulis, Polygala chamæbuxus purpurea, Gentianas acaulis and excisa, and many others (Silver Flora Medal).

Mr. Frank Cant of Colchester obtained a Silver Flora Medal for one of the finest collections of cut Roses we remember seeing at this early date. There were perhaps fifty varieties, the most noticeable of which were Baroness Rothschild, Pride of Waltham, Crown Prince, Duke of Edinburgh, Suzanne-Marie Rodocanachi, Vicountess Folkestone, Her Majesty, Mrs. John Laing, &c.

A group of pot-Roses, some Ghent Azaleas, Spiræas, &c., from J. C. Taker, Esq., Middleton Hall, Brentwood, Essex (gr., J. Perry), was awarded a Silver Flora Medal.

Mr. Geo. May, market grower, of Upper Teddington, brought a group of Clove Carnation, Uriah Pike, a fine free-blooming dark crimson variety. A Silver Banksian Medal was awarded, and also an Award of Merit for the variety.

Messrs. E. D. Shuttleworth & Co., Limited, Peckham Rye, London, S.E., showed a good group of Cycads, most of them in 7-inch and 8-inch pots (Bronze Banksian Medal).

Sarracenia Mandaiana=S. flava rubra× S. Drummondi was shown by Messrs. Pitcher & Manda and was awarded a First-class Certificate.

A large collection of cut bunches of Wallflowers, in the different colours, came from Messrs. H. Cannell & Sons, Swanley (Vote of Thanks); also a basket of nice blooms of the Harbinger Primrose.

Mr. E. Morse, The Nurseries, Epsom, had a group of Lily of the Valley in pots, described as Forten's variety. The foliage, perhaps from cultivation, was larger and more developed than usually seen, but the blooms had nothing particular to recommend them.

A miscellaneous group from Messrs. John Peed & Sons, Roupell Park Nurseries, Norwood, consisted of Dracænas, Ericas, Anthuriums, Palms, &c. (Bronze Banksian Medal).

Seedling forms of Malmaison Carnation were from R. Smith, Esq., Hayes Common, Beckenham (gr., C. Blick). One called Princess May, of dark yet soft scarlet, rather loose thin flowers, which, however, will possibly improve, gained an Award of Merit. Another one, a pink variety, was called Sir Evelyn Wood.

A First-class Certificate was awarded to Bougainvillea spectabilis, exhibited by Captain Oldfield, South Warnborough Lodge, Winchfield, Hants (gr., G. Southcott). This species is a very much better colour than the well-known B. glabra, but has been generally found far less free in blooming.

Mr. A. Waterer, Knap Hill Nursery, gained an Award of Merit for Pyrus japonica var. cardinalis. This is a magnificent variety; the blossoms are extra large, and of a deep, striking scarlet.

J. T. Bennett Poe, Esq., 29, Ashley Place, S.W., showed a bloom of Richardia aurata Deleuil, obtained from a cross between R. albo-maculata and R. hastata; the leaf is as large as that of the ordinary æthiopica, and has white spots; the bloom, also, which is of a good size, is of pale primrose, with dark blotch at base. Some varietal blooms of Gentiana acaulis were sent by G. F. Wilson, Esq., Weybridge. A good grey-edged Auricula, named Marmion, was from Mr. J. Douglas, Great Gearies, Ilford (Vote of Thanks).

Messrs. Hugh Low & Co., Clapton, staged a hybrid Eucharis, which they call E. Lowii. It is about midway between E. grandiflora and E. Sanderiana, and is supposed to be the result of a natural cross between those two species. It was imported amongst some bulbs of E. Sanderiana (Award of Merit). Mr. W. C. Leach, gr. to the Duke of Northumberland, Albury Park, Guildford, had sprays of Salvia Gesneriflora and Philadelphus coronarius grandiflorus, to exhibit its superiority over the type.

Narcissi, &c.—This meeting was the Narcissus feast of the year, and we are not likely to see these beautiful flowers in finer condition this season.

Very fine in size, and pure in their tints, were those shown by Messrs. Shuttleworth & Co., Peckham Rye and Fleet, Hants, whose collection, if not a large one, contained a number of choice varieties. The more noticeable were N. Burbidgei, white perianth and orange crown; N. poeticus poetarum, N. incomparabilis Cynosure, with long perianth segments of light yellow colour, and a corona of a deeper shade, and three-quarters of an inch deep; L. i. Sulphureus flore-pleno, a nice flower, of delicate shades; N. Johnstoni, Queen of Spain, pretty; N. bicolor, N. b. Horsfieldi, N. cernuus, &c. The other constituents of the group consisted of Primula acaulis, P. polyanthus, Heuchera sanguinea, Ranunculus amplexicaulis, Onosma albo-rosea, a plant with soft-felted foliage 1½ inch long, and terminal panicles of whitish tubular blossoms (Bronze Banksian Medal).

A large refined collection of Narcissus was shown by Messrs. P. Barr & Sons, King Street, Covent Garden, in which were to be found the best old and new varieties. We have space to mention only some of the more pleasing novelties, viz., Mrs. Thomson, cream-white and yellow, single-flowered; N. Leedsi Madge Mathews, perianth and corona of a pale yellow tint, a small flower, but pretty; N. Burbidgei Princess Louise, N. W. P. Milner, a pale yellow, with the form of N. obvallaris, but rather smaller than that one; N. Leedsi Madame De Graaf; N. incomparabilis Lady Jane; N. i. Gloria Mundi, a bright thing, with deep orange crown, light yellow-coloured perianth-segments; N. Snowflake, white, with a lengthy, narrow corona; N. Nelsoni auruntius, N. W. Goldring, creamy-white and primrose-yellow; N. Dorrien Smith, N. Queen Sophia, with primrose-tinted perianth, and much-spreading, shallow, orange-coloured crown. For the Narcissus a Silver Banksian Medal was awarded; and for a nice collection of species of Tulips, Muscari, Milla, Triteleia, a dozen plants of the showy, rosy-purple-flowered Cheiranthus mutabilis, &c., a Bronze Banksian Medal.

Mr. T. Ware, Hale Farm, Tottenham, exhibited a good and imposing collection of Narcissus, shown in an excellent and profuse manner. There were many duplicate varieties, and of novelties there were the following:—N. incomparabilis Figaro, light and deep shades of yellow, bold and showy; N. montanus, white, with spreading perianth segments, corona half an inch wide and deep; N. Humei bicolor, N. H. concolor, differing from the previous variety in the greater depth of its tints; N. Leedsi Gem, N. Catherine Spurrel, N. Glory of Leyden, N. Barri Orphée. Besides these were flowers of Muscari, the lovely Iris Sari and I. Helenæ, &c. (Silver-gilt Banksian Medal).

Messrs. J. Veitch & Sons showed a considerable number of cross-bred Narcissus, whose origin in all cases was given on the accompanying tickets. These showed great departures in most instances from anything before existent, and when they are grown to their fullest size, as probably was not the case with these, some desirable additions to the species

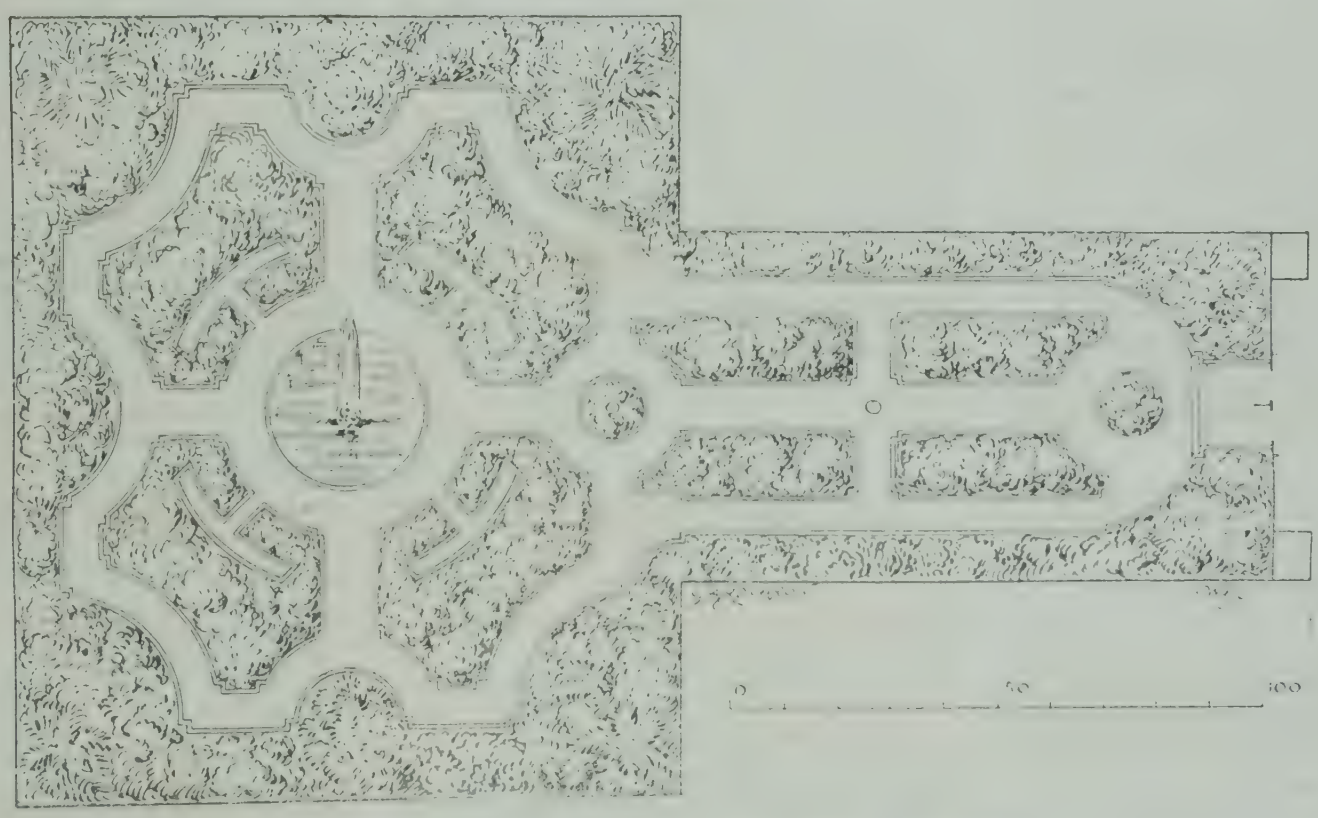


Fig. 69.—Ghent Exhibition: plan of the annexe. (see p. 442.)

will be selected. N. Golden Spur × N. Burbidgei, N. General Gordon × N. Burbidgei, N. H. Irving × N. Stella, N. Golden Spur × N. Stella, N. Apollo × N. obvallaris, N. Apollo × N. Sir Watkin, N. Gen. Gordon × N. cernuus, N. C.Dickens × N. pallidus præcox, N. gloriosa × N. poeticus, &c. Some bunches of very fine blooms of N. telamonius plenus were likewise shown.

Competitive Classes.

Nine varieties of Daffodils, distinct, grown in the open, five blooms of each, amateurs, 1st, Rev. Eugène Bourne, Dunston Vicarage, Lincolnshire; 2nd, A. Kingsmill, Esq., Bushey Heath. There were several more exhibits in this class.

Six varieties of Daffodils, conditions as above, 1st, Rev. G. P. Haydon, Hatfield Vicarage, Doncaster; 2nd, J. W. Melles, Sewardstone Lodge, Chingford.

Collection of Daffodils, 1st, Rev. S. Eugène Bourne, with an extensive collection of small bunches of the best varieties, and well-developed flowers; 2nd, A. Kingsmill, Esq., with few varieties, but larger flowers; 3rd, Rev. G. P. Haydon; 4th, J. W. Melles, Esq.

Seedling Daffodils came from Rev. G. H. Engleheart, Appleshaw, Andover, who sent N. Ajax × N. poeticus poetarum, to show colour of the perianth, the segments of which are white, with a green tinge at the base, corona orange-coloured; N. Ajax × N. poeticus, a result near to N. Nelsoni; N. white Ajax × N. poeticus, the cross showing merely a shortened corona; N. Ajax × N. triandrus; N. Firefly, a white bloom with a nearly scarlet-edged orange corona, very strange looking; N. Aurora has a corona of very uncommon size, it being 1½ inches wide, and 2 inches keep, of pure yellow, and the perianth segments stiffly horizontal, and of a pale primrose.

Mr. J. W. Wilson, South Cave, East Yorkshire, showed a small good assortment of Daffodils, some of them being supposed to be natural seedlings.

The Rev. T. Longley, Conisholme Rectory, Grimsby, and Rev. N. J. Miller, Wanstead Rectory, Hull, showed seedlings and miscellaneous varieties of Daffodils.

Orchid Committee.

Present: Harry J. Veitch Esq., in the chair; and Messrs. J. O'Brien (Sec.), M. T. Masters, De B. Crawshay, S. Courtauld, Rev. E. Handley, E. Hill, H. Low, J. Douglas, R. Brooman-White, C. J. Lucas, J. T. Gabriel, H. Williams, H. Ballantine, and H. M. Pollett.

Messrs. B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, London, N., staged a very effective group of Orchids, in which were good examples of Cypripedium Morganiæ×, and many others.

Messrs. W. L. Lewis & Co., Chase Side, Southgate, N., arranged a neat group of Orchids, the varieties of Cattleya Mendeli being specially remarkable by their great variation. One of the prettiest was C. M. albens, with white flowers, the labellum tinted with pink. Odontoglossum polyxanthum was also very fine, and included in the group were good O. Hallii, and other species; Ada aurantiaca, Sophronitis grandiflora, and Cypripediums.

From Messrs. Hugh Low & Co., The Nurseries, Clapton, E., came a varied group of Orchids, in which the plants of Cypripedium niveum, C. bellatulum, C. tonsum, and other Cypripediums were prominent. Specially good, too, were a very richly-coloured Phalænopsis Luddemanniana, a large P. grandiflora, Dendrobium superbum, and other Dendrobes and Odontoglossums.

Messrs. F. Sander & Co., St. Albans, had a small group made up of four fine and dissimilar forms of the fragrant Cattleya labiata Schroderæ, one nearly pure white, the elegant new Odontoglossum Kranzlinii, the fine Dendrobium densiflorum var. Schroderi, Vanda teres, a curious dark spotted hybrid Odontoglossum named O. Selwoodensis, &c.

Messrs Jas. Veitch & Son, Royal Exotic Nursery, King's Road, Chelsea, showed Cypripedium Clymene× (caricinum ♀, caudatum Wallisii ♂), something like C. Dominyanum, but with a white ground to the flower; C. Melanthus× (Hookeræ ♀, Stonei ♂), a curious hybrid with the tints of C. vernixium, but with long deflected petals; Dendrobium Niobe× (tortile ♀, nobile ♂), with the growth of D. tortile, but flowers like a very fine D. nobile, but rather longer on the footstalk. Messrs. Veitch also exhibited their Cymbidium eburneo-Lowianum, to which a First-class Certificate had before been awarded.

The Right Hon. Joseph Chamberlain, M.P., Highbury, Moor Green, Birmingham (grower, Mr. H. A. Burberry), sent a very interesting exhibit in a three-flowered spike of Cattleya guatemalensis, which, although collected by Mr. Ure-Skinner growing on the same tree as Cattleya Skinnerii and Epidendrums aurantiacum (between which two it is supposed to be a natural hybrid), and sent to Messrs. Veitch over thirty years ago, was supposed to be lost to cultivation. The flowers were as large as those of C. Skinnerii, but with a less convolute lip; the colour orange, shaded with rose, and with purple lines at the base of the lip. Mr. Chamberlain also sent flowers of Cattleya labiata Schroderæ and Dendrobium Nestor ×.

Mr. G. Wythes, gr. to the Duke of Northumberland, Syon House, Brentford, showed three fine plants of Cyrtopodium punctatum splendens, very rich and bright in colour, and a plant of the old but pretty Miltonia flavescens, formerly known as Cyrtochilum stellatum, with nine flower-spikes.

De B. Crawshay, Esq., Rosefield, Sevenoaks (gr., Mr. S. Cooke), showed a very fine spotted hybrid Odontoglossum, in form approaching O. crispum, with a clear white ground, which latter was spotted with brownish-purple; and the rare O. tentaculatum, Rchb. f.

The Rev. E. Handley, Royal Crescent, Bath (gr., Mr. Kerslake), exhibited Cattleya Lawrenceana ornata, a richly-coloured form, in which the tips of the petals are purple, coloured like those of C. Trianæ Backhouseiana; and a spike of a good form of Odontoglossum Andersonianum.

Messrs. Charlesworth, Shuttleworth & Co., Heaton, Bradford, showed a light-coloured form of Cattleya Warscewiczii, from the C. rex country.

Messrs. J. & R. Pearson, Chilwell, Notts, showed a spike of a grand form of Odontoglossum Pescatorei, with large, finely-formed white flowers; and Messrs. Pitcher & Manda. The United States Nurseries, Hextable, Swanley, Kent, sent the very fine and dark-coloured Cypripedium grande atratum ×.

Orchid Committee Awards.

Awards of Merit.

To Dendrobium Niobe ×, from Messrs. J. Veitch & Sons, Chelsea.

To Cattleya guatemalensis, from Right Hon. J. Chamberlain, Birmingham.

To Cyrtopodium punctatum splendens, from the Duke of Northumberland, Syon House.

To Odontoglossum hybrid (Crawshay's var.), from De B. Crawshay, Sevenoaks.

Medals.

Silver Flora.

Messrs. B. S. Williams & Sons, Holloway, for groups of Orchids.

Silver Banksian.

Messrs. W. L. Lewis & Co., Southgate, for groups of Orchids.

Messrs. Hugh Low & Co., Clapton, for groups of Orchids.

Fruit Committee.

Present: Philip Crowley, Esq., in the chair, and Messrs. G. Bunyard, G. Woodward, Harrison Weir, J. Cheal, G. Taber, J. Wright, A. Dean, J. A. Laing, W. Bates, G. H. Sage, G. Wythes, F. Q. Lane, H. Balderson, J. Smith, and Robert Hogg.

A collection of fruit and vegetables came from Mr. Wythes, gr. to the Duke of Northumberland, Syon House. The vegetables, twelve kinds, were good, and the fruit consisted of Grapes, Black Hamburghs, a box of fine Strawberries from Syon House, a Seedling from Keen's Seedling, and a half-dozen fruits of Fig St. Johns (Silver Banksian Medal).

An Apple, named Jacquin, from Messrs. T. F. Rivers & Son, Sawbridgeworth, was awarded a First-class Certificate. The fruit was medium-sized, kindly-looking, and yellow, and possessed a rather deep eye. Two other Apples, named respectively Prince Albert, and St. Johns, were exhibited by Messrs. H. Lane & Son, Berkhamstead, but no award was made.

Apple Royale d'Angleterre was staged by Mr. G. Woodward, Barham Court Gardens, Maidstone.

From the Royal Horticultural Society's Gardens at Chiswick were sent Apples, Bramley's Seedling, Annie Elizabeth, King of the Pippins, Lane's Prince Albert, Galloway Pippin, and Hoary Morning.

Mr. W. Divers, Wierton House, near Maidstone, sent fifteen dishes of Apples, but many of these showed decay, or bruises sustained in travel. Some fruits of Vegetable Marrows, labelled "Sutton's No. 20," were from Mr. C. Leach, gr. to the Duke of Northumberland at Albury Park. The seeds were sown on January 23, and the fruits were fit for use on April 8. Not every taste, however, will appreciate Marrows so early as this date. A few well-fruited plants of Strawberry Royal Sovereign, sent by Mr. Thos. Laxton, seed grower, Bedford, were Culturally Commended. The last exhibit we have to notice gained a First-class Certificate. It was Lettuce Veitch's Golden Queen, and was shown by C. Ingram, Esq. (gr., T. W. Bond), Elstead House, Godalming. It is a good-looking Cabbage variety, hearts were fairly plump, and the leaves tender.

Lecture on the Citron.

In the afternoon, it was announced with much regret, that the paper upon "Orchid Life in Guiana," promised by Mr. Everard F. Im Thurn, had not been received. Under these circumstances the Secretary, Rev. W. Wilks, read a paper by Dr. Bonavia upon "The Antiquity of the Citron in Egypt," the substance of which was contained in the report of the Scientific Committee in our columns last week.

BIRMINGHAM SPRING FLOWER SHOW.

April 5 and 6.—This was a very fine exhibition, taken all round. Orchids formed a distinct feature, and two groups were set up in competition for prizes for groups. The Right Hon. Joseph Chamberlain, M.P., was 1st, with a fine display, at the back of which was a representation of an old tree with Orchids growing on it, and standing on a base of Orchids, Ferns, &c. In this group, amongst others, were the Highbury variety of Lælia anceps grandiflora and L. anceps Williamsii, Dendrobium Dominianum, D. nobile Cooksoni, and D. nobile gigantea; D. Venus, a hybrid between nobilis and Falconeri, Restrepia antennifera, and the very pretty D. lituiflorum, and other choice species, all very tastefully arranged by Mr. Burberry. Mr. Wm. Bown, Beech Lawn (gr., Mr. J. Palmer), 2nd, with Dendrobium album, D. primuloides, D. nobile Cooksoni, and D. nobile nobilius, very rich in colour; Lycaste Skinnerii alba, Odontoglossum Edwardii, O. Halli, and many others.

For six specimen Orchids, the positions were reversed, Mr. Bown being 1st, with a very fine even lot, consisting of Cypripedium villosum aureum, with forty open blooms; a very fine Lycaste Skinneri, Dendrobium Wardianum, a splendid plant of a very fine variety of Cymbidium Lowianum, Cattleya Lawrenceana, rich in colour; and a fair example of Dendrobium Ainsworthii. The Right Hon. Joseph Chamberlain had a fine lot for the 2nd prize, consisting of a fine specimen of Cœlogyne cristata; Lælia anceps Barkeriana, L. a. Williamsii (a very beautiful Orchid), Dendrobiums thyrsiflorum, Falconeri, and Wardianum.

For three Orchids, the Right Hon. J. Chamberlain was 1st, with a grand specimen Cœlogyne cristata, Dendrobium Falconeri, and a fine D. thyrsiflorum; 2nd, Mr. Bown, with Dendrobiums suavissimum, fimbriatum, and nobile.

With single specimen Orchid, Mr. Bown was 1st, with a very fine Cymbidium eburneum, with forty spikes of flowers; 2nd, Mr. Chamberlain, with Sobralia macrantha; 3rd, J. A. Kenrick, Esq., with a fine Dendrobium nobile.

Specimen Azaleas were numerous and fine, chiefly pyramids of large size. Some wonderfully-fine pyramidal Cytisus were shown, and also a large handsome standard, and some good specimen stove and greenhouse plants. Probably at no other exhibition can such magnificent plants of Hydrangea Thomas Hogg be seen, specimens quite 4 feet through, superbly grown and flowered. Monster Deutzias, abundantly bloomed; Spiræas, Dielytras, Ghent Azaleas, and other invited plants for prizes were all highly meritorious. The chief prizewinners being the gardeners respectively to Sir Thomas Martineau, Mrs. Marigold, Mr. T. Clayton, Mr. Grice, and others.

It was feared that the very hot weather experienced at the end of March and early in April would have driven the Hyacinths and Tulips out of condition to a great extent, but it was surprising the large number of plants staged, and their fine quality generally.

In the class for eighteen Hyacinths for the Society's prizes, Mr. Bown was 1st, with a well-done lot; and Mr. Dyer, gr. to Mrs. Marigold, a very close 2nd. For twelve, Mr. A. W. Hulse was 1st, with a capital lot, and also 1st for six. Although in some instances the spikes were rather undersized, excellent cultivation was noticeable throughout, and in the competition for Messrs. Thomson's special prizes for eighteen Hyacinths, there were nine competitors, Mr. Hulse securing 1st with a fine lot.

The Tulips were remarkable for good culture, and with fine robust foliage, and there was a fine display of them. The white Joost van Vondel was in all

the collections, a grand snow-white; and Proserpine was conspicuous, and is always very fine; Ophir d'Or is a grand yellow.

Narcissus in pots, but with scarcely any of the old Polyanthus varieties, were numerous, and well done, Mr. Robert Sydenham's special prizes for twelve pots bringing out a grand display; Mr. A. W. Hulse taking the 1st prize.

Honorary exhibits were numerous. Messrs. Dicksons, Limited, Chester, had a capital display of Narcissus, and cut blooms of rare early-blooming hardy plants. Messrs. Ryder & Co., Sale Nurseries, Manchester, had a collection of their lovely new Primula Sieboldii varieties, including Miss Kelly, Maiden's Blush, General Gordon, Mrs. Ryder, Mrs. H. Jones, Magnifica, Harry Leigh, Dora, and a very pretty fringed variety named Maiden's Blush.

Messrs. Barr & Sons, King Street, Covent Garden, London, staged a group of fine varieties of Narcissus, including Marchioness of Lorne, J. B. M. Camm, Lady Grosvenor, Queen of Spain, C. J. Backhouse, and a grand variety, M. J. Berkeley, deep golden-yellow; and other choice kinds.

Messrs. Cutbush & Son, Highgate Nurseries, London, had an interesting group of new double Ghent Azaleas, new Cliveias, and other plants.

Messrs. Hewitt & Co, Solihull Nurseries, had a tasteful group of plants, including several of the very lovely white hardy Azalea Davisii, Mollis Azaleas, and other plants. Messrs. Rich. Smith & Co., Worcester, had a large display of Clematis, Rhododendrons, Japanese Maples, and other hardy plants. Messrs. Thomson & Co., Sparkhill Nurseries, one of their usual well-arranged groups, and a superb floral design. Messrs. Pope & Sons, King's Norton Nurseries, contributed a group also, with a grand group of shower and other bouquets of Narcissi, also a group of the newer sorts of Clematis; and Mr. Robert Sydenham, Tenby Street, had a collection of new and older Hyacinths, all well grown, amongst them King of the Yellows, very fine; Etna, Morina, both reds and fine; Peter Barr, a lovely purple with white centre; Princess of Wales, pink; Princess Amelia, white; Duchess of Edinburgh, with grand spikes; Cardinal Wiseman, Pink Perfection, and several others; also very fine Tulips, Narcissus, and Cyclamens.

BRIGHTON AND SUSSEX NEW HORTICULTURAL.

April 11 and 12.—The second annual spring show in connection with the above took place in the Dome and Corn Exchange, Royal Pavilion, on the above date. The first day was fine, though rather cold, but there was a good assembly. This Society, though only started twelve months ago, bids fair to eclipse anything of the kind in the South of England. The exhibits were both numerous and of good quality. Round the Dome were staged a variety of plants and cut flowers, the centre being used as a promenade concert.

The class for twelve pots of Hyacinths, owing to the late hot weather, was not largely represented, but those shown by Mr. G. Hart, which took 1st prize, did great credit to the exhibitor. The same may be said of the Tulips, which gained 1st honours for Mr. C. Murrell. Narcissus and Freesias were but poorly represented, but those in the latter class which won the 1st prize were exhibited by Mr. G. Hart. Lily of the Valley was in strong force, Mr. J. Gore taking 1st, with twelve nice pots, with dark green foliage. Dielytras were fairly good; most of the plants, however, were past their best, owing, no doubt, to the strong sunshine we have had of late—1st, Messrs. Miles, Brighton..

For six Roses, 1st, Mr. E. Meachen, gr. to Mrs. Armstrong, with well-bloomed moderate-sized plants. Lachenalias were very good, Mr. E. Meachen again taking 1st.

In the class for six Gloxinias, 1st, Messrs. J. Peed & Sons, nurseries, Norwood Road, London, with plants moderately bloomed, the flowers of good size and fine colour. Cyclamens from the same exhibitor formed a grand lot, and attracted many admirers. Spiræas were not so good as we have seen them, the plants being too much drawn; 1st, Mr. George House, Patcham.

In the class for six pots of Mignonette, Messrs. Peed & Sons were 1st; and Mr. Murrell was 1st for Cinerarias, with dwarf, bushy, and well-flowered plants. The same may be said of those shown by Messrs. G. Miles in the class for six.

Primulas, especially the single-flowered varieties, showed the effects of sunny weather, the flowers being small. Those from Mr. Miles, which were 1st, were exceptionally good, considering the lateness and character of the season.

Hydrangea hortensis in pots were very fine; those shown by Mr. H. Smythe, Dyke Road, Brighton, were grand plants.

In the Auriculas and Polyanthus, freshness and variety were wanting, especially amongst the former. Genistas were good; 1st, Mr. G. F. Wickham. Messrs. Peed & Sons were 1st for Pelargoniums. Stocks were not a large lot, but those shown by Mr. H. Smythe were well worthy of the highest award which fell to them.

For twelve Azaleas, 1st, Mr. Murrell, with twelve compact, well-flowered plants; and Mr. E. Meachen 1st for twelve plants. For Azalea mollis, Messrs. Miles & Co. were 1st; while in the classes for Deutzias and Richardias the honours fell to Mr. Meachen and Mr. Murrell respectively.

There was strong competition in the class for miscellaneous groups arranged for effect, and we must admit that these added greatly to the beauty and interest of the show. Those set up by Mr. J. Turner, gr. to Sir G. Smyth, and which gained him 1st honours, were excellent. The 2nd prize in this class fell to Messrs. Miles, Brighton.

Tables of plants also arranged for effect were good. 1st, Mr. W. Jupp, gr. to G. Boulton, Esq.; 2nd, Mr. Turner. The classes for cut flowers were not large, but there were some fine stands, notably those from Mr. J. Gore, Polegate, who was 1st for twelve varieties. For bunches of Narcissus, Mr. Rupert Miller was 1st.

There were some good dishes of Strawberries exhibited by Mr. Bell. Strawberry plants in pots were also good, especially those shown by Mr. E. Golding, gr. to H. S. G. Voules, Esq., Brighton.

Mr. F. Fairs, of Hassocks, showed new Grapes, and received 1st prize; whilst Mr. H. C. Prinsep, gr., Buxted Park, Uckfield, was 1st for a brace of Cucumbers. Miscellaneous non-competitive exhibits comprised a fine group of plants from Messrs. W. Balchin & Sons, Nurserymen, Brighton, which filled the end of one large room, and contained choice plants. Mr. H. C. Prinsep staged a collection, including Dendrobium densiflorum, with dozens of racemes of flowers. Messrs. J. Cheal, of Crawley, made a display with Apples, cut flowers, plants, &c.; and Mr. Kemp, gr. to C. R. Scrase Dickens, Esq., staged a fine lot of Apples and last year's Grapes in prime condition.

FRUIT REGISTER.

APPLE STURMER PIPPIN.

Every gardener knows that April is the most difficult month in the year to keep up a plentiful supply of dessert; the new fruits are not ready in quantity, and the old ones are scarce. I find this Apple most useful to help to keep up the supply, but in many places it is gathered too soon. The last week of October is quite early enough, and if the weather is open it may be even later. I am most particular that no injury to the fruit takes place during gathering or storing. They are carried straight to the fruit-room, placed in boxes or jars, with alternate layers of sand, and left for coolness on the floor, where we never think of disturbing them till March, when they come in most useful, and are really very excellent in flavour; seeing that the Ribstone and Nonpareil are its parents, it would be odd if the flavour was deficient. The tree is hardy, and a good bearer, but I never could understand why the bullfinch is so partial to the buds, much more than any other tree in the orchard, and we grow above a hundred kinds. *J. Rust, Eridge Castle.*

Apple Cockle Pippin.

This variety I have had in excellent condition up to the present, and being a good cropper, as well as an excellent grower, I think it is to be recommended for late dessert purposes. Out of some twenty varieties I submitted to a gentleman about a month ago for the purpose of selecting some good ones, Cockle Pippin was first in his estimation. So enraptured was he with this variety, that he surprised me about a week ago by sending me a "Study of the Cockle Pippin and Brabant Bellefleur" in oil—both very faithful representations—which I prize very much. *South Devon.*

Good Dessert Apples.

Last autumn was perfect for the maturation of fruit Among varieties that I have had in excellent condition up to a few weeks ago, I may mention Lord Burghley, I never remember having so good before—clean, perfect in colour, some almost covered with a deep crimson. Claygate Pearmain: this, too, was wonderfully good, and has kept better than usual. Brabant Bellefleur, though classed as a culinary variety, is excellent for dessert, and is in my estimation much more a dessert than a culinary variety; perhaps of all others this has been the most handsome Apple I have grown, and I have 120 varieties. Many of these were entirely covered with crimson, and kept splendidly. Pearson's Plate, an old variety, of fine flavour, very delicious and juicy; this is generally of a russet colour, but with me they had a great deal of crimson this past season. Boston Russet: this is an excellent cropper and good keeper; in fact, will keep for some time yet. Braddick's Nonpareil is a well-known variety of first-class quality. *South Devon.*

SCOTLAND.

GARDENERS' SATURDAY HALF-HOLIDAY.

It may be interesting to some of the readers of your paper to know that the young gardeners of Falkirk and district formed themselves into an Association (Falkirk and District Assistant Gardeners' Association) for the purpose of petitioning their employers for a half-holiday on the Saturday afternoon.

The Association has been very successful, as most of the gentlemen in Falkirk and surrounding district have granted the half-holiday to their gardeners. But there are one or two gentlemen who have not as yet sent a reply to the circular sent out by the Association, so that there is still a hope that they may be in favour of the half-holiday, and place their gardeners on the same footing as others in the district. The success of the Falkirk Association may encourage gardeners in other districts where they have not as yet got the half-holiday, to take steps so that they may be put on a level with districts where they have already got the privilege of the Saturday afternoon.

After the above Association had dismissed itself, some of those present spoke of the advisability of forming a Gardeners' Mutual Improvement Society, and, with a view to forming such a society, a meeting will shortly be advertised in the local papers.

Such a society will, no doubt, be a success with so many gardeners as there are in Falkirk and surrounding district, especially when we note the success of some of them at the leading shows of Scotland, and also at the number of enthusiastic competitors at the spring show held in the Town Hall, Falkirk, last week, and I think such a society would be both instructive and beneficial to all who take an interest in gardening.

MARKET GARDENING UNDER GLASS.

(*Continued from p.* 416.)

Mr. J. Myatt, Swanley.

About 1½ mile from Swanley Junction, is Mr. Myatt's place, and here the trade is all in cut flowers and fruits. No plant trade whatever is done. Roses are done in great quantity, many houses, 220 feet long, being planted on either side with Tea varieties. At the time we visited the place, Mr. Myatt was marketing as many as 100 dozen of Niphetos in a week. The perpetual section are in pots, the usual varieties, Baroness Rothschild and General Jacqueminot being those grown. Callas were here again in immense number, yielding an output of about 150 dozen in a week. Cyclamens are grown to a large extent, but only for furnishing cut bloom. There were many hundreds of

Pelargonium Madame Cruze and White Queen, but the latter variety meets with but little favour, whilst the former is exceedingly popular. Here we met for the first time during these visits, a first-class batch of French Beans, there were many hundreds of pots, and they were doing well. The pods were then about ½ inch long, and must now be fit for market. Tomatos have one house to themselves, about 200 feet long—a wide span. The plants are put out in rows, four rows being upon each side of the centre path. This house will yield a large supply, and there are many more to be accommodated in various positions in the other houses. About 7000 Strawberries are forced, and there are one or two houses devoted to Vines. In many of these gardens it pays better to bring the Strawberries along in a cool-house, some growers using no heat whatever, and they then mature their fruit about the beginning of May, or between the supplies from the heated houses and the open air. Although this place is not one of the largest, there are consumed each year about 600 or 700 tons of South Wales coal. There are two very fine Mushroom-houses over 200 feet in length, all above-ground. In shape they are like a Potato-ridge, and the centre is about 6 feet high. The inside is lined with wood, above which is a thick layer of straw, which is again covered with good thick thatch. Of course, the houses are perfectly dark. The beds are upon the floor, with the path running between them; and they are exceptionally convenient of access, and of working. During the winter they have furnished from seventy to eighty pounds of Mushrooms per week. A kind of reservoir has lately been made here, to which the rain-water from the whole of the houses is conducted, and by means of one of the Pulsometer Engine Company's engines, this is pumped into an elevated tank, from which there is a fall to the places where it is required.

Mr. H. Staples, Swanley.

This interesting place is situate about 1½ mile from Swanley Junction, in a snug little spot known as Swanley village. We said interesting, because Mr. Staples never intended to become a market gardener when he built his first vinery some thirty years ago. Until that time he had been cultivating a large farm, but was then desirous of retiring from the greater part of this, merely reserving about 40 acres of freehold which immediately adjoined his beautifully-situated house. As something wherewith to occupy his leisure time, a vinery was built, and this like every first step was of the most primitive kind. It was a lean-to, and so little regard to economy in respect of timber was given, that the rafters were actually made 9 inches deep. Of course, the shadow cast by such an amount of timber was ruinous, and so at last the roof was taken off, and the wood taken therefrom was found sufficient for at least one other house, beside furnishing the rafters for the old house. But Mr. Staples became fonder of this recreation, and one by one other houses were erected, until now he may be called a market gardener, for the quantity of Peaches, Grapes, and Strawberries produced here for market is considerable. Only one variety of Strawberry, and that Sir Charles Napier, is grown, and they are kept quite cool in span-roofed houses, about 240 feet long, and 21 feet wide. The fruit sells well, and is ready a short time before those grown outside. About 27,000 plants are here in pots, and the crowns are looking plump and healthy. In these houses a crop of Cucumbers is secured after the Strawberries are gathered. Peaches have a beautiful span-roofed house for their accommodation, and are looking healthy, and abound in well-ripened wood. Beside the Vines already possessed, Mr. Staples has erected three houses on the most modern principle, each 212 feet long by 30 feet wide, likewise to be planted with Vines. Each house will contain one variety only. In one Black Alicante, in another Muscats, and in the third Gros Colmar. Nine other houses of 165 feet each, are principally devoted to Strawberries. In one house was a batch of East Lothian Stocks in pots, and in full bloom. We have never seen such a fine lot in March, the beautiful white-scented flowers seeming to carry one further into the spring than anything else had yet done. Strawberries, Peaches, Vines, Tomatos and Cucumbers are the principal products of Mr. Staples' establishment. In everything that he has attempted he has spared no pains to make it a success. The fruit grown is of best quality, and the place bears the stamp of neatness and order.

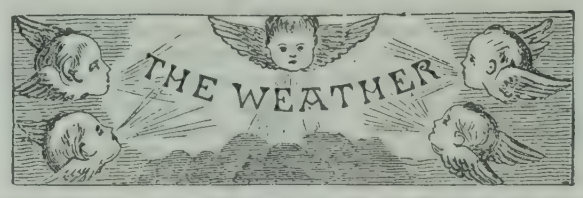
About 14 acres of black Currants adjoin the houses, many more acres of Apples and other out-door fruits. Thus Mr. Staples has gradually—shall we say, risen?—from a large farmer to a successful fruit grower.

(To be continued.)

Obituary.

Mr. W. R. M'Kelvie.—It is with regret that we have to announce the death of Mr. William Ross M'Kelvie, Public Parks and Cemeteries, Dundee. The deceased, whose age was between sixty and seventy years, was appointed to the Dundee post thirty years ago.

A Valuable Orchid.—As an instance of the great value some collectors attach to large specimens of fine species or varieties of Orchids, may be cited the case of a plant of a very fine variety of Cattleya Mendelii with thirty-two pseudobulbs, eight of these with sheaths, which was sold by Messrs. Protheroe & Morris, at the Quorn House Sale, on Monday, April 10, for the sum of 220 guineas, the purchasers being Messrs. Hugh Low & Co.



[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees — a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending April 8.	Accumulated. Above 42°, for the Week.	Accumulated. Below 42°, for the Week.	Accumulated. Above 42°, difference from Mean since January 1, 1893.	Accumulated. Below 42°, difference from Mean since January 1, 1893.	Rainfall. More (+) or less (—) than Mean for the Week.	Rainfall. No. of Rainy Days since Jan. 1, 1893.	Rainfall. Total Fall since Jan. 1, 1893.	Bright Sun. Percentage of possible Duration for the Week.	Bright Sun. Percentage of possible Duration since Jan. 1, 1893.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	5 +	43	11	+ 84	— 11	1 —	67	13·5	38	22
1	5 +	52	15	+ 76	+ 3	4 —	52	6·0	55	31
2	2 +	42	14	+ 111	— 44	4 —	44	4·6	61	33
3	2 +	48	16	+ 142	— 15	4 —	49	5·1	62	37
4	4 +	67	20	+ 174	— 24	4 —	48	4·9	66	36
5	5 +	60	8	+ 120	— 30	4 —	48	6·1	72	37
6	5 +	56	11	+ 105	— 36	7 —	57	9·8	60	31
7	5 +	58	9	+ 134	— 71	5 —	49	6·4	69	31
8	7 +	69	0	+ 138	— 59	6 —	49	8·8	75	40
9	4 +	54	7	+ 86	— 80	5 —	59	7·9	53	27
10	4 +	60	4	+ 94	— 88	6 —	51	8·8	66	31
*	6 +	77	0	+ 191	— 50	5 —	56	7·4	79	43

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; (* Channel Islands.)

The Past Week.

The following summary record of the weather for the week ending April 8, is furnished from the Meteorological Office:—

"The *weather* was again almost continuously fine and bright during the period, the only exceptions being (1) at some of the Scotch stations, where rain fell on one or two occasions, and (2) on our east and south-east coasts, where some dense wet fogs caused a deposit of water in the rain gauge.

"The *temperature* continued above the mean, the days being warm and the nights somewhat less cold than those for the weeks immediately preceding. The excess in 'England, S.W.' was as much as 7°, in the 'Channel Islands' 6°, over southern and north-western England of 5°; in Ireland there was an excess of 4°, and in 'England, E. and N.E.,' 2°. The highest of the maxima were recorded on rather irregular dates, and ranged from 73° in 'England, S.W.,' and 70° in 'England, E.,' to 65° in 'England, N.E.' The maximum readings on our east and south-east coasts were much lower than those inland; in many cases they were as low as 42° to 45°. The lowest of the minima were registered during the middle part of the week, when they ranged from 25° in 'Scotland, E.' and the 'Midland Counties,' to 32° in 'England, N.E.,' and to 43° in the 'Channel Islands.'

"The *rainfall* was again wanting over England and nearly so over Ireland and Scotland; in the northern parts of the latter country, however, some rather heavy falls occurred on the 6th.

"The *bright sunshine* continued very prevalent generally, the percentage of the possible duration ranging from 38 to 60 in Scotland, from 53 to 66 in Ireland, and from 61 to 74 in England; in the 'Channel Islands' the percentage was as high as 79."

Markets.

COVENT GARDEN, April 13.

[We cannot accept any editorial responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. Ed.]

A slight check to supplies this week, with prices unaltered. A heavy shipment of Tasmanian Apples to hand realising very low prices, condition generally not good. *James Webber, Wholesale Apple Market.*

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.
Arum, per doz. bl. ...	1 0	3 0
Azalea, dozen sprays	0 6	0 9
Bouvardias, per bun.	0 6	1 0
Carnations, 12 blms.	1 0	3 0
Chrysanthemums, p. doz. bunches ...	2 0	6 0
Cyclamen, doz. blms.	0 4	0 6
Daffodils, dble., doz. bunches ...	1 6	3 0
— single do. ...	2 0	9 0
Eucharis, per dozen	4 0	6 0
Gardenias, per dozen	1 0	3 0
Heliotropes, per doz. sprays	0 6	0 9
Hyacinths, Dutch, per box	1 6	3 0
— dozen spikes ...	2 0	4 0
Lilac, French, per bunch	3 6	5 0
Lilium Harrisii, doz.	3 0	4 0
Lily of the Valley, doz. sprays	0 6	1 0
Maiden Hair Fern, 12 bunches ...	6 0	9 0
Marguerites, p. doz. bunches	2 6	4 0
Mignonette, 12 bun.	3 0	6 0
Narcissus, various, French, doz. bun.	2 0	6 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blms.	2 0	6 0
Pelargoniums, scarlet, p. 12 bun.	4 0	6 0
12 sprays ...	0 9	1 6
Primroses, doz. bun.	0 6	1 6
Primulas, dble, p. bun.	0 6	1 0
Roses, Tea, per dozen	1 0	3 0
— coloured, dozen	2 0	4 0
— yellow (Maréchals), per doz.	1 6	6 0
— red, per dozen...	1 6	4 0
— (French) p. doz.	1 6	4 0
Tuberoses, 12 blms.	1 0	1 6
Tulips, red, doz. blm.	0 6	0 9
— white, doz. blm.	1 6	2 0
— yellow, doz. blm.	1 0	1 6
Violets, Parme French per bunch	3 6	4 0
— Czar, French, per bunch	2 0	2 6
— small English, p. doz. bunches	1 0	2 0

Orchid-bloom in variety not in quantity.

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.
Arums, dozen pots	12 0	18 0
Azalea, per doz.	24 0	42 0
Adiantum, per doz.	6 0	12 0
Aspidistra, per doz.	15 0	30 0
— specimen, each	7 6	21 0
Cineraria, per doz.	8 0	12 0
Cyclamen, doz. ...	9 0	18 0
Cyperus, per dozen	4 0	10 0
Dracæna, each ...	1 0	5 0
Erica, various, doz.	9 0	21 0
Ferns, various, doz.	4 0	9 0
Ferns, small, per 100	5 0	8 0
Ficus elastica, each	1 6	7 6
Genista, per doz.	10 0	15 0
Hyacinth, doz. pots	10 0	12 0
Lilium Harrisii	24 0	36 0
Lily of the Valley, 12 pots	12	18 0
Marguerite, per doz.	6 0	12 0
Mignonette, doz. pots	10 0	12 0
Palms, various, each	2 0	10 0
— specimens, each	10 6	84 0
Pelargoniums, p. doz	12 0	18 0
— scarlets, p. doz.	4 0	9 0
Primula sinensis, per doz.	4 0	6 0
Tulips, per doz. pots	6 0	9 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples, p. half-sieve	2 0–	3 6	Lemons, per case	12 0–	20 0
— Nova Scotia, per barrel	10 0–	17 6	Pine-apples, St. Michael	4 0–	8 0
— Tasmanian, per case	2 6–	13 0	Oranges, Florida, per case	10 0–	16 0
Cobs, per 100 lb.			Strawberries, per lb.	1 6–	5 0
Grapes, new, per lb.	4 0–	6 0			

VEGETABLES. — AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Beans, French, lb.	1 6–	2 0	Mushrooms, punnet	2 0–	
Beet, red, per dozen	2 0–	3 0	Mustard and Cress, punnet	0 4–	
Carrots, per bunch	0 4–	0 6	Parsley per bunch	0 3–	0 6
Cauliflowers, each	0 3–	0 6	Seakale, per basket	2 0–	2 6
Cucumbers, each	0 4–	0 8	Shallots, per lb.	0 6–	
Endive, per dozen	2 0–	3 0	Tomatos, per lb.	1 0–	2 0
Herbs, per bunch	0 9–	1 0	Turnips, per bunch	0 4–	0 6
Lettuces, per doz.	1 6–	2 0			

POTATOS.

Trade for old Potatos still very slow and prices low, except for best samples, which maintain fair prices.

NEW POTATOS are arriving in large quantities, both from Teneriffe and Malta—Rounds making 11*s.* to 13*s.*; Kidneys, 12*s.* to 22*s.* per cwt. *J. B. Thomas.*

SEEDS.

LONDON: *April* 12.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report a steady sowing demand for Clover and other seeds. As regards values no change of importance can be noted. A good downfall of rain would now be much welcomed. Tares realise last week's figures. For bird seeds the sale is slow. There is no change in either Haricots or Peas. The Board of Trade Returns give the imports into the United Kingdom of Clover and Grass seeds for the past quarter as cwts. 148,680, value £376,004, as against cwts. 152,800, value £348,224, for the corresponding period of 1892.

FRUITS AND VEGETABLES.

BOROUGH: *April* 11.—Quotations:—Kale, 1*s.* to 1*s.* 6*d.* per bushel; Turnip-tops, 2*s.*; Broccoli, 1*s.* 6*d.* to 2*s.* 6*d.* per bag; Greens, 1*s.* 6*d.* to 2*s.*; Parsley, 3*s.*; Carrots, 2*s.* 6*d.* to 3*s.* 6*d.*; Turnips, 1*s.* 6*d.* per dozen bunches; English Onions, 8*s.* to 9*s.* per cwt.; Horseradish, 2*s.* 3*d.* to 2*s.* 6*d.* per bundle; Apples, 4*s.* 6*d.* to 6*s.* per bushel.

SPITALFIELDS: *April* 11.—Quotations:—American Apples, 10*s.* to 15*s.* per barrel; foreign Tomatos, 1*s.* to 1*s.* 6*d.* per box; Spinach, 2*s.* 6*d.* to 3*s.* per cwt.; Turnip-tops, 2*s.* 6*d.*; Sprouting Broccoli, 2*s.* 6*d.* to 3*s.* 6*d.* per sack; Cauliflowers, 5*s.* to 7*s.* 6*d.* per tally; Greens, 2*s.* 6*d.*; Carrots, 2*s.* 6*d.* to 3*s.*; Parsley, 8*s.* per dozen bunches; Turnips, 2*s.* 6*d.* to 3*s.* per bag; forced Rhubarb, 1*s.* to 1*s.* 3*d.*; natural do., 2*s.* to 2*s.* 6*d.* per dozen bundles; Horseradish, 2*s.* 6*d.* per bundle; Spring Onions, 3*s.* to 3*s.* 6*d.* per dozen bunches; Endive, 1*s.* 6*d.* to 2*s.* 6*d.* per dozen; Mustard and Cress, 2*s.* per dozen baskets; English Onions, 18*s.* per cwt.; Belgian, do., 7*s.* to 8*s.* per bag of 110 lb.; Carrots, 50*s.* to 70*s.* per ton; Curly Kale, 1*s.* 3*d.* to 2*s.* 6*d.* per bushel; Sea-kale, 1*s.* 3*d.* to 1*s.* 6*d.* per punnet; Parsnips, 8*d.* per score.

STRATFORD: *April* 12.—There has been an excellent supply of all kinds of produce at this market during the past week, and a brisk trade has been done at the undermentioned prices:—Greens, 2*s.* to 3*s.* per bag; do., 1*s.* 3*d.* to 1*s.* 9*d.* per sieve; Cauliflowers, 1*s.* 6*d.* to 2*s.* per dozen; do., 6*s.* to 9*s.* per tally; Carrots, household, 40*s.* to 50*s.* per ton; do., cattle feeding, 18*s.* to 34*s.* do.; Parsnips, 6*d.* to 9*d.* per score; Mangels, 18*s.* to 21*s.* per ton; Swedes, 18*s.* to 20*s.* per ton; Onions, English, 220*s.* to 240*s.* do.; do., Dutch, 8*s.* to 8*s.* 6*d.* per bag; Apples, English, 2*s.* to 6*s.* per bushel; do., American, 12*s.* to 20*s.* per barrel; Sprouting Broccoli, 2*s.* to 3*s.* per bag; Rape, 1*s.* 9*d.* to 2*s.* do.; Rhubarb, 2*s.* to 2*s.* 6*d.* per dozen; Cucumbers, 3*s* to 4*s.* per dozen.

FARRINGDON: *April* 13. — Quotations: — Parsnips, 40*s.*; Carrots, 55*s.* to 60*s.*, per ton.; Onions, English, 18*s.* to 20*s.* per cwt.; Cucumbers, 2*s.* 6*d.* to 3*s.* 6*d.* per dozen; American Apples, 14*s.* to 15*s.* per barrel; Tasmanian Ribston, 10*s.* to 12*s.* 6*d.* per case; Asparagus, 1*s.* 3*d.* per bunch.

POTATOS.

BOROUGH: *April* 11.—Quotations:—English Magnums, 40*s.* to 60*s.* per ton. No alteration in other sorts.

SPITALFIELDS: *April* 11.—No alteration in rates. Trade dull.

FARRINGDON: *April* 13.—Quotations:—Main Crop, 85*s.* to 90*s.*; Sutton's Abundance, 75*s.* to 80*s.*; Bruce's, 60*s.* to 65*s.*; Imperators, 55*s.* to 60*s.*; Magnums, 45*s.* to 55*s.* per ton.

STRATFORD: *April* 12. — Quotations:— Magnums, 40*s.* to 60*s.*; Bruce's, 45*s.* to 70*s.*; Imperators, 40*s.* to 60*s.*; Scotch Magnums, 55*s.* to 65*s.*; do. Bruce's, 60*s.* to 75*s.*; Main Crop, 80*s.* to 90*s.* per ton.

CORN.

Averages.—Official statement of the average prices of British corn, imperial measure (quarter) for the week ending April 8, and for the corresponding period last year:—1893: Wheat, 24*s.* 6*d.*; Barley, 25*s.* 6*d.*; Oats, 17*s.* 11*d.* 1892: Wheat, 31*s.* 4*d.*; Barley, 26*s.* 11*d.*; Oats, 20*s.* 2*d.*

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 60*s.* to 115*s.*; do., inferior, 70*s.* to 75*s.*; hay, best, 85*s.* to 115*s.*; do., inferior, 55*s.* to 75*s.*; and straw, 33*s.* to 46*s.* per load.

JAMAICA PINE-APPLES. — According to a recent number of the *Bulletin of the Botanical Department of Jamaica*, the number of Pine-apples exported in 1892 was 10,294 dozens, of the aggregate value of £1286 15*s.* 2*d.* The larger number went to the United States.

Answers to Correspondents

ANTS AMONGST CATTLEYA PLANTS: *T. A.* Could you not drown out the insects by immersing the plants? They could be entrapped in saucers holding treacle, or driven away by the use of carbolic acid or petroleum, of course not letting either of these touch the plants. Pieces of wool dipped in the latter, and placed in their haunts, would be distasteful to the ants, &c.

BOOK: *F. E. E.* So far as we know, there is no separate manual published on the cultivation of the Cyclamen. It is all a very simple affair, and full directions are to be found in most of the recently-published books on gardening.

LOQUAT TREE NOT FLOWERING: *J. L.* When the wood is imperfectly ripened, and this may occur indoors in badly-lighted or shaded glasshouse, as well as out-of-doors, the plant does not bloom well, and fruit seldom sets. The plants are the most prolific of bloom out-of-doors when they are planted against a sunny wall, rock, or what not, and either have their shoots trained out thinly against the wall or other object, or grown in bush form, taking care to cut out weakly growths, and otherwise obviate crowding of the branches. Occasional lifting, so as to keep the roots at a high level, and employing surface feeding to keep the plant in vigour, should be attended to. Mulching thinly with litter is needed in dry soils. A layer of boulders, the size of a cobbler's lapstone, placed on the soil around the roots, to a space of 2 to 3 feet from the stem, would answer the same purpose, drawing the roots to the surface in consequence of their moisture-retaining properties, and the warmth they impart to the soil; moreover, they are more sightly than litter. This holds good of other plants besides the shy-flowering Loquat.

NAMES OF PLANTS: *J. B.* 1, Juniperus sinensis; 2, Saxifraga—not recognised, send when in flower; 3, Amelanchier vulgaris.—*J. D.* 1, Spiræa prunifolia; 2, Kerria japonica; 3, Erica carnea; 4, Andromeda calyculata; 5, Berberis vulgaris.—*Matfen.* Mercurialis perennis.—*F. E. S.* Mackaya bella.—*T. H.* 1, Cephalotaxus pedunculata; 2, A Selaginella, not recognised; 3, Leucojum æstivum; 4, Scilla nutans var. alba; 5, Spiræa callosa.—*D. B. & T.* Next week.—*W. A. Lancaster.* Dendrobium clavatum.—*S E. B.* Odontoglossum luteo-purpureum.—*J. R. Haig.* Helleborus orientalis, a poor form.—*Francis H.* Iresine Lindeni.

VINES: *W. B.* If they do not soon begin to grow, kindly send roots and wood, as previously advised.

COMMUNICATIONS RECEIVED.—A. J. R.—F. Y.—W.—W. W.—J. G. B.—D. T. F.—Visitor.—E. Baird.—R. D.—F. J. T.—M. T.—R. C. B.—W. Harrow.—R. C. W.—H. M.—I. I. W.—W. J. I.—H. J. R.

PHOTOGRAPHS RECEIVED (with thanks).—B. F., Manchester. H. C. P.—E. T. C.

LARGELY INCREASED CIRCULATION of the "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

Increased to the extent of 75 per cent.

Advertisers are also reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN, AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS *at home, that it has a specially large* FOREIGN AND COLONIAL CIRCULATION, *and is preserved for reference in all the principal Libraries.*

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CHEMICAL MANURE.

This Manure has now been before the public for five years, and has, from its intrinsic merits, almost without advertising, forced its way into the front rank. Extensive trials during above period have convinced us, that for efficiency and cheapness, there is nothing in the market to touch it; we having employed it with the fullest success upon Vines and other Fruit Trees, Pelargoniums, Fuchsias, Chrysanthemums, and almost all kinds of Greenhouse Plants; this opinion is supported by all the gardeners who have tried it, all being enthusiastic in its praise.

Per ton, £16; per cwt., 20s.; ½-cwt., 12s.; 28 lb., 7s.; 14 lb., 4s.; 7 lb, 2s. 6d. Sample Tins, 1s. 3d.

Half-cwt. and upwards sent Carriage Paid to any Station in England, Scotland, or Wales.

Circular, containing further details, instructions, and testimonials, free on application.

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PATENT
SILICATE MANURE.

Dress Your Vines and Tomatos with it now.

"Royal Nurseries, Great Grimsby,
"September 2, 1892.

"We have used it liberally on Tomatos and Vines. The Tomatos have been a wonderful crop. The Manure seems to have a very great effect on the ripening and swelling of the fruit. Faithfully yours, (Signed),
"CHARLES COLEBROOK AND SON."

PRICES IN SACKS, AT WORKS—
10s. per Cwt.; £2 per ¼-Ton; £3 15s. per ½-Ton; £7 per Ton.

ADDRESS—THE CHEMICAL WORKS,
HEMEL HEMPSTEAD, HERTS.

BONES! BONES!! BONES!!! Any size from dust to 1 inch. Dissolved Bone Compound, for Top-dressing. All at 10*s.* per cwt.; less quantity, 1½*d.* per lb. Carriage paid on 1 cwt. Terms, Cash with Order. Special quotations for large Buyers.
E. S. WILES AND CO., Bone Crushers, St. Albans.

NATIVE GUANO.—BEST AND CHEAPEST MANURE for GARDEN USE. Price £3 10*s.* per ton, in bags. Lots under 10 cwt., 4*s.* per cwt.; 1 cwt., Sample Bag, sent Carriage Paid to any Station in England, on receipt of P. O. for 5*s.*

Extracts from 16th Annual Collection of Reports:—

NATIVE GUANO, FOR POTATOS, VEGETABLES, &c.

H. BRINKWORTH, Potato Grower, Reading, used for Potatos, Onions, and Carrots, results:—"Very good; never had better crops."——J. BUTLER, Sittingbourne:—"Used for Potato, Celery, and other Market Garden Crops, with very good results; Potatos large, clean, and free from disease. Best and Cheapest Manure in the Market."

NATIVE GUANO, FOR FRUIT, ROSES, TOMATOS, &c.

J. PEED & SONS, Streatham, used for Fruit Trees and Roses, results:—"Very satisfactory; we use no other Guano now; consider yours preferable to Peruvian."——J. FINCH, Orrell Gardens:—"Used for Vegetables, Tomatos, Grapes, Cucumbers, and Flowers, with satisfactory results. Most excellent for Potatos, and many other things. The Cheapest Manure in the Market."

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FLOWER
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7	„ ..	0	4	6	18	„ ..	0	10	0
8	„ ..	0	5	0	19	„ ..	0	10	6
9	„ ..	0	5	6	20	„ ..	0	11	0
10	„ ..	0	6	0	21	„ ..	0	11	6
11	„ ..	0	6	6	22	„ ..	0	12	0
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All Subscriptions payable in advance. The United Kingdom, 12 *months,* 15*s.*; 6 *months,* 7*s.* 6*d.*; 3 *months,* 3*s.* 9*d. All Foreign Subscriptions, including Postage,* 17*s.* 6*d. for* 12 *months. Post-office Orders to be made payable at the Post-office,* 42, *Drury Lane, W.C., to* A. G. MARTIN.

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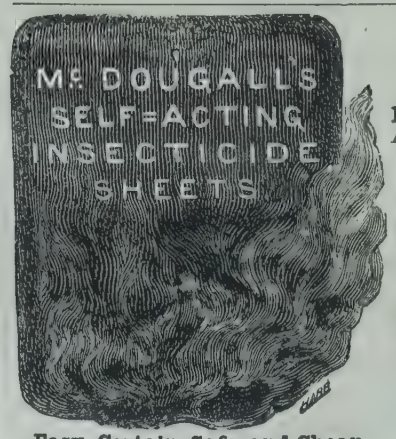

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THE SOCIETY of APOTHECARIES have decided that a course of TWELVE LECTURES on BOTANY shall be delivered by T. G. BAKER, F.R.S. and F.L.S., at their Garden at Chelsea, on the Saturdays of APRIL, MAY, JUNE, and JULY NEXT, at 3 P.M., commencing on the 29th of April. The Lectures will be open to all Medical Students and other Gentlemen being desirous to attend.

Tickets of Admission to be obtained of the Curator at the Garden, and of the Bedell at Apothecaries Hall.

J. R. UPTON, Clerk to the Society.

Apothecaries Hall, April, 1893.

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BUILD YOUR OWN GREENHOUSES.

The whole of the Timber for a Span-roofed Greenhouse, including Half Glass Door, Ventilators, Ridge, Capping Plates, &c., in fact everything that is required:—
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Best quality red deal. Special quotations given for any kind of Horticultural Work. All goods free on rail for cash.
RICHARD TAYLOR, Horticultural Works, Edmonton, N.
Established 20 years.

GREENHOUSES for the MILLION.—Complete from 50s. Write for Illustrated CATALOGUE to ALFRED PEEL AND SON, Horticultural Builders, Wood Green, London, N. The original Inventors of Portable Greenhouses. Established 20 years.

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Mr. HARRY BERRY, until recently Foreman at Spring Grove, Isleworth, as Head Gardener to HUGH SMITH, Esq., Mount Clare, Roehampton, Surrey.

Mr. C. NEWMAN, as Gardener to S. SACRET, Esq., Oak House, Hounslow, W.

ORCHIDS.—Mr. WARD, Longford Castle, Salisbury, REQUIRES AT ONCE, a well-conducted young MAN, who thoroughly understands the Culture of Stove and Cool-house Orchids.—Apply, with full particulars, as above.

WANTED, a practical WORKING GARDENER, without family preferred. Must be thoroughly experienced in Vegetables, Fruit, Flowers, &c. Produce sold. Good wages, house found, and commission.—Address, stating age, L. H., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, AT ONCE, a strong industrious and steady GARDENER, about 30, married, as Second where three are kept.—Must have good experience, Inside and Out, in Fruit and Plant Growing, Pruning and Grape Thinning, with a knowledge of Hardy Flowers, and be expert at Mowing, and with the usual Garden Tools. Wages 18s. a week, overtime extra.—T. ARNALL, Brookside, Headington Hill, Oxford.

WANTED, AT ONCE, a JOBBING GARDENER.—Well acquainted with the keeping in order of Lawns, Flower and Kitchen Garden. Must be trustworthy and sober.—Apply, by letter only, giving references, age, and wages required, to J. LION, Park Nursery, Stanmore, Middlesex.

WANTED, a GARDENER, and LAUNDRESS. No family. Head Working Gardener with two under. Woman must be very good Laundress. Abstainers preferred. Characters unexceptionable.—Apply to B., Fatherwell, West Malling, Kent.

WANTED, a GARDENER, and WIFE as Laundress. Thorough knowledge of work and excellent characters required. One under-gardener kept only.—Apply to C. G., Blackwell Hall, Chesham, Bucks.

Nursery Foreman Wanted.

WANTED, an industrious and steady MAN as NURSERY FOREMAN. He must have a general knowledge of Nursery Stock, be an expert and successful budder and Grower of Fruit Trees, and occasionally to act as Salesman. State age, where last employed, and wages expected.—JOHN JEFFERIES AND SON, Royal Nurseries, Cirencester.

WANTED, a FOREMAN, or SECOND GARDENER. Single man and an abstainer preferred. Must be active, obliging, and a good Plant and Fruit Grower.—Apply, stating age, experience, &c., to R. BREEZE, Bawdsey Manor, Woodbridge, Suffolk.

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WANTED AT ONCE, a thoroughly efficient FOREMAN, for Market Nursery. Must have excellent references. State wages required (with cottage), and experience.—H. MARSHALL, Nurseries, Barnham Junction, Bognor.

WANTED, a good JOURNEYMAN, for Fruit Houses, under a good Foreman. Wages 14s. per week, with good Bothy, &c. Age 21.—Apply, Mr. HUGHES, Norman Court Gardens, Dean, near Salisbury.

WANTED AT ONCE, for a Constant Place, a first-class WORKING PROPAGATOR and GROWER of Palms, Stove Plants, Orchids, Ferns, Poinsettias, Bouvardias, Soft-wooded Stuff, Cut Flowers, &c., for Market. Wages, 30s. per week. No one need apply unless well up in the above, and character must bear strictest investigation.—Apply to JAMES WINGFIELD, Widmore Hill Nursery, Bromley, Kent.

WANTED, an energetic young MAN, as Soft-wooded PROPAGATOR. Wages, £1 a week. Permanent and progressive situation to one that understands his work. State experience, &c., to PRIMULA, care of Messrs. HURST AND SON, Seed Merchants, Houndsditch, London, E.C.

WANTED, a GROWER of ROSES and GRAPES, thoroughly experienced, for Market Nursery. State age and wages.—Apply to J. W. BAKER, Enfield Highway, London, N.

WANTED, a young MAN of good character, for the Flower and Kitchen Garden. Must have had experience, and be able to use a Scythe, and understand Lawn Mowers. Wages 16s. per week, and bothy.—Apply to H. NAYLOR, The Gardens, Gumsthorpe, Bourne, Lincolnshire.

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WANTED, several JOURNEYMAN GARDENERS.—Apply with references to W. SHAND Nurseryman and Seedsman, Lancaster.

WANTED, AT ONCE, a steady, active, young MAN for Flower and Kitchen Garden work. Must be able to use a scythe well. Wages, 18s.—Apply to J. BRIGHTON, The Gardens, Wern, Tremadoc, R.S.O., N. Wales.

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WANTED, an active MAN, in the Nursery.—Must understand Cucumbers.—Apply, POULTONS, Limited, Fountain Nursery, Angel Road, Edmonton.

WANTED, a young MAN, in Market Nursery. Must be quick and have a good knowledge of his work; principally Soft-wooded. Wages 20s. per week. A good reference indispensable.—H. R. MARSHALL, Nurseries, Barnham Junction, Bognor.

WANTED, a young MAN, about 20, at a small Nursery.—Well up in Potting and Tying; only one who is willing and well used to the work need apply.—Address, J. H. M., Windmill Nursery, Cannonbury Road, Baker Street, Enfield.

WANTED, a MAN, to look after Glass, and Wall Trees in Market Garden.—Must have some knowledge of Roses, Cucumbers, Tomatos, &c.—MANN AND SONS, Whitton, Hounslow.

WANTED, a young MAN, to make himself generally useful in the Houses and in the Nursery.—W. F. BOFF, 203, Upper Street, Islington, N.

WANTED, a strong active LAD, to help in the Houses. Wages, to commence with 10s. per week and Lodging.—Mr. SIMS, Bovingdon, Hemel Hempstead.

WANTED, a young MAN, for the Houses, with a thorough knowledge of Vines, Cucumbers, and Tomatos.—State age and experience and wages required, to W. E. SWIFT, The Nurseries, Skegness.

WANTED, a YOUTH, about 18, for Market Work, under Glass. Also One accustomed to Horses. Bothy.—State age, experience, and wages, to W. COMPTON, Lambley, Notts.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. *on Wednesday will, in all probability, be held over to the next week.*

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

THOMAS BUTCHER can recommend several HEAD and UNDER GARDENERS of first-rate character and proved ability. Gentlemen seeking such may have particulars free.—Apply to THOMAS BUTCHER, Seed Merchant and Nurseryman, Croydon.

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. All particulars on application.
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RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character, and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—
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B. S. WILLIAMS AND SON beg to intimate that they have at present in their Nursery and upon their Register some excellent Men, competent either to fill the situation of HEAD GARDENER, BAILIFF, FOREMAN, or JOURNEYMAN. Ladies and Gentlemen requiring any of the above will please send full particulars, when the best selections for the different capacities will be made.—Victoria and Paradise Nurseries, Upper Holloway, N.

GARDENER (Head); age 30.—J. DUMBLE, Gardener to Sir Charles Philipps, Bart., Picton Castle, Haverfordwest, is desirous of recommending his General Foreman, H. Butcher, to any Lady or Gentleman requiring a thoroughly competent man. He has a good knowledge of the different branches of Gardening, is well acquainted with the Cultivation of Fruit (Indoor and Out), Flowers and Vegetables, is also a most successful Grower of Chrysanthemums for Exhibition.

GARDENER (Head).—J. MAYNE, Bicton Gardens, Budleigh Salterton, recommends a man as above; thoroughly acquainted with all matters relative to Horticulture. Testimonials of the highest order.

GARDENER (Head).—W. FISHER, Gardener to the Earl of Cawdor, would be pleased to recommend his Foreman, CHARLES DAVIS, to any Lady or Gentleman who is in want of a first-class man.

GARDENER (Head), or GARDENER and BAILIFF.—£5 Bonus for information as will lead to obtaining a good situation. Highest references.—HORTUS, Mr. Heath, Bookseller, Richmond, Surrey.

GARDENER (Head); age 31, married, one child.—W. ELKIN, Gardener to Mrs. Agnew, Fairhope, Eccles, is desirous of recommending his Foreman, E. Belcher, who has been with him nearly five years, to any Lady or Gentleman requiring a thoroughly competent Man. He has a good knowledge of the different branches of Gardening, is well acquainted with the Cultivation of Fruit, Flowers, and Vegetables, is also a good hand at House and Table Decorations.

GARDENER (Head), where five or six are kept; age 36, married, one child.—A GENTLEMAN can with every confidence recommend his Gardener, who has been with him upwards of six years. Thoroughly experienced in all branches. First-class references from good establishments. Successful Fruit Grower. Can Manage Stock if required.—J. VOSS, Finches, Lindfield, Sussex.

GARDENER (Head), or GARDENER and BAILIFF.—Age 46: twenty-five years' thorough practical experience in all branches; two and a half years in present situation; eleven years previous as Head Gardener and Bailiff. Excellent character and testimonials. Wife Dairy or Poultry. Family grown up.—HEAD GARDENER, The Gardens, Buccleuch House, Richmond, Surrey.

GARDENER (Head).—Age 26; single at present.—W. EDWARDS, Gardener to Louisa Lady Ashburton, Addiscombe Park, Croydon, desires to recommend his Foreman, John Croft, who has been with him three years, to any Lady or Gentleman desiring an efficient Gardener.

£5 will be given for intimation that will secure situation as HEAD GARDENER; thorough in all branches; excellent character.—HORTUS, Mr. Miles, High Street, Chislehurst.

GARDENER (Head), where two or more are kept.—Age 36, married; thoroughly experienced in all branches of Gardening. Good Orchid Grower. Fourteen years in last situation.—J. H., Messrs. H. Cannell & Son, Swanley Junction, Kent.

GARDENER (Head Working).—Age 30. THOS. NEWTON, Campsall Gardens, Doncaster, will be pleased to recommend to any Lady or Gentleman a good practical all-round Gardener.

GARDENER (Head Working), where two or more are kept.—Advertiser will give £2 for reliable information as will lead to his obtaining the above early in June. Good character.—GARDENER, Home Farm Cottage, Langley, Slough, Bucks.

GARDENER (Head Working).—Age 34, married; thoroughly experienced in all branches of Gardening. Leaving through establishment breaking up. Good character.—F. FITZWATER, The Gardens, Hillfield, Ashtead, Surrey.

GARDENER (Head Working).—Married, two children, ages 7 and 11.—A GENTLEMAN wishes to recommend his late Head Gardener, who has been with him six years. Understands Vines, Melons, Stove and Greenhouse Plants, and Flower and Kitchen Gardening; fourteen years' previous good character.—GEO. TURNER, Cranmore Lodge, Elmstead, Chislehurst.

GARDENER (Head Working), or GARDENER and BAILIFF.—A GENTLEMAN can highly recommend his Gardener as above. Thoroughly experienced in all branches, Indoors and Out, Fruit, Flowers, Vegetables, and Kitchen Garden. Land and Stock. Good judge, buyer, and seller. Wife can manage dairy, poultry; or Caretaker if required. Fifteen years' reference, no incumbrance.—F. D., 48, Disraeli Road, Putney, S.W.

GARDENER (Head Working), where five or six hands are kept.—Age 33, married, two children. Earl STANHOPE wishes to strongly recommend a thoroughly practical man; five years his Foreman.—Mr. SUTTON, Chevening, Sevenoaks.

GARDENER (Head Working).—Married; thoroughly experienced.—A GENTLEMAN highly recommends the above, who has been in his service over fourteen years.—B., Tollerton Hall, Notts.

GARDENER (Head Working), where three or four are kept.—Age 33, married, no family; eighteen years' experience in Vines, Melons, Cucumbers, Stove and Greenhouse Plants, Flower and Kitchen Garden. Six years' good character. Disengaged.—GEO. GOODSELL, 16, Victoria Terrace, Ridley Road, South Wimbledon.

GARDENER (Head Working), where one or two others are kept.—Age 35, wife (36), one child; good all-round experience. Good Grower of Grapes and Peaches. Understands the Management of Cattle and Poultry. Could undertake Management of Farm. Good characters from previous and present employers. Total abstainers.—F. S. B., Pocklington Library, Cliff Town, Southend-on-Sea, Essex.

GARDENER (Head Working).—Age 34, single; thoroughly experienced seventeen years. Could manage small Grass Farm and Poultry if required. Distance no object.—A. E. COLMAN, 12, Lind Street, St. John's, Deptford.

GARDENER (Head, or good Single-handed).—Age 30, single; thirteen years' good experience. Good personal character from late employer. Abstainer.—A. B., 69, Singlewell Road, Gravesend.

GARDENER (Head, or good Single-handed).—Age 36, married; twenty years' experience; good reference.—G. L., 77, Parish Lane, Penge, Kent.

GARDENER (Single-handed), or where two are kept.—Age 26, single; understands Greenhouse, Flower, and Kitchen Garden work. Good character. Now disengaged.—BLUNDELL, West Lodge, Addington Park, Croydon, Surrey.

GARDENER (Single-handed).—Age 24; abstainer. Well experienced in all-round Gardening, inside and out. Excellent character from present and previous employers.—L. P., 28, Finchley Park, North Finchley, N.

GARDENER (Single-handed, or where help is given).—Age 26; thirteen years' experience. Good characters from present and late employers.—JOSEPH SKELTON, Hilton Lodge, Reigate, Surrey.

GARDENER (Single-handed, or where help is given).—Age 25, married; eight years' experience, Inside and Out. Two years' first-class character.—W. GORRINGE, Sunte, Lindfield, Hayward's Heath, Sussex.

GARDENER (Single-handed).—Good all round man, with glass experience. Wages, 22s. per week. Fifteen and three years' character.—PRIOR, Three Elms, Henley-on-Thames.

GARDENER (Single-handed), or with help.—A GENTLEMAN wishes to recommend an experienced man as above. Has lived with him six years, and only leaves to be married.—J. GRIFFITHS, Burcher, Titley, R.S.O., Herefordshire.

GARDENER (Single-handed, or otherwise).—Single; good at Grapes, Tomatos, &c. Good reference.—S. WOOLASTON, Baginton, Coventry.

GARDENER (Single-handed, or Second where four are kept).—Age 27, single; disengaged. Twelve months' good character, and two years and a half previous.—F. COLES, Empshott, Petersfield, Hants.

GARDENER (Single-handed).—Age 24, single; good experience in Glass, Flower, and Kitchen Garden. Near London preferred. Excellent references.—W. A. BUTCHER, near Andover, Hants.

GARDENER (thorough good Single-handed, or otherwise).—Age 32, married, one child; understands Vines, Cucumbers, Melons, Tomatos, and Flower and Kitchen Garden.—S. W., Leslie Road, Dorking.

GARDENER (Single-handed), or where help is given.—Age 28, single. Fourteen years' experience in Growing Flowers, Fruit, and Vegetables; two years and six years previous good character.—C. GIBBONS, 24, Brayard's Road, Peckham, S.E.

GARDENER, where help is given.—Age 26, single; well up in all branches, Inside and Out; well recommended; good references.—W. TURNER, Church Fields, West Malling, near Maidstone, Kent.

GARDENER; age 30.—Mr. J. PARK, West Mount, Barrow-in-Furness, wishes to highly recommend his good all-round man to any Gentleman requiring same.

GARDENER, Private or Nursery.—Age 22; experience principally Flower and Kitchen Garden.—A. ADLEM, Normansfield, Hampton Wick, Middlesex.

GARDENER (Second, or Single-handed).—Age 25, single; eleven years' experience Inside and Out, of Vines, Peaches, Flowers, Vegetables, &c. Good references.—A. CARTER, Brettenham, Thetford, Norfolk.

GARDENER (Second), in a Gentleman's establishment, Inside or Inside and Out.—Age 22; experienced in Kitchen and Flower Garden, and Stove and Greenhouse Plants; good characters; abstainer.—W. G. JONES, The Gardens, Barrow Point, Pinner, Middlesex.

GARDENER (Second), where four or five are kept.—Age 23; Six years' experience.—G. PAYNE, Little Horringer Hall, Bury St. Edmunds, Suffolk.

GARDENER (Second, where four or five are kept; or good Single-handed).—Age 25; excellent character; abstainer.—GARDENER, 3, Grove Terrace, Church End Finchley, N.

GARDENER (Second), in a good Establishment.—Age 26; ten years' experience in good places. Good character and testimonials from present and previous employers.—H. C., The Gardens, Hatchford Park, Cobham, Surrey.

GARDENER (Second), or JOURNEYMAN (First).—Age 24; ten years' good practical experience, Inside and Out. Good references.—G. L., 86, Homesdale Road, Bromley, Kent.

GARDENER (good Second or Third).—A Gardener wishes to recommend a young man (age 19) as above. Has been with him three and a half years.—Mr. WILKINSON, Gardener, Brewery House, Royston, Herts.

GARDENER (Second).—Age 26, single; fourteen years' practical experience Inside and Out. Has good character and references. Abstainer.—H. HENDERSON, Uphill, Weston-super-Mare.

GARDENER (Second or Under).—Age 21, single; three and a quarter years in present situation. Good references. Inside, and bothy preferred.—A. COOPER, Woodley Garden, Romsey, Hants.

GARDENER (Second).—Age 23; four years' good character; nine years' experience. Leaving through establishment being given up. Abstainer.—G. L., Hill Side, Latimer Road, Godalming.

GARDENER (Second), in the Houses.—Age 24; eleven years' experience; five in present situation, six years in previous. Good character; can be highly recommended.—J. HIBBITT, Nork Park, Epsom, Surrey.

GARDENER (Second).—Age 29, married; understands Glass. Good Flower and Kitchen Gardener. Six years' good character.—A. R., 4, Elm Terrace, Brakdale Road, Catford, Kent.

KITCHEN GARDENER.—Age 23; six years' experience in first-class establishment.—J. B., Heythrop Gardens, Chipping Norton, Oxon.

GARDENER (Under), Inside and Out preferred.—Age 19; used to Kitchen Garden and Pleasure Ground, and some Inside Work. Good character.—S. PLAW, Hascombe, Godalming, Surrey.

GARDENER (Under), Inside and Out.—Age 23; eight years' experience; good references. Bothy preferred.—C. BOOND, The Firs, Elvetham Road, Birmingham.

GARDENER (Under), Inside and Out.—Age 21; seven years' experience; good character.—H. H., Avenue Road, Sunbury.

GARDENER (Under), in a private Establishment, Inside and Out preferred.—Age 20; five years' practical experience. Abstainer. Good references from present and previous employers.—A. B., 28, Finchley Park, North Finchley, N.

GARDENER (Under), Inside preferred; small premium.—Age 22; good character.—C. ALLEN, Mr. Neighbour, Bickley Hall Gardens, Lower Camden, Chislehurst, Kent.

GARDENER (Under), Inside and Out, where several are kept.—Age 20; good references from last and previous situations.—W. GRIFFIN, Vigo Road, Yateley, Blackwater, Hants.

GARDENER (Under), or LABOURER.—Age 26. Good reference. Abstainer.—G. S., Mr. Turner, 59, Slaidburn Street, Chelsea, S.W.

GARDENER (Under, or Third).—Age 20; four years' experience in Private Gardens. Good characters. Nursery or Private. Permanent.—C. J., 1, Greenford Road, Sudbury, Harrow.

GARDENER (Under), Inside and Out.—Age 20; five years at present situation. Good character.—C. MAXWELL, The Gardens, Priory, Hitchin.

GARDENER (Under).—Age 21; four years and a half good character.—T. P., 21, Milstead Street, Cornwall Road, Brixton Hill, S.W.

GARDENER (Under).—Four years' experience, Inside and Out. Wishes to improve. Excellent character.—F. SELLEY, Sysonby Lodge, Melton Mowbray.

GARDENER (Under), Inside, or Inside and Out; age 21.—Major Board, Springfield, Westerham, wishes to recommend the above.

GARDENER (Under).—Age 25, married when suited; no objection to Cows. Abstainer. Can be well recommended.—WILLIAM WHEELER, Bourne Park Gardens, Canterbury.

GARDENER (Third), Inside and Out, where five or six are kept, by a young man, age 20. Three years' good character. Total abstainer.—W. CHUTER, 2, Arlington Cottages, Gunnersbury.

GARDENER (Assistant), in Kitchen Garden.—Age 20. Good references.—C. NASH, Church Street, Great Missenden, Bucks.

MANAGER, or FIRST HAND only.—An accomplished Florist in Bouquets, Designs, and all branches.—A. G., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FOREMAN.—A. Herbert desires a situation as above; two years' good character from Waddesdon Manor as Foreman; also at Brick Hill Manor two years.—A. H., 43, North Road, Highgate, N.

FOREMAN (Inside).—Age 24; ten years' experience; three years in last situation; first-class testimonials; disengaged.—A. BYE, 44, Southwood Lane, Highgate, N.

To Nurserymen.

FOREMAN and PROPAGATOR.—Roses, Clematis, Rhododendrons, Conifers, Hardy Ornamental Trees and Shrubs, &c.; good Grafter and Budder. First-class references.—CONIFER, 41, Wellington Street, Strand, W.C.

FOREMAN, in the Houses, in good private Establishment; or DECORATOR in same.—Single, age 26. Three years as Foreman. Can have good characters from last places.—H. SHETLER, 5, Little Elm Place, Fulham Road, S.W.

FOREMAN.—Eight and a half years' experience; three and a half years in present situation. Good character. Used to Table Decoration.—F. EVASON, Down House Gardens, near Blandford, Dorset.

TO GARDENERS.—H. Appleby, Dorking, Surrey, can confidently recommend A. Weller as FOREMAN in a good Establishment; age 26. Seven years' good character.—A. WELLER, jun., Holmwood Park, Dorking, Surrey.

FOREMAN; age 24.—Mr. Clinging, Head Gardener, Sanderstead Court, Croydon, can with confidence recommend a young man who has been with him three years.—Address as above.

FOREMAN, Inside or General.—Age 27; eleven years' practical experience in Plant and Fruit Growing Inside and Out; two years Foreman in last situation; excellent references.—F. DEAVES, Great Honkesley, Colchester, Essex.

FOREMAN.—Age 28; thorough practical experience. Indoor. Fruit Growing for Market. Good references.—A. M., 2, Wolsely Terrace, Windmill Road, Hampton Hill.

NURSERY FOREMAN.—Middle-aged; all departments.—ADAMS, 3, Clark's Place, Bishopsgate, London, E.C.

FOREMAN (or good Second).—Age 25; good experience both Inside and Out. Steady and trustworthy. Good character as above.—W. BENNELLICK, Silford Hall Gardens, Oundle, Northampton.

FOREMAN, or good Second.—Age 26; ten years' experience in good places. Well up in House and Table Decorating, and general work of good place. Three and a half years Foreman in two good places.—J. G. R., The Gardens, Farnham Castle, Surrey.

FOREMAN; age 24, single.—T. Heath can thoroughly recommend the above where several are kept. Four years in present situation. Thoroughly experienced, Inside and Out.—T. HEATH, Bradfield, Cullompton, Devon.

PALM, STOVE and GREENHOUSE PLANT GROWER, or as ASSISTANT PROPAGATOR. Can be well recommended. Qualified to take responsibility.—A. L., 27, Formosa Street, W.

GROWER of Cucumbers, Melons, Grapes, Tomatos, Flowers, &c., for Market. Used to turning off large quantities.—Age 22; best testimonials and references.—E. EDWARDS, Grower, Chelmsford.

TO NURSERYMEN.—GROWER, in a Market Nursery.—Age 22; good knowledge of Cut Flower Trade. Ten years' experience.—W. S., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

JOURNEYMAN, Inside, or Second where four or five are kept.—Age 24; abstainer. Ten years' experience in Flowers and Fruit.—A. BARKER, Norley, Frodsham, Cheshire.

JOURNEYMAN, in the Houses, in a private establishment.—Age 21; seven years' experience in Stove, Fruit, and Greenhouses. Excellent character from present and past situations.—H. KILLICK, 42, Ceylon Place, Eastbourne.

JOURNEYMEN, in Pleasure Grounds and Houses. Good experience. Abstainer. Good recommendations.—E. FOOTE, Mrs. Winters, 10, Villiers Street, Lillington, Leamington, Warwickshire.

JOURNEYMAN in the Houses, age 22; eight years' experience; abstainer.—Alfred Tomalin, The Gardens, Oakwood, Crayford, Kent. can with confidence recommend H. Gibbs, to any Gardener requiring a trustworthy respectable young man.

JOURNEYMAN (First), in a good establishment.—Age 24; nine years' experience; four years in present situation. Bothy preferred.—A. PLEASANTS, The Gardens, Holmbush, Faygate, Sussex.

JOURNEYMAN (First), in a Private Garden, or good Nursery place.—Age 22; well up in Vines, Peaches, Melons, Cucumbers, Tomatos, Chrysanthemums, Ferns, Stove, Greenhouse, and Bedding Plants. Eleven years' good character. Abstainer. State wages.—G. WELLS, Fen Place Gardens, Turner's Hill, Worth, Sussex.

JOURNEYMAN, in the Houses.—Age 21; three years character from present situation. Can be well recommended. Please state wages.—A. TYRRELL, Sandown House Gardens, Esher, Surrey.

JOURNEYMAN, in the Houses.—Age 20; six years' experience; two and a half in last situation. Good character. Disengaged.—R. BYE, Northwood Hall Gardens, Rickmansworth, Herts.

JOURNEYMAN (First), Inside.—Age 23; nine years' experience. Good characters.—W. SEARS, Whatton Manor, Nottingham.

JOURNEYMAN (First), or GARDENER (Second).—H. Edwards, Eagle Gardens, Highgate, N., can with confidence recommend W. Baker (age 24) as above; nine years' experience.

JOURNEYMAN (Inside).—Age 22; two years in present situation; well up in Fruit and Plants; well recommended.—A. RIXON, Gosfield Hall Gardens, Halstead, Essex.

JOURNEYMAN, in a Private Establishment; age 20.—H. Alford, Head Gardener, Lower Wyke Lodge, Worcester, can recommend his Son as above; six years' experience. Bothy preferred.

JOURNEYMAN, Inside and Out.—Three years' good character in present situation.—G. CHICK, 7, Guthrie Street, Chelsea, S.W.

JOURNEYMAN, Inside, in a good Establishment.—Age 21; four years' experience. Excellent characters. Bothy preferred.—F. PECKOVER, The Gardens, Caradoc Court, Ross, Herefordshire.

JOURNEYMAN, under a Foreman.—Age 19; five years' experience, thirteen months under Glass; Chrysanthemums, Ferns, Vines, Peaches, Cucumbers, &c.—F. DOWLING, 1, St. John's Cottage, Polegate.

JOURNEYMAN, in the Houses.—Age 21; experienced in Market Work. Good characters.—H. GUTTERIDGE, 53, Devonshire Road, Chiswick.

JOURNEYMAN, in the Houses.—Age 23; nine years' experience. Excellent recommendation from present and previous employers.—H. BEAUCHAMP, Cowesfield Gardens, Salisbury, Wilts.

JOURNEYMAN (Second).—Mr. H. Drover can highly recommend a young Man (age 19) as above, who has had two years' good experience with him. Good previous character.—A. HUNT, Madeira Cottage, Whitwell, Isle of Wight.

JOURNEYMAN (First), Inside and Out, in a good establishment.—Age 22; seven years' good character from present and previous places.—G. BINLEY, Patrick St., Market Harborough.

JOURNEYMAN (First), in the Houses.—Age 23; ten years' experience. Can be well recommended.—W. WILKINSON, The Gardens, Lexham Hall, Swaffham, Norfolk.

IMPROVER, in good Establishment.—Respectable well educated youth, age 16. Twelve months' experience under Glass. Advertiser wishes to correspond with Head Gardener with view to above.—MATTIN, Holbrook Gardens, Ipswich, Suffolk.

IMPROVER.—Situation wanted by a young man (age 20), to assist in Seed Shop. Two years' experience. Can assist with Book-Keeping.—M. S. A., Mr. Sanders, Seedsman, Cambridge.

IMPROVER, in the Houses in a good establishment, under a Foreman.—Age 22; five years in present situation; three inside. Good character and references.—W. MERRICKS, Holme Park Gardens, Reading.

IMPROVER.—Situation wanted in a Gentleman's Garden as above by a Youth, age 17; two years' experience.—E. P., The Cottage, Iping, Midhurst, Sussex.

TO GARDENERS.—Wanted, to APPRENTICE to a respectable Tradesman, a strong Lad, 16 years of age. Premium £25, and outfit. Applications to Mr. J. BOND, 49, Poland Street, Oxford Street, London, W.

TO GARDENERS.—A young Man (age 22) requires a situation; three years' experience Inside and Out; able and willing to learn. Inside and bothy preferred.—G. RICHARDSON, Ringwould, Dover.

TO GARDENERS.—A young Man (age 20) seeks a situation Inside or Inside and Out; seven years' experience; good references.—E. B., 2, Elm Grove, Lewes, Sussex.

TO GARDENERS.—Situation wanted by a respectable Youth (age 18) in a Gentleman's Garden; three years' experience under Glass, and Out. Good reference. Bothy preferred.—J. GRIFFIN, Hopwas, near Tamworth, Staffs.

TO GARDENERS.—A situation wanted under a First-class Gardener for a youth age 17. One year's experience with Houses and General Work; abstainer. Well educated, and anxious to learn.—T. MORLAND, Pull Court, Tewkesbury, Gloucester.

TO NURSERYMEN and OTHERS.—A young Man (age 21) seeks a situation in a Market or Trade Nursery; experienced in Vines; good reference.—H. PARKER, Elvetham, Winchfield, Hants.

TO NURSERYMEN.—Situation wanted in a Market Nursery; used to Ferns, Roses, Carnations, Cucumbers, Tomatos, and the general routine of the trade.—J. H., 18, Station Road, Shirley, Southampton.

TO NURSERYMEN.—Situation wanted by a young Man, age 25; well up in growing Ferns and Soft-wooded Plants for Market.—State wages to H. C., 41, Wellington Street, Strand, W.C.

TO NURSERYMEN.—Situation wanted as KNIFEMAN, age 21; six years' experience in Budding, Grafting, and General Nursery Work. Good character.—CHARLES PITHERS, Chilwell Road, Beeston, Notts.

TO NURSERYMEN.—A young Man (age 23) seeks a situation in a Nursery—Stove and Greenhouse; eight years' experience, two in last place (Botanic Gardens, Sheffield). Good testimonials.—A. PRATT, Wroxham, Norwich.

TO MARKET NURSERYMEN.—Situation wanted by young Man, age 26; well up in general routine of Market work. Good character.—JOSEPH SKELTON, Hilton Lodge, Reigate, Surrey.

COLLECTOR of RENTS in the Country.—Age 33 years; fourteen years' character. Highest references; security if necessary.—X. O., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

GARDEN BOY (Outside), age 17, in Gentleman's garden near London. Active and willing; bothy preferred.—HY. GARRETT, 8, Cumberland Mews, Bryanston Street, London, W.

SHOPMAN or SECOND.—Advertiser seeks re-engagement as above. First-class references.—J. M. B., *Gardeners' Chronicle* Office, 41, Wellington St., Strand, W.C.

TO FLORISTS.—A young Man wants a situation in a Florist's Shop. Well up in the General Routine of the Business.—FLORIST, 31, University, St., W.C.

TO FLORISTS.—A young Man (age 25, single) requires situation as Florist in Shop or Market. Fourteen years' experience. Can make any design. Highest references.—J. DAVIS, 5, Snowdon Street, Gaylor Street, Oldham Road, Manchester.

HOLLOWAY'S OINTMENT and PILLS.—Sudden changes of temperature sorely try all persons prone to Rheumatism, Sciatica, Tic doloreux, and many malacies scarcely less painful, though of shorter duration. On the first attack of stiffness or suffering in any muscle, joint, or nerve, recourse should immediately be had to fomenting the seat of disease with hot brine and rubbing in this remarkable Ointment, which will assuage the uneasiness of the part, subdue inflammation, and reduce the swelling. The Pills, simultaneously taken, will rectify constitutional disturbances and renew the strength. No remedy heretofore discovered has proved so effective as the Ointment and Pills for removing Gouty, Rheumatic, and Scrofulous attacks, which affect all ages, and are commonly called hereditary.

GREEN'S PATENT "SILENS MESSOR" AND "NEW MONARCH"

ROLLING AND COLLECTING MACHINES FOR 1893.

The Winners of every Highest Prize in all cases of competition, and they are the only Mowers in **constant** *use at all the Royal Gardens and at the Royal Horticultural Society's Gardens, South Kensington.*

Patronised by— They are the first, foremost, and best in the world.

HER MOST GRACIOUS MAJESTY THE QUEEN on numerous occasions,
HIS ROYAL HIGHNESS THE PRINCE OF WALES,
THE KING OF THE BELGIANS.
The Late EMPEROR OF THE FRENCH. The EMPEROR OF RUSSIA,
And most of the NOBILITY, CLERGY, and GENTRY of the United Kingdom.

Royal Horticultural Society's Show, South Kensington, London, June 3 to 7, 1881. The *"Journal of Horticulture," of June 9, says:*—"MOWING MACHINES.—After a critical examination, the Silver Medal was granted to the old firm of world-wide fame, Messrs. T. GREEN & SON, of Leeds and London. As the Machines are known in all lands where good lawns are cherished, it is quite unnecessary to give any description of them."

Upwards of 195,000 of these Machines have been Sold since they were first introduced in the year 1856,
And thousands of unsolicited Testimonials have been received, testifying to their superiority over all others.
They have been submitted to numerous practical tests in Public Competition, and in all cases have carried off the Highest Prize that has been given.

The following are their Advantages over all others:—1st. Simplicity of Construction—every part being easily accessible. 2nd. They are worked with much greater ease than any other. 3rd. They are the least liable to get out of order. 4th. They make little or no noise in working. 5th. They will cut either short or long Grass, wet or dry.

SINGLE-HANDED SILENS MESSOR LAWN MOWER, With Improved Steel Chains and Handles.

To cut 6 in., can be worked by a Lady ...	£1	15	0
To cut 8 in., do. do.	2	10	0
To cut 10 in., do. by a strong youth	3	10	0
To cut 12 in., do. by a man ...	4	10	0
To cut 14 in., do. do. ...	5	10	0

We are the only makers of Lawn Mowers appointed by Royal Warrant to Her Majesty the Queen, and His Royal Highness the Prince of Wales.

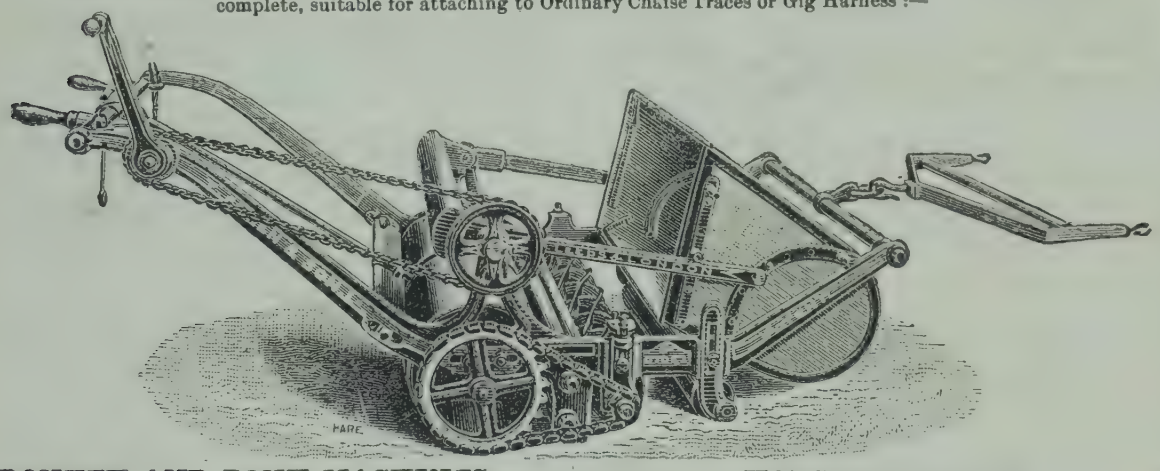
DOUBLE-HANDED LAWN MOWER.

To cut 16 inches, can be worked by one man on even lawn ...	£6	10	0
To cut 18 inches, do. man and boy...	7	10	0
To cut 20 inches, do. do. ...	8	0	0
*To cut 22 inches, can be worked by two men	£8	10	0
*To cut 24 inches, do. do. ...	9	0	0

* If made stronger, suitable for Donkey, 30*s.* extra.

These Mowers are the "Ne Plus Ultra" and "Acme" of perfection of all Lawn Mowers extant.

Prices of Donkey, Pony, and Horse Machines, including Patent Self Delivery Box, or Side-delivery, with Cross-stay complete, suitable for attaching to Ordinary Chaise Traces or Gig Harness :—



DONKEY AND PONY MACHINES.

To cut 26 inches	£14	0	0
To cut 28 inches	16	0	0
To cut 30 inches	18	0	0
Leather Boots for Donkey	1	0	0
Leather Boots for Pony	1	4	0

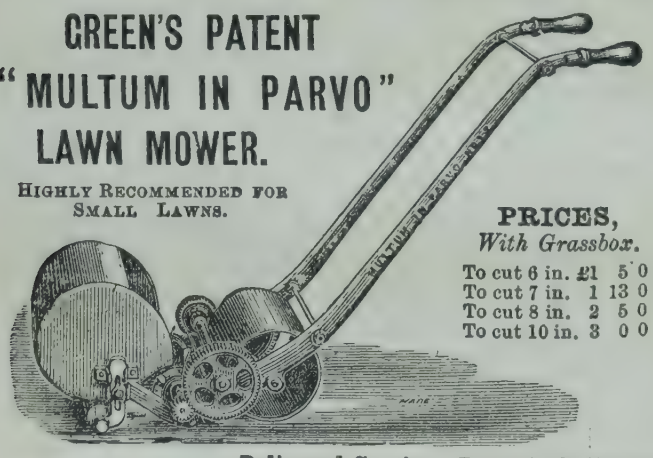
HORSE MACHINES.

To cut 30 inches	£22	0	0
To cut 36 inches	26	0	0
To cut 42 inches	30	0	0
To cut 48 inches	34	0	0
Leather Boots for Horse	1	9	0

The 26 and 28 inches can easily be worked by a Donkey, the 30 inches by a Pony, and the larger sizes by a Horse; and as the Machine makes little noise in working, the most spirited animal can be employed without fear of it running away, or in any way damaging the machine. Packing Cases as per List, except when for export.

GREEN'S PATENT "MULTUM IN PARVO" LAWN MOWER.

HIGHLY RECOMMENDED FOR SMALL LAWNS.



PRICES, *With Grassbox.*

To cut 6 in.	£1	5	0
To cut 7 in.	1	13	0
To cut 8 in.	2	5	0
To cut 10 in.	3	0	0

GREEN'S Patent LAWN TENNIS COURT MARKER.

No. 2412.

The Best Marker made.
Size with 1 wheel for Ordinary Courts, price **14s.**
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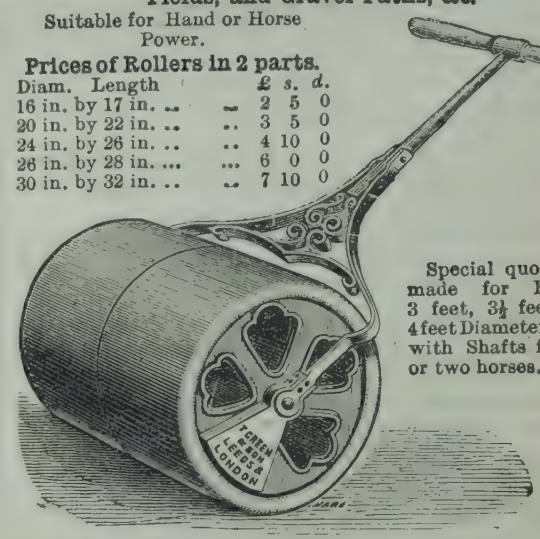

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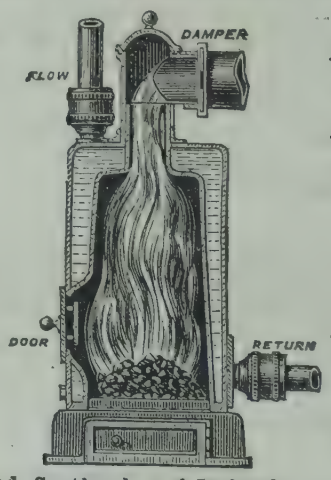

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CONTENTS.

Apples, English and Tasmanian	482	Quinine in America	483
Aristolochia, the	484	Rhododendron Nobleanum	484
Boston, U.S.A.	484	Rhododendrons, greenhouse	476
Camellia reticulata	485	Societies—	
Caterpillars	484	National Chrysanthemum	482
Daphne Mezereum	476	Royal Caledonian	482
Erythrina crista-galli	476	Royal Horticultural	482
Flowers of the spring	475	Wood Green Horticultural	483
Frosts, and the fruit bloom	483	Spinach	484
Ghent Quinquennial 480,	485	Strawberry John Ruskin	485
Ghent Quinquennial, novelties at	474	Tangley Manor	473
Gooseberry caterpillar, the	484	Technical education at Cambridge	483
Horticultural Club	482	Vanilla, the production of	478
Hypericum Moserianum	476	Verbena, the	484
Insecticides, experiments with	482	Viburnum plicatum	476
Narcissus, a new	482	Week's work, the—	
Nepenthes pitchers, large	484	Flower garden, the	478
Nursery notes—		Fruits under glass	478
Messrs. Barr & Sons	477	Hardy fruit garden, the	479
Perfume flowers at Grasse	483	Kitchen garden, the	479
Planting and sowing	478	Orchid-houses, the	479
Plants, for decoration	477	Plants under glass	479
Plants, new substances from	484	Zamias: their poisonous qualities	483

ILLUSTRATIONS.

Hæmanthus Lindeni	483
Salmia Laucheana	481
Smilax argyrea	475
Tradescantia Reginæ	477

"GARDENERS' CHRONICLE."

LARGELY INCREASED CIRCULATION.

IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

Increased to the extent of 75 per cent.

Advertisers are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS *at home and abroad, and is preserved for reference in all the principal Libraries.*

TECHNICAL HORTICULTURE.

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Sole Makers, WILLIAM THOMSON AND SONS, Limited, Tweed Vineyard, Clovenfords.

SALES BY AUCTION.

Thursday Next.

SPECIAL SALE of PALMS.

Important to the Trade. Fine for Furnishing.

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On view morning of Sale, and Catalogues had.

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A Small Collection of ORCHIDS in FLOWER and BUD, 1000 PEARL TUBEROSES, 5000 FREESIA REFRACTA ALBA, 1000 LILIUM AURATUM from Japan, 10,000 SEEDS of COCOS WEDDELIANA, &c.

MR. J. C. STEVENS will include the above in his SALE by AUCTION at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, April 27.

On view morning of Sale, and Catalogues had.

Wednesday Next.

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MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, April 26, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next.

By order of Mr. F. Sander.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, April 28, at half-past 12 o'Clock, a very fine lot of

DENDROBIUM FINDLEYANUM,

among which are known to exist pure white varieties.

CALANTHE GIGANTEA,

SACCOLABIUM LONGIRACEMOSA,

in fine masses.

CATTLEYA DOWIANA (TRUE),

very fine plants in very fine order.

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fine plants, in fine order.

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CATTLEYA LEOPOLDII.

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Also a fine lot of GLORIOSA SUPERBA, crimson and gold blossoms.

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UNRESERVED SALE of a particularly well-grown Collection of ESTABLISHED ORCHIDS, by order of T. E. Kirkness, Esq., who is relinquishing the cultivation of all but Cool Orchids).

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, without Reserve, on the Premises, Oak Lodge, Hessle, near Hull, about 5 minutes' walk from the Hessle Station on the N.E. Railway, on WEDNESDAY and THURSDAY NEXT, April 26 & 27, at half-past 12 o'Clock precisely each day, by order of T. E. Kirkness, Esq., the particularly well-grown Collection of ESTABLISHED ORCHIDS, containing a grand assortment of Cypripediums, beautifully cultivated; a large quantity of Cattleyas, including autumn-flowering Labiata, Lælias, Vanda Sanderiana; a fine lot of Phalænopsis, Cœlogynes, Cymbidiums, Dendrobiums in variety, Angræcums, Sophronitis, together with an assortment of choice STOVE PLANTS and FERNS.

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Templeton Gardens, Roehampton, near Barnes Station.

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By order of the Executors.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, as above, early in May, the Collection of STOVE and GREENHOUSE PLANTS, a few lots of ORCHIDS, AZALEAS, 2500 GERANIUMS and other BEDDING PLANTS, a very fine lot of PALMS, DRACÆNAS and other PLANTS for Decoration, including some good specimen KENTIAS.

The Langton House Collection of
ESTABLISHED ORCHIDS.

IMPORTANT UNRESERVED SALE of this Extensive and VALUABLE COLLECTION of ESTABLISHED ORCHIDS, which is especially rich in grand and rare forms of CATTLEYAS. By order of G. R. Le Doux, Esq. Absolutely without reserve.

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Cattleya Schroderæ alba, true, as figured in *Reichenbachia*, 5 strong plants
,, Trianæ alba, best varieties, 3 plants
,, Wagnerii
,, Reineckiana
,, exoniensis
,, aurea. Le Doux variety, as described in *Gardeners' Chronicle*, 3 distinct grand forms flowered on same spike
,, intermedia Faustina
,, Mendelii grandiflora, 5 plants
,, Mossiæ aurea
,, Trianæ atalanta
,, ,, formosa
,, ,, Veitchii
,, ,, Miss Florence Le Doux
,, ,, Backhousiana
,, ,, Miss Ada Le Doux, splashed sepals and petals
,, Warscewiczi, delicate, the true old form
,, Percevaliana, Le Doux variety, according to Mr. Sander, grandest form ever flowered
,, labiata autumnalis perfecta
,, amethystina
,, maxima, Le Doux var.
,, Harrisoni violacea, true
,, Loddigesii (Le Doux var.), a superb form
,, maxima peruvensis, 24 large plants; some rare forms
Dendrobium nobile nobilius, the finest var. [var.
,, ,, Cooksoni, the finest
,, ,, grandiflorum
,, ,, Wallichianum
,, ,, albens
,, segnatum, 3 plants
,, Ainsworthii
,, Leechianum
,, splendidissimum
,, Cassiope
,, Veitchii, 2 plants
,, Brymerianum, 12 large well-grown plants of the long-bulbed type
Odontoglossum vexillarium, Le Doux variety
,, ,, leucoglossum
,, ,, rubrum verum
,, ,, rubellum
,, excellens aureum
,, Wilckeanum superbum
,, ,, albens
Odontoglossum Andersonianum superbum
,, Ruckerianum magnificum, immense bold, well-blotched flowers
,, Jonningsonianum superbum
,, Halli cristatum
,, hystrix lyroglossum
,, crispum, finest type
,, ,, roseum
Lælia anceps, in great variety, and most robust plants
,, ,, Dawsoni*
,, ,, Stella*
,, ,, Williamsii*
,, ,, Sanderiana*
,, ,, alba, unflowered best types, twelve plants
,, ,, Schroderiana
,, ,, Protheroeiana
,, ,, Barkeri
,, ,, grandiflora Morada, four splendid large plants
,, autumnalis alba, large plant
,, elegans Turneri, a grand form
,, Præsiata, very large plant
,, Schilleriana, large plant
,, purpurata, some grand forms
Lycaste Skinneri alba, the finest large-flowered variety
,, rubellum
,, Bacchante, from Studley House collection
,, aromatica majus, very rare
Cymbidium Devonianum
,, Mastersii, fine plant
,, tigrinum, in flower, 2 plants
,, eburneum, 3 plants
Cypripedium Morganiæ
,, javanico-superbiens (Bleu)
,, grande
,, Schroderii
,, Schroderæ splendens (Linden)
,, Mrs. Charles Canham, the red variety
,, barbatum, choice vars.
,, insigne montanum Le Doux variety
,, candidulum
,, Seegerianum
,, Veitch's Demidof's var.
,, Leeanum superbum
,, œnanthum superbum
Miltonia Roezlii magnifica

* Mostly large pieces, from twelve to forty bulbs.

Catalogues are now being printed, and may be had in due course of the Auctioneers, 67 and 68, Cheapside, London, E.C.

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MESSRS. BENINGFIELD, TIDY, NORRIS, AND DUVALL will SELL by AUCTION, on the Premises, on THURSDAY, April 27, 1893, the valuable and extensive collection of very choice STOVE and GREENHOUSE PLANTS, ORCHIDS, FERNS, and about 9000 BEDDING PLANTS, being the entire stock of the well-known Presdales Gardens.

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COLLECTION of ORCHIDS.

IMPORTANT UNRESERVED SALE of this valuable and well-known Collection of Orchids, by Order of the Proprietor, Colonel Robinson, who is leaving his residence, Amestrey Court, Woolton, Liverpool.

This valuable and well-known Collection of Orchids will be offered for SALE by AUCTION, on the Premises, without the least reserve, on FRIDAY, APRIL 28, at 11 o'Clock prompt.

The fine Collection of STOVE PLANTS will also be offered at the same time.

This Collection of Orchids is well-known in the neighbourhood of Liverpool, and has a high reputation for the excellent state of cultivation. Numerous prizes have been obtained at the Liverpool exhibitions, by well-known specimens in the Collection, and many of the plants have been noticed and commented on in the Horticultural Press. Each section is well represented, and the Collection is well worthy the attention of Orchid connoisseurs. The Collection can be inspected any day prior to the Sale on application to the Head Gardener.

Catalogues are now ready, and will be forwarded post-free on application to—

MR. JOHN COWAN,
THE VINEYARD, GARSTON, NEAR LIVERPOOL.

Amestrey Court is about 5 minutes walk from Gateacre Station, Cheshire Lines Railway.

GREAT SALE OF ORCHIDS

By Order of the Liquidator.

THE LIVERPOOL HORTICULTURAL COMPANY (JOHN COWAN), LIMITED, being now in liquidation, are offering their immense Stock of—

ORCHIDS, TEA ROSES, FERNS, PALMS, GRAPE VINES, and general stock of STOVE and GREENHOUSE PLANTS.

At greatly reduced prices, and in addition large discounts are allowed. Descriptive and Priced Catalogues of the entire stock will be sent post-free on application.

The Company have just received and are now offering large and fine importations of the following and many other Orchids:—

ODONTOGLOSSUM ALEXANDRÆ, finest Pacho type.
LÆLIA ANCEPS (White), in grand masses.
,, GOULDIANA, a grand lot.
,, AUTUMNALIS.
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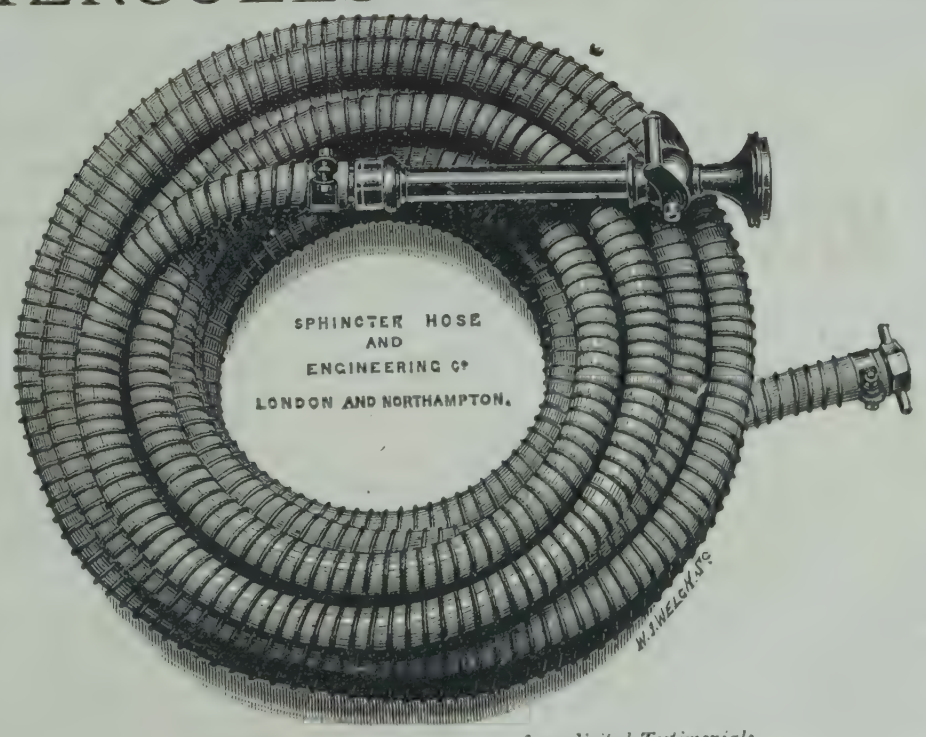

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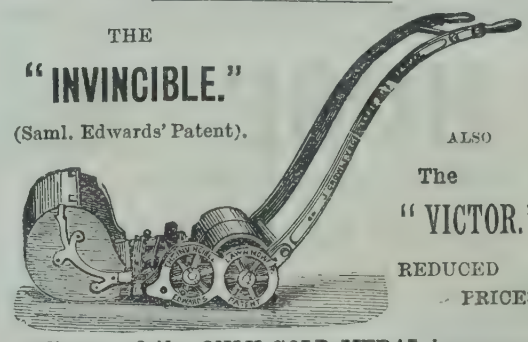

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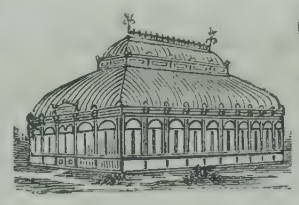

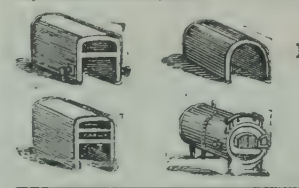

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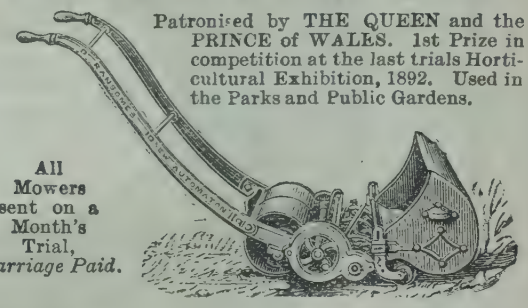

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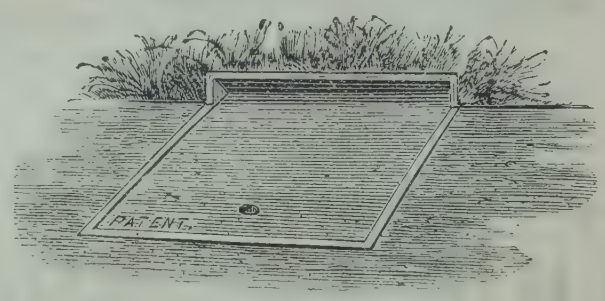

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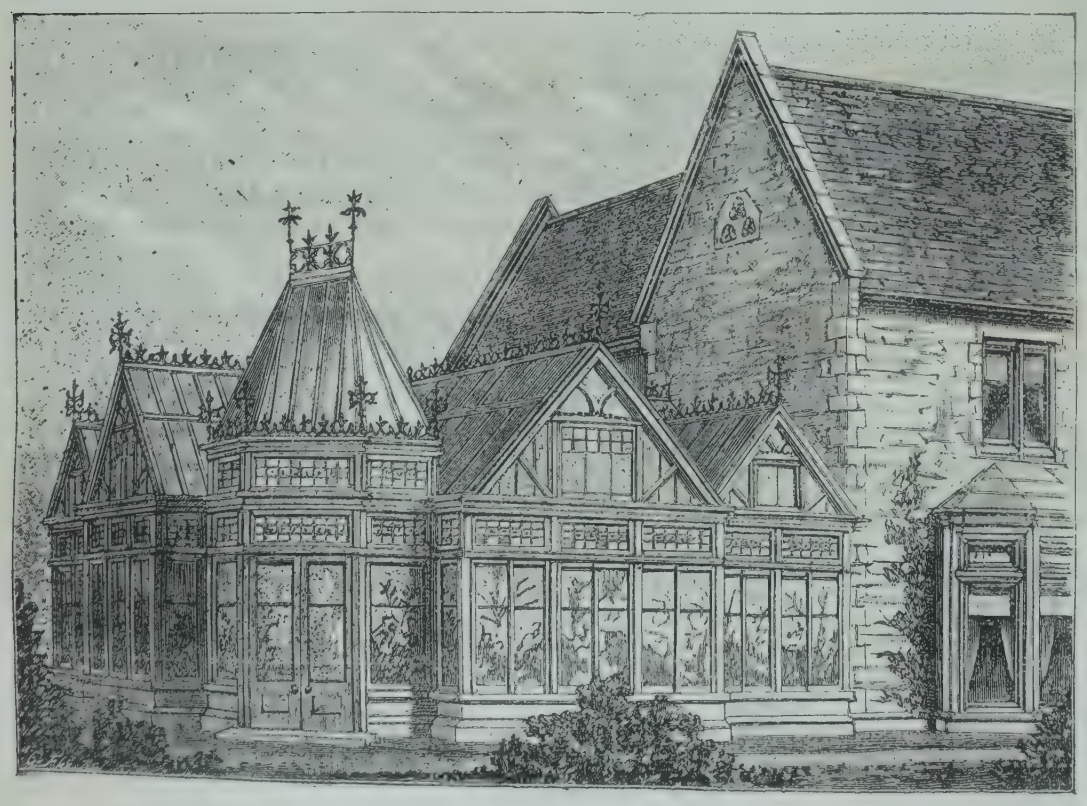

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THE

Gardeners' Chronicle.

SATURDAY, APRIL 22, 1893.

TANGLEY MANOR.

THE date on this interesting manor-house is 1582. I remember it as a farmhouse. Its present owner and restorer is Mr. Wickham Flower. In the reign of King John a still more interesting house bearing the same name stood on the spot. According to a work of great local fame and interest by the late Martin Tupper, the greatest character and statesman of John's reign, Stephen Langton, was born in humble life in the adjacent village of Aldbury. At about the age of twenty the young man had met his sweetheart at a retired spot, well known in the neighbourhood as "Albury Hanger. Prince John came riding by at the head of a hunting party, a dissipated and contemptible prince, and a lawless crew. After a brief parley the ruffians rode off with the girl to Tangley Manor. I must hurry over this ancient history in order to overtake the excellent modern gardening at the manor-house, but for the sake of the associations connected with the old place, I may add that Stephen Langton, the future archbishop, followed the ravishers, and most courageously effected his object of depriving them of their prey. In doing so he set fire to the house, which was burnt to the ground. The future career of the young couple, how their marriage was prevented, how he became an archbishop, and she a prioress, must not detain us. The house was rebuilt, as already intimated, in the time of Queen Elizabeth, and it is one of the most picturesque of Elizabethan manor-houses in the county of Surrey, where they abound. The moat surrounding it, supplied as it is by a bright stream from that principal source of rivulets in this district, Leith Hill, is now one of the most striking features of the place. It surrounds the house, and divides the 8 acres of lawns, orchards, gardens, and shrubberies into an outer and inner space. A wide margin of lawn and garden intervenes between the moat and the gabled house. The front garden is enclosed with a wall having wide open spaces along the margin of the moat, so that the view from the windows may not be closed. Here stood the strong gateway of the feudal manor-house, and, interesting as such objects are, its removal must have greatly improved the outlook from the windows. An enclosed garden necessarily limits the view, but this is characteristic of a moated manor-house built on low ground for the sake of the water supply, and the defect has been remedied as far as possible by the wide openings in the front wall; and by another notable display of good taste, the garnishing of the whole of this enclosing wall with numerous bunches and hanging bits of greenery, such as Arabis, Saxifrages, Campanulas, Pinks, Wallflowers, and many others.

*

Having crossed the moat by one of its bridges, and reached the outer garden, one may wander round an ornamental lakelet, fed by the same stream, which now runs through the moat. It will be understood that, on a low site like this, it is desirable to diminish rather than increase the extent of stagnant water. The moat, therefore, is not now kept full. With the exception of a narrow channel for the water, its bottom has been levelled and turfed over, and its sides sloped and covered with grass, so that the moat as modernised has a very charming appearance. Returning to the lakelet, we find on its pleasant banks, what may be said, in fact, of Tangley Manor as a whole, a cool retreat in summer. The Myosotis palustris grows abundantly on the banks, numerous Water Lilies blossom in their season on the surface of the water, including Nymphæa alba and N. lutea, and a much less handsome North American Water Lily, Nuphar advena. Flags and reeds abound here too. The special features of the grounds are the alpine garden and the Bog plants, which are grown generally by themselves in a low damp site. Early blossoms abound, and as my visit fell on a bright sunny day in March after a long period of rainy and gloomy weather, the early blossoms shone bright in the sun. There were innumerable patches of blue, white, and yellow Crocuses on the grass, and long lines of them bordering the walks. Primroses, Aconites, and Scillas abound, and under the wall of the house is a fine patch of Iris reticulata. Among other blossoms I must not omit the patches of Violets, the Snowdrop, the Polyanthus, the Skimmia japonica, whose red berries may stand for blossoms in this list, being quite as gay, and to these may be added Daphne Cneorum, whose pink flowers were just coming out.

Another section of the garden would supply a long list of other flowering plants if we had space to give the name of all. In forming the alpine garden, the sandstone rock of the immediate neighbourhood, taken from the strata of the lower green sand, was found useful. The colour of this stone is particularly pleasing to the eye, and when plenty of it is used, and well piled up in lumps and crags above the soil, with the alpines growing in the spaces between the stones and in the crevices of the rocks, the appearance of the rockwork is then very handsome indeed. I took the liberty of mentioning to Mr. Whiteman, the excellent gardener at Tangley Manor, that I thought the alpine garden, with its many tons of capital stone buried beneath the surface, a little too smooth in outline. The rockeries in some of the park gardens in London or its suburbs, especially at Dulwich Park, are admirably constructed, but it cannot be said that clinkers and similar materials can compare in beauty with the sandstones of Surrey.

Mr. Whiteman is a genuine lover of flowers, and he has collected in the alpine garden a large number of specimens. Naming them as we happened to meet with them, there are the blue, white, and pink Hepatica; the Linaria hepaticæfolia, a compact dwarf, not more than an inch tall, and not to be in bloom till July; perhaps the most conspicuous of the earlier blossoming plants were three Saxifrages, namely S. oppositifolia superba, S. o. splendens, and S. o. maxima, with a white variety of the same—great batches of these were in blossom, and they are as handsome as their names betoken. Near these were Chionodoxa Luciliæ, with superb blue flowers, having white centres. Another of the early-blooming plants which make this garden gay in the early spring-time, is the Grape Hyacinth; Muscari botryoides pallidum and M. racemosum, with several other species, together with the rarer M. Heldreichii. Gentiana acaulis grows here in abundance, and large healthy-looking cushions of it were just putting up their flower buds. Draba bœotica, a native of our northern mountains, had just put forth its yellow blossoms on March 8, and large heads of blossoms they are for so small a plant. Campanula pulla, the Ligurian Hairbell, one of the prettiest dwarfs of that order, not more than 2 or 3 inches high, was just appearing above the ground. Lewisia rediviva, the Resurrection Plant, was expected to blossom in six weeks, and before that time the scanty foliage would have died down, falling before the blossom appears, to be renewed next year. Side by side were Aralia alpina in blossom, and the Greek Crocus of the Ionian Islands, with its fine leaves and beautifully-marked flowers. Thymus in variety were spreading wide over the rocks and coming into blossom, and the former would shortly be a sheet of scarlet.

Passing by many other alpines which are not yet in blossom, including the mossy Saxifrages, bright and green, we reached, in the course of our ramble, the bog garden. This, however, is not a bog, though it is rather a damp spot; the plants are not all aquatics, but such as do best in damp places. The surface is unlevel, so that there are drier banks above the damp hollows. Primula grandiflora rosea is a plant which prefers to have its feet in the water and its head in the hot sun, and it flourishes here, and produces its bright crimson blossom in just such a site as it loves. On a suitable site on the drier bank above are Primula Sieboldi, P. Cashmeriana, and P. japonica. Hellebores evidently find here a suitable soil, for they flourish amazingly. Among them are H. guttatus, H. abchasicus, H. olympicus, and H. caucasicus punctatus, which last has reddish-purple flowers, spotted internally with dark purple. The plant described in Mr. Ware's catalogue of hardy perennials, alpine plants, &c., as H. colchicus, a rare Caucasian species, was, like the others, in blossom. Heuchera sanguinea had already put up its vivid crimson flowers. In a damper site was growing that handsome plant for bogs or water-sides, Bambusa Metake, with tropical-looking evergreen foliage. Cypripedium spectabile, the Lady Slipper, or Mocassin flower, must be named, though not in blossom. This hardy Orchid is seen in great splendour here in its season. Libertia, a species of sedge, was in flower by the water-side. Dwarf Azaleas and Rhododendrons grow thickly in the neighbourhood of the bog garden, with Genista hispanica, and numerous Heaths. Nothing could exceed the beauty of Erica carnea and E. alba. Gaultheria nummularioides, with its mass of creeping arching stems, grows freely in the peaty soil. Andromeda tetragona, a Heath-like shrub, with quadrangular shoots, and Daphne Mezereum alba, sweet and bright, were not far off. I may add to this long list clumps of Erica carnea alba, one of the brightest of green plants, covered with small white blossoms, with the characteristic bunch of brown stamens protruding from the flower. A coming blossom is Waldstenia fragarioides, a bright green creeping thing, with yellow blossoms just about to open.

Among the alpines should be named that charming spring flower, Omphalodes verna, with brilliant blossoms of an exquisite blue colour, like those of the Forgot-me-Not, and 6 to 9 inches high. This plant prefers a sheltered corner, loving shade and the protection of trees.

In the alpine-house, where the blossoms are a little forwarder than they are out-of-doors, we found Gentiana acaulis in full bloom, with a number of others, including Primula glaucescens, P. nivalis, P. marginata, P. Allioni, Ranunculus anemonoides, Saxifraga Burseriana major, Soldanella alpina, Androsace carnea, Saxifraga Juniperiana, and Lithospermum graminifolium. Among several other favourites here, Androsace Chamæjasme, one of the best alpines, will soon be in blossom. *H. E.*

GHENT QUINQUENNIAL NOVELTIES.

(*Continued from p.* 442.)

HORT. LINDEN.

1. *Eulophiella Elisabethæ*, Rolfe.—This fine African Orchid, for which a new genus has been created, has a most elegant habit. Its flowers, borne in clusters of twenty on a purplish-red stem, are white flushed with rose, and look like porcelain; they are rounded in form, a little suggestive of those of Odontoglossum citrosmum, and are of the same size as that species. The hinder surface of the segments is purplish-red, the callus of the lip is orange-yellow. (Figured in *Lindenia*, pl. 329.)

2. *Tradescantia reginæ*, Lind. and Rod.—A very elegant plant, leaves variegated with rose-coloured purple and green stripes on a whitish ground. First-class Certificate at the Temple Show, 1892. (*Illustration Horticole*, xxxix., pl. 147.) (See fig. 71, p. 477.)

3. *Smilax argyrea*, Lind. and Rod.—A charming species, with long acuminate leaves, irregularly marked with silvery-white. First-class Certificate at Temple Show, 1892. (*Ill. Hort.*, xxxix., pl. 152.) (See fig. 70, p. 475.)

4. *Hæmanthus Lindeni*, N. E. Brown.—This is a fine Amaryllid from the Congo. It bears flowers nearly 2 inches across in fine rounded umbels, from $5\frac{3}{4}$ to nearly 8 inches across. The blooms are rosy-salmon tinged with scarlet. (*Ill. Hort.*, xxxvii., pl. 112.) (See fig. 73, p. 483.)

5. *Tradescantia superba*, Lind. and Rod.—A fine species, with foliage variegated with clear green and silvery-white on a bright green ground. First-class Certificate at Temple Show, 1892. (*Ill. Hort*, xxxix., pl. 199.)

6. *Stenandrium Lindeni*, N. E. Brown.—A species with compact foliage, dull green, with clear yellow veins, and a pale yellowish-green edge. First-class Certificate at Temple Show, 1892. (*Ill. Hort.*, xxxviii., pl. 136.)

7. *Labisia smaragdina*, Lind. and Rod.—A dwarf plant with excellent foliage, olive-green, with darker veins. First-class Certificate at Temple Show, 1892. (*Ill. Hort.*, xxxix., pl. 160.)

8. *Cyrtosperma ferox*, Lind. and N. E. Br.—A very decorative Aroid, with hastate leaves of considerable length; the petioles and floral peduncles thorny, petioles marbled with dark rose. Botanical Certificate at Temple Show, 1892. (*Ill. Hort.*, xxxix., pl. 193.)

9. *Dieffenbachia meleagris*, Lind. and Rod. An Aroid. Leaves spotted with ivory-white, and petioles much variegated with the same colour. (*Ill. Hort.*, xxxix., pl. 159.)

10. *Peperomia metallica*, Lind. and Rod.—An elegant species with dark green leaves, variegated with metallic, greenish, and whitish tints. (*Ill. Hort.*, xxxix., pl. 157.)

11. *Cupania elegans*, Lind.—A species with light and graceful foliage, leaves undulated, and toothed at the edges.

12. *Tradescantia elongata*, Lind.—A species of good habit, leaves longer and narrower than in T. reginæ, dark green with bands of silvery-white, and a dull purple tinge down the mid-rib.

13. *Dichorizandra musaica gigantea*, Lind. and Rod.—A fine plant of luxuriant growth, leaves very broad, nearly circular, the whole marbled with yellowish-white on a dark green ground.

14. *Heliconia spectabilis*, Lind. and Rod.—Very graceful in habit and colouring, petioles rosy, striped and speckled with brown, the leaves elongate-lanceolate, brilliant green with a rose-coloured mid-rib, the lower surface purplish-brown. (*Ill. Hort.*, xxxix., pl. 156.)

15. *Begonia Lansbergii*.—A splendid species. Habit compact, leaves obcordate acuminate, dark green above, tender green and softly velvety below.

16. *Dieffenbachia olbia*, Lind. and Rod.—A species of full and stately habit owing to the rich markings of the leaves, blotched with yellow and narrowly striped with white on both sides of the mid-rib. (*Ill. Hort.*, xxxix., pl. 148.)

17. *Bolbophyllum tesselatum*, Lind. — A small species with a creeping rhizome, the foliage prettily marked with fine whitish-yellow stripes on a green ground.

18. *Phyllogathis ciliata*, Lindl.—An interesting species, with rounded emerald-green leaves, the petioles covered with long hairs.

19. *Tradescantia velutina*, Lind. — Bears close short leaves, shaded with violet-purple in the centre, with a narrow silvery band on either side near the tip, and covered with very fine hairs.

20. *Calamus gracillimus*, Lind. — Foliage very narrow, linear, elongated, spaced at wide distances apart. A graceful Palm.

21. *Caladium sagittatum*, Lind. and Rod.—Foliage narrow, arrow-shaped at the base, dark green, with a wide band of bright red along the midrib, branching irregularly through the blade. (*Ill. Hort.*, xxxviii., pl. 138.)

22. *Alocasia coriacea*, Lind.—Leaves dark green, with clear green ribs, and looking like shining leather. The petioles, rose-coloured when young, then rosy-white, are delicately marbled with green.

23. *Dichorizandra angustifolia*, Lind. and Rod.—A very graceful species, rather suggestive of D. musaica, but the leaves are narrower, and more elongated; the lower surface beautiful violet purple. (*Ill. Hort.*, xxxix., pl. 158.)

24. *Cyanophyllum aspersum*, Lind.—A plant of great beauty, suggesting C. magnificum, but the leaves are more elongated, coated with a most delicate down, which gives it a beautiful velvety texture.

Fig. 70.—SMILAX ARGYREA: HORT. LINDEN. (see p. 474.)

SPRING FLOWERS.

Although the first flush of spring, with all its cheery tidings is over, yet is there now, in this late part of March, a gladdening display of lovely and brilliant flowers—and what a March it has been—at any rate with us in East Kent! It is true we have had some sharp frosts at night, but there has been no rain, and consequently I have never seen our early spring flowers lasting so long in their beauty as this year. No snow-storms, no drenching rains or howling winds, brilliant sunshine each day, but also tempered by an easterly wind that prevents flowers from being scorched up, as in some seasons. I know it has been different in other parts of the country, where we hear of frosts of far greater intensity, and of dense fogs, shutting out the bright sunshine, and nipping many a little plant. I think, then, perhaps a few further notes on spring flowers may not be unacceptable to those who, like myself, may have but a small garden, and who would like to know what can be best done to receive gratification from it at this early season; some of the flowers I have already noticed still linger on with me, especially is this the case with Anemone blanda, which even now (March 27) is sending up fresh blooms. I leave these, however, for pastures new.

This hackneyed phrase is used in its actual sense, for I am now looking out on a small paddock in front of my house, which is all aglow with Daffodils, most of them indeed the old-fashioned Lent Lily, but some others have been planted amongst them. There is certainly no way in which these delightful flowers show to so great an advantage as on grass, and the Field of the Cloth of Gold, as we grandiloquently call it, is very pleasing, not only to ourselves, but to our neighbours.

One cannot but be struck at this season in our garden on every side, how much we owe to bulbs, to which I may add, to bulbs of comparatively recent introduction. Thus I think the glory of my garden during the early part of March is my border of Chionodoxa Luciliæ. There is a border in front of my greenhouse 42 feet long, and the Chionodoxa occupies the whole length, and is about 18 inches wide; the other side of the path has also a border of it, but as the plants are seedlings, they are not as yet as strong as the others, which is composed of roots received from Smyrna, but which have spread amazingly since they were planted.

Another very beautiful member of this family, and possibly only a variety, is C. Sardensis; this has a deeper shade of blue, and not so much white in it as Luciliæ; and is, I think, somewhat later in flowering, and not quite so soon out of flower, it is also perfectly hardy, and increases in the manner of the type. Two other varieties, for the possession of which I am indebted to Mr. Whittall of Smyrna, are gigantea (or grandiflora), and Alleni, the former has very much larger flowers than either Luciliæ or Sardensis, and the blue has a decided lilac tinge in it, but my experience of it during the two years I have flowered it is that it produces fewer flowers on the stems than Luciliæ and Alleni I received last year from Mr. Whittall, and therefore can hardly say much about it. It is evidently of the gigantea type, but whether it is so superior as some affirm I doubt; when to these we add the beautiful well-known bulb, Scilla sibirica, and the graceful little S. bifolia, it will be seen how much our spring garden is indebted to this lovely tribe; and the beautiful weather of this March has given them the opportunity of displaying their charms to perfection. In addition to the border of C. Luciliæ already mentioned, I have another about 15 feet long of C. Sardensis, and another of the same length of S. sibirica, so that my little garden is not wanting in the flowers of early spring.

Of Narcissi I shall not say much, for there will be so much written upon them by those who are so much better qualified to write about them, and in truth, in the early days of March, there are but few in bloom out-of-doors. There are, it is true, those pleasing harbingers of the greater harvest, N. Minor and N. Minimus, and that quaint little beauty, Cyclamineus. I notice of this, that it has been said, that as it is found by the borders of streams, it ought to be planted in a damp peaty place. I have two clumps of it, one is in a place as nearly answering to that description as I can find in my sunny garden; the other is in a spot on one of my small rockeries fully exposed to the sun, and I do not see the least difference, they have both grown and both flowered well, so perhaps it is one of those accommodating plants, which may be called "opportunists;" and although preferring some situation like its natural habitat, yet is willing to put up with something very different, like the Trilliums, which, although plants reposing in shady woodlands, do well in our open borders—it is so quaint and attractive that it is

worthy of a place in any garden. I fear that other very pretty variety, N. triandrus, is not quite hardy enough, except in the more southern parts of our islands. Of course, after the middle of the month, plants and bulbs of all kinds come trotting in on top of one another; but I confine myself to those which cheer us before the great wealth of bloom comes in—and here one has to come to the rockeries, be they great or small. Omphalodes verna, or as it is sometimes called, the creeping Forget-me-Not, with its intense blue flowers, suggesting that of the Forget-me-Not, has done especially well this spring.

In looking over the rockery, I am met here and there with gems which, although making no grand blaze, are yet for one reason or another, delightful to the lover of flowers; here, for instance, is a clump of that queer-looking but very pretty flower, Anemone pulsatilla, still, I believe, very abundant in meadows in Bedfordshire and other Midland Counties. Then what a delightful little alpine shrub is Daphne Blagayana, with its dwarf habit and profusion of delicate and sweetly-perfumed flowers; it is generally considered to be a difficult plant to grow, and in some soils not quite hardy; however, it has done well with me, although it has received no particular attention.

Puschkinia scilloides is another very pleasing bulbous plant, with its delicate white flowers shaded with light blue, and another of those hardy gems on which we may rely so safely, provided you can keep slugs from it—a most difficult matter, for they have a peculiar *penchant* for it, as well as for the brilliant Tulipa Greigii, which I have watched with the greatest care, but at which they will get if they possibly can, and with all our watchfulness they beat us.

These are a few of those early-blooming flowers which gladden those who cultivate them up to, let us say, the end of the second week in March. After that there is a rush, Tulips, Hyacinths, and other flowering bulbs, together with Primula, Polyanthus, and other plants, displaying their beauty day after day; and in the wonderful season we have this year, it is rather difficult to say whether we most grieve over the shortness of the duration of these later spring flowers, or rejoice over the clear and bright colouring which the absence of snow and rain gives to them. *Wild Rose.*

PLANTING AND SOWING AT THE PRESENT TIME.

Drought reigns to an unprecedented extent over much of England, and gardeners are finding difficulty in getting seeds sown and seedlings planted out, the ground being hard, dusty, and not easily got into the fine tilth so essential for these operations. Where seeds and plants are arranged in lines, it helps them materially to draw suitable drills, and water them heavily the night before sowing or planting, and if one tablespoonful of nitrate of soda or two of common salt be added to a three-gallon can of water, letting these substances dissolve before distributing the water, the soil will be kept in a moist state for a longer period than would be the case when these are omitted. Large and deep drills for plants of Cauliflowers, Cabbages, &c., and wide shallow ones for seeds of Beans, Peas, and Turnips, may be watered with a sort of rose which does not spread the water about, and small drills with a small-spouted can. In the case of seeds, and some kinds of plants, a small quantity of the dry soil should be drawn in over the soil after planting and sowing to retain the moisture, which it does very effectually. Where water is supplied to the garden by means of underground pipes, it is a much easier matter for the gardener, enabling him to use it in the manner above described, or, instead, well saturating the soil all over. Beds of fine seeds, as Radish, Lettuce, Cress, Chervil and herbs generally, Celery, and annual flowering plants of many kinds, should be first watered, then, when dried a little, raked down to a fine tilth, again lightly watered, and the seed sown, and those seeds which are not too fine to be covered should have the required depth of fine dry soil sifted or spread over them, and afterwards be lightly patted with the spade or a bit of smooth board. Where mats can be spared, they may be used over these beds whilst the weather remains dry, but removing them at the very first sign of germination. In the case of lines of seeds, hurdles may be used on one side of the rows, when the sun will shine only half the day on the ground so shaded, or they may be laid flat on the soil. Branches of evergreen trees answer the same purpose, especially those of the Spruce Fir. It should be remembered that all plants so raised must not lack water after growth has begun, or they will be in a worse case than others which may have had to take their chance from the first, and failing abundant rains, artificial watering will be a necessity. Not only in the flower and kitchen gardens must watering receive attention, but the hardy fernery and rockery will ere this be suffering from want of moisture in the soil. Hyacinths, Tulips, Narcissus, Saxifrages, Sedums, Wallflowers, Arabis, Daisies, and the hundred-and-one plants used in spring and summer effects in the flower garden will need, and be greatly benefited by an occasional thorough watering. Violas and Pansies, Primula acaulis, P. polyanthus, P. Sieboldi and others, Hepaticas, especially the first two, will need great attention, or they will do no good this season. [Since the above was written rain has fallen in some parts. Ed]

TREES AND SHRUBS.

HYPERICUM MOSERIANUM.

It would be interesting to know how this new hybrid has fared where planted out in exposed situations. With me, it seems more tender than either of its parents, H. patulum and H. calycinum, which are both more or less tender here. Three or four plants planted out last spring were all killed in January, the minimum temperature up to this date having been 9° Fah. on January 4. H. patulum, though killed nearly to the ground, grows up again like a Fuchsia, and flowers in the autumn; but H Moserianum is killed to the roots beyond recovery. *C. Wolley Dod, Edge Hall, Malpas.*

Viburnum plicatum.

Before the season for planting shrubs is over, a note may be made of this fine dwarf shrub. It is a native of China, quite hardy. The growth is spreading, dwarf, and vigorous, and a large group of it is most effective. When a healthy shrub is in full bloom, the wrinkled leafage, of the deepest green colour, is almost hidden with the wealth of globular clusters of white flowers. Although not common in gardens, it is getting better known; but, unfortunately, it is considered by many too tender for our climate. This is happily a mistake. Sometimes one sees it against a wall, but there is not the slightest need for such shelter. The corymbs of flowers are succeeded by small black berries. *V. C.*

Varieties of Daphne Mezereum.

One of the few shrubs in flower lately was D. Mezereum and its varieties, of which there are two large beds in the Royal Gardens, Kew, that have flowered. It is when thus planted that their value for making a rich break of colour is seen, every twig being covered with the fragrant rose-purple flowers. The effect is made richer if the surface of the bed is planted with Ruscus as at Kew, or the crimson-berried Gaultheria procumbens, which should be lifted once in about three years to succeed well. There are several varieties of this Daphne. The white variety, which is even more floriferous and quite as beautiful as the type, was in bloom at Kew, also rubrum, the flowers of a rich purple shade. The double-flowered species, and D. autumnale may be noted. The two best are D. Mezereum, and the white variety of it for contrast's sake. Almost any soil suits the Daphne, but an open situation is necessary for a perfect ripening of the growth, without which flowers are few. *V. C.*

Erythrina Crista-galli.

This sub-tropical shrub, if planted in sheltered yet sunny situations, and where water will not lodge about the roots at any time, will survive the winter in this country if it be mulched with a layer 3 inches thick of fine coal-ashes. From seed sown now in a pot or pan filled with light sandy soil, and covered with a quarter-inch in depth of the same, placed in heat and watered, nice little plants may be raised by the autumn, and which will yield some flower twelve months later. The young plants should be potted into 3-inch pots when 2 inches high in a compost of three parts good loam and one of leaf-mould and sand, returned to heat, and watered, admitting air sparingly at first. The plants should be shifted into larger pots as they grow, planting them out in June, or standing the pots on coal-ashes. Young shoots taken with a heel from old plants started in a mild heat in the spring or early summer, and inserted in sandy loam on a mild bottom-heat 75° to 80° will strike readily. For the first years of the life of an Erythrina better progress is made if the plants are kept under glass—a cold frame well exposed to the sun—the growth becoming then well matured at the lower part. Young plants should not be cut back till some signs of growth renewal are visible, nor must the drying-off be so severe during winter, as may safely be followed out with old root-stocks. It is a good plan with these small plants—seedlings or those raised from cuttings, to plunge the pots in a large box of damp sand, and keep them in the greenhouse, or on the floor of cold but frost-proof pits. *H. W. W.*

GREENHOUSE RHODODENDRONS.

During the last few years many beautiful garden varieties of Rhododendrons have been raised, which were supposed to be of the R. javanicum type, a beautiful species sent over by Mr. Thomas Lobb from Java, when collecting for Messrs. Veitch. It is figured under that name in the *Botanical Magazine*, t. 4336, and has large trusses of orange-coloured flowers, faintly marked with red spots. Sir Joseph H. Hooker has recently stated that this name is an error, that it is not R. javanicum, but R. Leysmanni; both species have been found in Sumatra and Java, where various other species of Rhododendrons are abundant. It is from R. Teysmanni that so many beautiful garden varieties have been produced. Their rich and varied colours lend a charm to the warm greenhouse such as no other flower can give in the winter season of the year. The best varieties have been described, and their value as winter flowers duly acknowledged, in the pages of the *Gardeners' Chronicle* many times. Messrs. Veitch introduced yet another distinct species from Sumatra, through their collector, Mr. Curtis, which had been named R. multicolor, and, curiously enough, one of the native forms had quite dark red flowers, the other having flowers of a bright yellow. They were both flowered at Chelsea about ten years ago. Since that time, Mr. John Heal has produced a large number of beautiful garden varieties from these two forms of R. multicolor; the varieties were crossed with the garden forms of R. javanicum and R. Teysmanni, for Mr. Curtis also sent from Sumatra a very pretty variety which was named R. javanicum var. tubiflora, and is figured under that name in the *Botanical Magazine*, t. 6850; it has very pretty pale orange-red flowers. Hence there was no lack of material, and Mr. Heal has made the most of it. The great value of this new type of Rhododendron consists in the freedom with which the flowers are produced, even tiny plants in small 3-inch pots producing each three or four trusses. They are also winter-flowering, but, like the better-known varieties, they may be flowered at any time, for one can never visit Messrs. Veitch's nursery at Chelsea without finding some of these Rhododendrons in flower in all the tints of crimson and scarlet, rose and pink, white and cream-coloured, pale yellow to deep orange, orange-red, buff, &c.

At the time of my visit to the Chelsea nurseries, I was shown a variety of this new small-growing type with white flowers, which has been named Mrs. John Heal; the plant was not of large size, but it bore thirty trusses of bloom. Another one, with brilliant scarlet flowers, had been named Neptune. I also observed some seedlings with pale rose-coloured flowers, and others of a deep pink colour.

The original R. multicolor, with deep red flowers, and also the yellow form, are both figured in *Bot. Mag.*, t. 6769, where Sir J. D. Hooker gives a very full account of the Malayan Rhododendrons. It ought to be added that this section, like the more robust group, is easily cultivated, but many people fail by treating them as cool greenhouse plants. What they require is a minimum winter temperature of about 50° to 55°, and a slightly moist atmosphere. When making their growth, the plants delight in the warmth of an intermediate-house; and before they commence to bloom, I place them in the greenhouse, where the blossoms last for a long time—but they are moved to a warm house again as soon as the blossoms pass away. I use nothing but light fibrous peat for them, with good drainage, and they succeed well; but it must be observed that some varieties are more vigorous than others. *J. Douglas.*

Fig. 71.—TRADESCANTIA REGINÆ: HORT. LINDEN. (SEE P. 474.)

SELECT DECORATIVE FOLIAGE PLANTS.

(*Continued from p. 262.*)

There are many beautiful and distinct Palms, but the number of those which have come into general use is limited. Of all the species the Kentias are the most popular at the present day, for in addition to being very effective plants, they withstand hard treatment well. Their cultural requirements are simple, and with ordinary care they will thrive equally well in a cool greenhouse or a stove. Young plants are usually grown on in a high temperature, but it is quite unnecessary, except to force growth; and they should always be well hardened off before being used for ordinary dwelling-house decorations, the plants lasting then well, and even making good growth in a room, provided they get plenty of sunlight. Kentia Belmoreana makes a most symmetrical plant, and the leaves are more recurved and not so coarse as those of K. Fosteriana which is more effective when of large size. Few plants are grown more extensively than these two species of Palms at the present time. Kentia Wendlandi is another fine Palm, with larger leaves and broader leaflets than the two above mentioned. Where only a limited number of Palms are required, it is advisable to purchase young plants rather than to depend upon home-raised seedlings; for the seeds perish quickly, and unless sown as soon as they are received, failure is almost certain.

Cocos Weddeliana is another very popular Palm as a table plant, or when of large size for making groups, when it is very telling. It requires stove temperature, but although a moist atmosphere is beneficial to it, care should be taken that plants are not kept too wet at the roots, as not only this species, but others, frequently suffer through receiving too much water, over-potting and over-watering being a common error in the culture of Palms, more particularly the slender-growing species such as the above.

Geonoma gracilis makes a most elegant plant for table decoration, and will generally be found in the collections taking first prizes in competitions at flower-shows. It requires stove temperature, and unless carefully treated, the tips of the leaflets are liable to die off.

Areca crinita may be recommended as a table plant, but is not much grown at the present time.

Areca lutescens, though the Kentias have to some extent superseded it, is a desirable Palm, and makes a fine specimen. When well grown, it is certainly more elegant than the Kentias, but it will not stand exposure to the cold so well, otherwise there are few Palms more suitable for decoration, and it will always find admirers.

Areca Baueri is a fast-growing Palm, which makes a fine specimen, but it is only useful where large plants are required; for most purposes, I prefer it to Seaforthia elegans. The Seaforthia, however, has the advantage of making a good stem, and I should only recommend the Areca when grown tall.

Euterpe edulis is another Palm which makes a stem quickly, and as a tall plant with its drooping leaves it is very effective; but, unfortunately, it will not stand exposure to cold or rough usage, and consequently cannot be recommended for decorations except for the summer time, and when it does not get much knocking about.

Of hardier Palms, Corypha australis is one of the most useful; when grown in heat, the leaf-stalks run out more, and it makes a prettier plant, but it will grow well in a cool greenhouse, and even stand some slight degree of frost. Phœnix reclinata is a hardy serviceable Palm, useful when of medium size, and it is suitable for the conservatory or for the sub-tropical garden.

Latania borbonica, though not so well adapted for groups or associating with other plants, makes a grand specimen for isolated positions. For the sub-tropical garden large specimens are very effective, and if used in positions where they do not get the full force of the wind, they stand well, but when much exposed, the leaves get split and ragged. When grown in the stove and heavily shaded, this Palm makes long leaf-stalks, and has quite a different character to plants grown more exposed to the light and in a lower temperature. *O.*

NURSERY NOTES.

MESSRS. BARR AND SON'S NARCISSI.

The Narcissi will have a short life this year. Already the flowers are just fading, but the dull weather of the past few days will prolong the season. Brilliant sunshine for several weeks has prevented the flowers attaining full character; the stems are short, and there is an absence of that robustness and vigour conspicuous in more favourable years. But the visitor to the nursery of Messrs. Barr & Son at Long Ditton, near Surbiton, will find a splendid collection in full beauty, and for several weeks the Narcissi have been represented by one or other of the many forms, the Pallidus præcox type, being amongst the earliest to expand in bloom. It is impossible where the collection is so great to do more than refer to a few of the finer varieties, and the Poet's Narcissi now make a good display, the several forms of N. poeticus, as ornatus—the most useful of the group, grandiflorus and poetarum; they create sheets of the purest white. All the more popular Narcissi, for which there is a large demand, occupy long beds, raised a little above the level to throw off superfluous moisture. It is interesting, when going through this unique collection, to note the greater vigour of some kinds over others, the white Narcissi, N. cernuus and that section, requiring warmer and lighter spots than the robust "trumpets."

The Ajax section contains many beautiful varieties. Glory of Leyden is in fine bloom, the flowers fully, if not more than, 5 inches in breadth, and of immense vigour. This is, we should say, the largest of all Narcissi for breadth and massiveness, the segments light yellow, but the corona of a richer shade. It resembles Emperor, which with Empress and Horsfieldi, are of course amongst the more popular of this group. Golden Spur is a fine variety, early, strong in growth, the flowers deep yellow in colour—it is amongst the more useful of the family. Others were Henry Irving, Princeps, Mr. J. Berkeley, Santa Maria, James Walker, J. B. M. Camm—a very beautiful flower, white with quite a cream-coloured corona; T. A. Dorrien Smith, very distinct, the segments of the perianth sulphur colour, the trumpet rich yellow; and the large, finely-coloured Michael Foster. Captain Nelson is worth a note for its distinctness and beauty, the perianth creamy-white, and the cup bright yellow. A delightful little group is formed by N. Johnstoni, which is one of the most distinct of the Narcissi, and there are several good forms of the type, in some instances merely a matter, however, of degree. Mrs. George

Cammell and Queen of Spain are the two chief varieties, the flowers characterised by a neat charming shape and soft yellow colour; they are useful to cut, and have a refined appearance. One may spend much time amongst the Corbularias—exquisite flowers, that should be in all gardens. They are as pleasing in pots as in the open, and are not difficult to grow.

A beautiful section is N. incomparabilis, with a large flower, the segments broad, and of a bright yellow colour, throat widely expanded, and deeper tint. We noticed that those flowers with orange-scarlet margined crowns are in good character this year, but a little sun at the proper season would have brought out still more fully this distinguishing trait. Two very fine kinds are C. J. Backhouse and Gloria Mundi, the former a good garden Narcissus, the flowers of moderate size, yellow, and the crown brilliantly coloured with orange-scarlet; the latter kind, perhaps, the handsomer of the two. The perianth is of a fine yellow shade, the large crown richly stained with orange-scarlet. In the incomparabilis group, may be named also the popular Sir Watkin, hurrying past its best; Queen Sophia, the perianth sulphur-coloured, and the widely-expanded frilled crown orange scarlet. Queen Bess is worth noting for its colour, clear perianth white, the cup bright yellow.

The Barri group is of much interest. Again, we get the orange-scarlet crown Conspicuus in particular, the short cup edged with bright orange-scarlet, very brilliant against the yellow perianth; it is a beautiful and useful flower. Sensation is another beauty, the perianth very pure white, richly set off by the bright orange-scarlet edge to the crown; and a note may be made of Flora Wilson, another bright and attractive flower. All the various groups may be seen in perfection at Long Ditton, and those who care much for Narcissi will spend a day profitably amongst Mr. Barr's treasures laid out before the visitor. A host of beautiful things occur in the Leedsi section; for instance, Madge Matthew, a large white-flowered form, and Katherine Spurrell, a flower of much purity. A delicately beautiful kind is Duchess of Westminster, the perianth white, but the cup canary colour, and it emits a sweet scent, one of the most conspicuous of all Narcissi in this respect. Gem is well named, the white flower of excellent form.

Outside the larger groups, the doubles, Narcissus Burbidgei section, N. Backhousei, &c., occur many interesting Narcissi. A distinct departure is seen in Hume's concolor and Hume's Giant, excellent in pots, and good border kinds also. A beautiful form is N. Nelsoni, and the little N. Macleai is interesting for its distinctness and neat flowers, small white perianth, and yellow cup. It is interesting to see how some forms vary, N. Benardi and N. variiformis especially. All families of plants vary more or less in colour, but in Narcissi this variability is conspicuous. N. pallidus præcox, grown in quantity, yields many departures both in size, shape, and colour of the flowers. Each year the lover of Narcissi may learn something new. Collections of Narcissi at Long Ditton, and recently-collected bulbs, may be seen usually kept distinct, and presenting interesting characters; some of considerable value, promising to take a good place amongst popular kinds. Everyone who knows much about the Narcissus is acquainted with Mr. Peter Barr's good work amongst them, his introduction of new forms from Spain and Portugal, and bringing together every form known. But let it be remembered that the commoner kinds, the favourite old doubles, the Jonquils, and others are grown so largely that the nursery is gay with their varied colour, from white through shades of yellow to deepest orange. It is at this season the Long Ditton nursery is gayest, but soon will follow the Pæonies, late-flowering Tulips, and a host of early summer gems. Next year possibly a new and large rockery will be a feature. It is in course of construction, and then we shall get effects from the Narcissi that are impossible when these are grown on the level in long formal beds.

THE PRODUCTION AND TRADE OF VANILLA.

At a period when there is always an increased interest in the sale of "good" things, whether for food or for any other use, and at a time when a deal of attention has been given to the synthetical production of vanilline, the flavouring principle of Vanilla, it may be of special interest to know that enormous quantities of Vanilla-pods are still produced and shipped from the regular Vanilla-growing countries. Our contemporary, the *Chemist and Druggist*, quoting from a French source, says the Seychelles crop was at first estimated at 8000 kilogrammes, but it has since been put down at 4000 kilos. only. The Bourbon crop is stated to be 65,000 kilos. The old stock of Vanilla Beans in Bordeaux is said to be 14,000 kilos., while there were 8000 in Paris, 2000 in Hamburg, but in London there is no old stock. The crops of 1891—92 from Bourbon, Mauritius, and Seychelles amounted to a total of 148,000 kilos., while for 1892—93 they are estimated at 76,000 kilos. An interesting experiment in the preservation of Vanilla-pods, for export, which has before been referred to, is said to have been now adopted in Réunion, and consists of steeping the green fruit when freshly gathered in alcohol. This process was discovered in 1888 by three gentlemen of St. Denis, the capital of Réunion. Their names were Potier, the Director of the Botanical Garden; Chatel, a pharmacist; and Dandé, a planter. Museum specimens of green pods in alcohol were sent to the Paris Exhibition of 1889, but until now the process has not been carried out on a commercial scale. It is stated, however, that it is the intention of some of the Réunion growers to ship a considerable portion of this year's crop packed in casks in alcohol. The *rationale* of the alcohol process is based upon the view, that in the green Vanilla pods the vanilline or odorous principle does not exist in the free state, but in the form of a glucoside insoluble in alcohol; and that therefore the pods when landed in Europe will be richer in vanilline by about 40 per cent. than they would be had they been dried in the tropics.

The Week's Work.

THE FLOWER GARDEN.

By T. H. Crasp, *Gardener, Canford Manor, Wimborne.*

VASES, WINDOW BOXES.—Such as are at present unoccupied, or of which there are duplicates, should be prepared for their summer occupants by filling them with light, rich soil, and if it can be done, planting them at this season instead of waiting till next month. When planted and watered, place them in a cool-house, or if that is not attainable, a sheltered position out-of-doors, protecting them with mats on cold nights. Treated in this manner the plants become established by the time the bedding-out season arrives, and they look and are much better than if left till then; besides which, time and labour being saved, this lessens the pressure of work at a busy season.

ROSES at present are looking very promising, but the weather has been in favour of aphis and maggot, and the plants will need close attention to eradicate these pests, otherwise they will spoil the blooms which will soon be forming. There are a great many remedies for greenfly, but the handiest and quickest before they spread too far, is tobacco-powder. In bad cases, it is advisable to resort to the syringe, using some sort of insecticide. The surest and most harmless way to get rid of the maggot is to go over the plant and give each leaf that is infested a squeeze with the finger and thumb, which does the foliage much less harm than unfolding the leaf or picking it off. The dry weather has been very trying to Roses that were planted late, and should it continue, they should be watered overhead occasionally, so as to keep the wood as plump as possible. Briars intended for budding will now be breaking into growth; rub off all except three of the healthiest-looking eyes that may be nearest the heights you require; such treatment throws all the strength into the shoots that are to remain, as well as making it much easier to get among the plants during the budding season. Those budded last year should now receive attention; whether they commenced to grow in the autumn or early spring, it is necessary to see that the tips are properly removed from the Briar, as well as all suckers, which are apt to grow up from the old stock. Cut off the tops of dwarf budded Roses, and seize the first favourable opportunity of drawing some fine soil round the bud, in a way similar to moulding-up Potatos.

DAHLIAS.—These plants should be shifted into cold frames to harden off after they are rooted, but do not starve them in small pots, nor expose to currents of cold air. Any tubers that have not been started under glass may now be planted in the open borders where they are required to flower. See that the tubers are fully 3 inches below the surface of the soil. The ground cannot be too well manured and pulverised for their reception. All such plants as Brompton Stocks, Pentstemons, Antirrhinums, Violas, and Pansies, that have been wintered in frames or otherwise should now be planted, pressing the soil firmly round them, afterwards giving a good soaking of water occasionally.

SHRUBS, ETC.—With the continued dry weather all newly-planted trees and shrubs should receive a thorough good watering, and the syringe may be used after dry hot days over the foliage; and where a mulching of manure can be given this will save labour, and be productive of good.

FRUITS UNDER GLASS.

By M. Temple, *Gardener, Carron House, Stirlingshire.*

VINES.—At this season the weather is often changeable and cold, and heavy rains fall, which saturate the soil of the outside borders, rendering any uncovering not safe, the Vines often suffering a severe check, which is frequently the forerunner of shanking of the berries, and of mildew. There is always the temptation to allow the revivifying sun's rays to have full power on the soil, but there being no permanency in the genial sun-heat at this early part of the season, it is well to have portable coverings ready for use on a change to dull, cool weather, especially as regards early Vines, whose roots are near the surface, and consequently liable to be injured. It is even better to keep up the necessary warmth in the soil by adding some warm manure and leaves, than to risk chilling the roots. If on examination it is seen that the soil is dry—and such is likely to be the case on elevated and well-drained borders—a good watering with tepid water should be afforded, and liquid manure in a warm state is of advantage to Vines whose fruit is swelling. Inside borders should also be examined at frequent intervals, and watered as may be necessary. Grapes which are coloured should have fire-heat by day, accompanied with a free circulation of air for some time to thoroughly ripen them and give them flavour. Much of the inferior flavour of early and late Grapes is due to withholding fire-heat when they are still unripe; colour and bloom on black Grapes, often the misleading points, are at their best long before the fruit is really matured. It should be borne in mind that doses of strong liquid-manure applied when the colouring of the fruit is in progress also spoils flavour. As soon as the Grapes in the later houses are set and have begun to swell, the Vines should have a good application of liquid manure, or a dressing of some special Vine manure, which should be lightly forked in, and then liberally watered. There is a certain difficulty with roots which have extended beyond the limits of a made border, the soil of which may be getting inert. Such roots receive no benefit from watering the border, and this state of things affords an argument in favour of the roots of early Vines being kept entirely inside the vinery or cut off from the land beyond by means of a wall. Stop and tie down shoots gradually as they increase in length; thin the bunches as soon as the best berries can be discerned, and keep an even temperature. These are items in the management of Vines which cannot be neglected with impunity; unremitting attention in all stages of development is imperative.

THE ORCHARD-HOUSE.—This useful and profitable structure, which has done so much for the protection of plants and vegetables during the winter season, when the fruit trees were at rest, will now show signs of rewarding the cultivator. Much

of the prejudice against orchard-houses arose from ignorance of the proper methods of management and injudicious watering of the trees, especially in the application of moisture to the roots and foliage, which is an operation that should not be entrusted to inexperienced hands. Dribbles of water whilst roots are suffering from drought, applying liquid manure in a crude form, or using artificial preparations in too strong a state, and freely syringing the trees during damp and cloudy weather, are some of the points of bad practice, which make failures very probable. Sudden exposure of the trees to cold easterly winds when the fruit is setting, or in its earlier stages, is fatal to success. The thinning of the fruit, to allow those which are the best placed and largest to have the advantage, and the removal of shoots which are not required, which should be done by degrees, may now have attention. Those shoots which may be growing gross should be stopped. If black or green aphis are becoming troublesome, fumigate the house on two evenings in succession, syringing vigorously the morning afterwards. Trees which are planted in borders will not require so much watering at this season as pot plants, but every particle of soil over the drainage should be soaked when water has to be given; as heat increases, moisture and air should increase proportionately.

THE ORCHID HOUSES.

By W. Holmes, *Gardener, Pickering Lodge, Timperley.*

CATTLEYA-HOUSE.—Cattleya Lawrenceana and C. Schroderæ are two grand Cattleyas to fill up the period between the blooming of C. Trianæ, C. Mossiæ, and C. Mendelii, and the plants should now receive plenty of water. C. Schroderæ will often make four flowers on a spike, and sometimes five, whilst Cattleya Lawrenceana when well grown makes as many as six or seven flowers on a spike, and is a good species to grow. Whilst in flower the plants should be arranged at one end of the house, and a slightly dryer atmosphere kept. C. Schroderæ is one that will last in flower in good condition for a period of six weeks if properly treated.

ODONTOGLOSSUMS.—O. coronarium and its more profuse flowering variety, O. miniatum, are completing their growth, and if they are kept rather dryer at the root it will induce them to throw up their flower-spikes in a finer degree than if they are kept too moist. O. coronarium is a rather shy flowerer, but when well grown and afforded proper rest it may be induced to flower more freely than is usual. It should be placed close to the roof, and grown in teak-wood baskets or cradles with very little compost about it, but this should consist of sphagnum moss rather than anything else. A wooden cradle is very suitable for this plant, the rhizomes soon running over the sides of the ordinary baskets. The remarkable weather which has prevailed for the past six weeks has been favourable for Orchids, and has tended to reduce the fuel bill, fires having been much reduced by day, and much less being needed at night to keep the various houses at their proper temperature. Damping and syringing have been the chief points to attend to, plenty of ventilation both bottom and top being afforded.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maiden Erlegh, Reading.*

MULCHING WALL-FRUIT TREES.—This is a matter now requiring attention, and although the same has been repeatedly recommended, it is, nevertheless a neglected operation in many gardens; and in others, when the trees begin to show signs of lack of moisture in the soil, it is considered time enough to take the matter in hand. It is necessary to ascertain which are the trees to be mulched, the kind of mulching to use, and when it should be put on. In our uncertain and treacherous spring weather, most trees growing on Plum stocks and in somewhat dry borders would take water much earlier than it is usually afforded; still, it is unsafe to commence the watering of fruit trees before the fruit is well set, and the weather genial enough to warrant much encouragement of growth. Much growth made by trees at an early date renders injury from late frosts the more likely to occur, and in the case named, the mulching would prevent the escape of moisture until suitable weather offered for affording water at the root. This time is usually not earlier than the month of May. The materials of which hot-beds are usually made—that is, equal parts of stable manure and tree leaves—and which are no longer needed, afford, in my opinion, the best kind of mulching, and which I always make use of in this garden; for, whilst answering the purposes for which mulching is useful, viz., the loss of moisture from evaporation, and maintenance of an equable temperature in the soil, it allows sun-heat to penetrate it, which a thick coating of rotted farm-yard manure does not. Apricots, according to the size of the crop of fruit, should first receive attention; then the sweet Cherries, Plums, Peaches and Nectarines, and lastly Pears.

THE APRICOT.—The fruits of the Apricot are usually formed in clusters, and their thinning should be done early, so that those left to furnish the crop may attain as large size as possible before the stone forms. All strong foreright growths should be pinched back to three or four leaves—a practice that must be followed for some time longer. The stopping of these shoots will keep gross growth in check, which usually is found where the roots are in unrestricted borders.

THE GOOSEBERRY CATERPILLAR.—If this pest was troublesome last year, and no steps were taken at the proper time to destroy the larvæ, by removing and charring the surface-soil under the bushes, dressing with quicklime, or placing a good handful or two of fresh soot round the stems of the trees, and replacing that taken away with fresh soil, a sharp outlook should be kept for the first appearance of the caterpillars, and the bushes dusted whilst wet with dew or rain with Hellebore powder; the only remedy which can be applied at this season where the fruit is required for use in a green state.

THE KITCHEN GARDEN.

By H. C. Prinsep, *Gardener, Buxted Park, Uckfield.*

SALADS.—The cultivation of the materials for salads has become a more generally important matter than it once was, and a constant supply of the best things is not kept up without a good deal of forethought. The blanched leaves of the Dandelion are much enjoyed by some persons in the winter and spring and the plant is now included amongst those the gardener must grow. The large-leaved variety is the best, and to have these of good size, strong roots are wanted, quickly grown on good land, and which should not produce flowers before the plants are forced in darkness. For this reason the seed must not be sown too early, or the plants will often flower in the autumn, and if these are not picked off, the seed will be blown all over the place, and cause much labour in eradicating the self-sown plants. A sowing may now be made if an early supply is needed, but the main sowing need not be made before the middle of the month of May. The seed should be sown thinly in drills, from 12 to 15 inches apart, according to the quality of the soil; and when large enough to handle, the plants should be thinned out to 1 foot apart in the row. Snails devour the young leaves, as also the larvæ of the tiger moth, but as the eggs are laid in autumn the caterpillars are usually carried away with the dead leaves in winter, so that they do not often cause much damage, unless the plants are left undisturbed. A small sowing of Endive may also be made. This should be sown where it is intended to be grown, for if transplanted in dry weather, Endives are very liable to run to seed. Let the ground be in good tilth, for the quicker such plants grow, the less danger there is of their bolting. Sorrel is another plant whose leaves are used in salads, and the seed should be sown at the same time.

SEAKALE.—The shoots of sets which were early planted will have appeared some distance above-ground. When these are about 2 inches long, the weaker should be removed, leaving the strongest growth on each set, and taking care that it is uninjured. This shoot will form the crown for forcing next winter. After thinning the shoots, let the hoe be run between the rows.

ASPARAGUS.—The long-continued dry weather has made watering requisite in some districts. When watering is needed, it should be done in the early part of the day, so that the surface may be dried a little before nightfall, or the young tender growth of the Asparagus may suffer if frost should occur. I may here mention that at this place the thermometer fell to 19° F. on one occasion last week. New beds should have slight sprinklings to keep the soil from drying rapidly, but not enough should be afforded to lower the temperature of the soil, or the plants will not start readily into growth.

CARROTS.—The main crop of these roots may now be sown, treating the ground as previously recommended. Those on warm borders will be fit for thinning. This work should be carefully done, and a space of 3 inches left between the plants. When the thinning-out is finished, a dressing of some kind of artificial fertiliser should be afforded, or an application of liquid manure. If the weather remain dry, it will be necessary to water the beds rather frequently.

TURNIPS must have liberal treatment, or early-sown bulbs will run to seed, and it is only by keeping the plants growing quickly that fair-sized roots can be grown, and if they are long on the ground they become hot in flavour, and stringy. Make another sowing, and thin soon to prevent injury by the roots becoming crowded together.

CELERY.—Where a very early supply is needed, the first batch of plants may be transferred to the trenches as soon as there is a change to moist weather, and if the plants are getting crowded, and cannot be put into the trenches, they should be transplanted, and shelter afforded them on cold nights.

PLANTS UNDER GLASS.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

AMARYLLIS (HIPPEASTRUM).—As the plants finish flowering, they should be placed in a warm house to encourage and continue their growth, potting such as may require a shift into somewhat larger pots, employing loam, a liberal addition of leaf-mould, manure, and coarse sand. The bulbs should be kept growing till they are matured, and then stored away till required again for starting. The pots may be placed on their sides under staging or on spare shelves in a house with a north aspect.

GLOXINIAS.—Prick out seedlings into thumb-pots as soon as they can be handled, filled with fine leaf-mould and peat, with a small quantity of silver sand. Old plants that are growing may be potted. Gloxinias do best in a moist hothouse or pit, and to be shaded from bright sunshine, and not syringed overhead. A table or shelf covered with sand is a good place for them. If the house has a hot-water tank it is a very suitable place for them, the moisture given off condensing on the foliage like dew.

STREPTOCARPUS, COLEUS, and other tender seedlings should be pricked out into small pots before they spoil, and kept in heat, and shaded till they are well rooted, when they can be removed into a cool house.

IMPATIENS HAWKERI, I. SULTANI, I. ALBA, and others of this useful class should now be increased by seeds in gentle bottom-heat, or by cuttings of young growths which will strike very quickly. They are easy to cultivate, and they grow well in a mixture of loam, leaf-mould, a small quantity of decomposed manure, and some sharp sand; the intermediate-house suits them best.

THE SCARBOROUGH LILY VALLOTA PURPUREA—Give this beautiful Cape bulb a good position, where it will obtain plenty of light and air—it is most useful in the autumn months. Pot on any plants that were not potted in the autumn. Give them good loam, peat, some dry cow-dung, and plenty of sea-sand. Drain the pots well, and give a good supply of liquid-manure to plants that are growing freely. The stock is easily increased by division of the bulbs.

BRUGMANSIA ARBOREA, B. KNIGHTII, and other varieties of these strong-growing, summer-flowering plants, if planted out, will be benefited by a top-dressing of good loam, and some rich manure. Plants in pots should be repotted at once, if they want it; give them turfy loam, peat, manure, and plenty of sand, and good supplies of water when growing. Standard plants in pots are very useful in summer-time. They may be dried off, and stored in cool shed for the winter if the frost is kept from them.

EDITORIAL NOTICES.

Letters for Publication.—*All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for contributions, or to return unused communications, or illustrations, unless by special arrangement.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Advertisements should be sent to the PUBLISHER.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

SATURDAY, April 22—Royal National Tulip Society at Manchester.

TUESDAY, April 25—Royal Horticultural Society's Committees, at Drill Hall, James Street, Westminster.

SHOWS.

SUNDAY, April 23—Ghent Show (last day).

TUESDAY, April 25—Manchester Royal Botanic Society, and National Auricula Society Exhibition (northern section) in the Town Hall.

WEDNESDAY, April 26—Royal Botanic Society's Second Spring Show, at Regent's Park. Birmingham Narcissus Exhibition, Edgbaston Botanic Gardens (two days). York Florists' Spring Show (two days).

SALES.

WEDNESDAY, April 26—Tuberoses, Tea Roses, Greenhouse Plants, &c, at Protheroe & Morris' Rooms.

FRIDAY, April 28—Orchids from Messrs. F. Sander & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—49°.8.

The Ghent Quinquennial.

One more "quinquennial," larger than any and as brilliant as any, if not more so. But whilst these gatherings serve to illustrate forcibly the progress of horticulture, they are necessarily tinged with a feeling of sadness at the inevitable gaps in our ranks in the intervals. Where are Regel, Morren, De Cannart, Reichenbach, not to speak of our countrymen, whom we have lost in the interval? It seems as if we must surely meet with them in the Exhibition; at the social gatherings we hear their very voices—or, it seems to us as if we did so. Such reflections are inevitable; but while the workers one after another disappear from the scene, the work goes on happily, and, as we have said, the Ghent Quinquennial of 1893 is larger, and, in some respects, better than ever before. Certainly, as far as the attendance of notabilities goes, the meeting is very remarkable. From most of the countries of Europe, from Java and Japan, come notabilities in botany and horticulture; all the great societies of the Continent, and many of the smaller ones, are represented by their presidents, vice-presidents, and often by their secretaries also. Sir Trevor Lawrence very ably represents our own society, and has gained the universal recognition of the English contingent—a very large one—for the admirable manner in which he has acted as their spokesman and representative.

We fancy we have seen better groups of Palms at Ghent; it may be mere fancy, and certainly there is no bit of crystallized history such as we had five years ago, when the original exhibition of the Society with all its accessories was, as far as could be, repeated, in striking contrast to the exhibition of the day.

The arrangement on the present occasion, both in the main hall and in the annexe, is admirable (see pp. 453, 455, April 15). Heavy masses of foliage are relieved by bold outlying clumps of light Tree Ferns, &c., and these serve as the background to Anthuriums of startling brilliancy. Evidently much has been done in the way of Anthuriums during the last five years; never before have they played so extensive a part in the scheme of arrangement. A central group of Indian Azaleas is almost inevitable under the circumstances, but the flowers have a little passed their best, and the plants are veterans who have earned their *retraite*. Moreover, the training is formal and incongruous when compared with the graceful outlines all around. Many of these Rhododendrons and Azaleas have had, owing to the season, to be retarded by placing them in ice-chambers and dark sheds.

In the upper rooms are the Orchids, any number of them, as the phrase goes, some in groups, some singly, others arranged in charming little boudoirs, with all the adjuncts of drapery and curtains, mirrors and bronzes. We have heard something lately about Belgian superiority in the matter of the cultivation of Orchids, but excellent as are the plants shown, we do not think they are equal in quality to what may be seen at our own large shows, and certainly in matter of specimen plants we have nothing to fear. Here, too, are the bulbous plants, generally poor, owing to the season, the new plants which are of special interest, and odds and ends of all descriptions.

In addition to the main building is an annexe, the plan of which has been already given in our columns (April 15, p. 455). This is a wooden structure, imposing from its dimensions, and charmingly arranged by Mr. Pynaert. The whole place is flooded with soft light, filtered through light canvas, with occasional streaks of lightest green and rose. It has a peculiar airy appearance, which seems to give additional brilliancy and translucency to the masses of flowering plants. It is an admirable piece of work, and our congratulations to Mr. Pynaert, Mr. Burvenich, and Mr. Van Hulle will be universally confirmed. As we give a detailed report in another column, we need not extend our notice in this place.

The greatest interest centres, as we predicted would be the case, in the competition for the blue riband in the special class for "six plants with or without flower, of recent introduction, and not yet in commerce." Particular care was taken to secure a competent, an international, and an independent jury; and so it came about that, to judge twelve plants, seven judges were appointed! comprising three Belgians, MM. Closon (Jakob-Makoy), Kegeljan, Lubbers, Curator of the Brussels Botanic Gardens; one Frenchman, M. André; one German, Dr. Wendland; and two Englishmen, Mr. J. O'Brien and Dr. Masters. Some of these jurors were nominated by the rival exhibitors, and it is interesting to know that in more than one instance the same juror was chosen by both parties. Dr. Masters was called on to preside over this section, and M. André acted as secretary. Voting was by ballot, and, happily, when the voting papers were examined it was found that the jury were unanimous in their award of the first prize, a silver-gilt medal, to Messrs. F. Sander, of St. Albans. The plants shown by Messrs. Sander are Dracæna Sanderiana (see fig. 65, April 15), D. Godseffiana, a species in the way of D. surculosa, but with more slender stems, and with the dark green laurel-like leaves thickly spotted with bright yellow, like an Aucuba; Ludovia crenifolia (see fig. 64, April 15), which was described in our last issue, as also were Alocasia Watsoniana of which we shall give a figure next week; Strobilanthes Dyerianus, the pinkish-violet colour of whose leaves was much admired, and Alsophila atrovirens, a remarkable Fern, elsewhere described. All these plants were described in our last number with the exception of the Fern.

From the Compagnie Continentale of Brussels (Linden), comes a fine lot, but, with the exception of the noble Orchid Eulophiella Elizabethæ, the exhibit is evidently inferior to that sent from St. Albans. The Orchid just named is decidedly one of the most remarkable plants, if not the most remarkable plant, in the show. M. Linden accepted the result with manly acquiescence, looking forward to another occasion when matters may be reversed. It may be hoped that after this tourney, the rival combatants will smoke the pipe of peace, cancel the productions of their respective poets-laureate, and cease to agitate the horticultural world with polemics not consonant with the spirit which should animate all earnest workers in the cause we all of us have at heart. We are certain that we do but echo the feeling of the gardening community when we express the hope that these envenomed wranglings may now cease, and be unheard of evermore. Meantime, we must not forget to mention the five plants exhibited by the Compagnie Continentale, in addition to the Orchid above named. This is the more necessary as, so far as we can see, neither they nor the plants of Messrs. Sander are included in the catalogue. The competing lot from the Compagnie Continentale contained in addition to the Eulophiella, the following species and varieties, of which descriptive notes will be found at p. 474:—Tradescantia reginæ (fig. 71), Stenandrium Lindeni, Hæmanthus Lindeni (fig. 73), Smilax argyrea (see fig. 70, p. 475), and Tradescantia superba. Both exhibitors showed several other new plants, which are duly mentioned in our columns for this and for the preceding week.

In addition to Messrs. Sander, who bring the blue ribbon to England, there were a few English exhibitors. Messrs. Veitch show a fine lot of Amaryllis; Messrs. Heath, of Chippenham, show Orchids; Messrs. Pitcher & Manda exhibit Cypripediums; Messrs. Cutbush have a capital lot of small hard-wooded greenhouse plants, such as we are familiar with at home; Mr. Kellock sends some seedling Agaves, one of which, a very beautiful form, is dedicated to the King of the Belgians, and has been presented to His Majesty by the raiser.

One feature of the present exhibition is the carefully-arranged series of boiler-trials, to which we may allude on another occasion. We must also congratulate the editors of the *Revue de l'Horticulture Belge* on the promptitude with which they issued a report of the show in that journal. We know what this entails, and our congratulations have in consequence the more force.

The luncheon to the jury on the termination of their labours on Saturday last was a great success. It is rarely that English ears listen to such fluent oratory as fell from the lips of the President, the Minister of Agriculture (M. de Bruyn), and M. Léon Say, the eminent Free Trader, and also the President of the National Horticultural Society of France.

The dinner to the jury on the following day was also a great function, and here also the

speeches of the President, the Minister, MM. André, Vilmorin, and Professor Strassburger, of Bonn, were highly appreciated. Sir Trevor Lawrence, as we have indicated before, was the spokesman for the English, contrasting the history and position of the character were of necessity passed over, the authorities not caring to risk a possible demonstration of strikers before the Hotel de Ville. To our English eyes the "manifestations" seemed rather feeble on the surface, but what there may have been below, it is not by the concession of universal suffrage, tempered by plural voting in the case of men over a certain age, of married men, and of those whose education has been of a superior character.

In spite of their very grave political preoccupations and their police duties, our friends

Fig. 72. — SALMIA LAUCHEANA: HORT. SANDER.

(See *Gardeners' Chronicle*, April 15, 1893, p. 442.)

two societies, and expressing the cordial congratulations of our countrymen on the success of the exhibition, and their thanks for the hospitality and courtesy shown them. A "raout" was given on Monday evening, which enabled the visitors from all countries the opportunity of pleasant converse with their Belgian friends. Other festivities of a public for strangers to estimate. Meanwhile, it may serve to show how hard the organisers of the show had to work when we say that several of them had to do their heavy and harassing task at the exhibition all day, and to take their place in the municipal guard at night! Happily, comparatively little occurred to disturb the peace of the city, and the political troubles are ended left nothing undone that could be done to secure the pleasure and the profit of their very numerous guests.

It only remains for us again to express our hearty congratulations to our Ghent friends on the success of their exhibition, and to thank them very earnestly for this renewed illustration of their warm-hearted confraternity.

Royal Horticultural Society.—The next meeting of the Royal Horticultural Society will be held on Tuesday, April 25, at the Drill Hall, James Street, Victoria Street, Westminster, and it promises to be of exceptional interest. Besides Daffodils, Orchids, hardy plants, fruits, &c., the members of the National Auricula and Primula Society will bring their choicest plants, which will be sure to possess much attraction for the visitors. At 3 p.m. a lecture on "Alpine Plants" by Mons. Henri Correvon, of the Jardin d'Acclimatation, Geneva, will be given. The lecture on "Chemical Questions concerning the Soil," by Professor Cheshire, has been postponed until May 9.

Horticultural Club.—The usual monthly dinner and *conversazione* took place at the Hotel Windsor on Tuesday evening, 11th inst., the chair being occupied by Sir J. D. T. Llewelyn, Bart., the chairman of the Club. There was a good attendance of members, including the Rev. W. Wilks, Rev. T. Handley, Messrs. G. Bunyard, E. Cockett, G. Paul, Harrison Weir, H. Selfe Leonard, and Dr. Soper. The discussion was upon "Hunting for Alpine Plants," and was opened with a very interesting paper by Mr. H. Selfe Leonard, in which, after describing the necessary outfit for anyone engaged in this pursuit, he gave a graphic description of his wanderings in the Dolomite region of the Southern Tyrol and in the Engadine, which he regarded as two of the richest fields of the alpine flora in Europe, presenting, as they did, that of the granite and calcareous formation. He showed how, in the Dolomite region especially, where the two formations ran side by side, how completely distinct were the plants found on each. With regard to cultivation, he explained some of the difficulties attending it, owing not only to the various requirements of the plants, but also to the varying character of our winters—warm and sunny days being often succeeded by severe frosts and snow; while in the alpine districts the plants were covered with snow throughout the winter, which kept them warm and dry until the frost gave up in the spring. An interesting discussion took place, in which most of the members present joined. A cordial vote of thanks was awarded to Mr. Leonard, on the proposition of the chairman. The secretary announced that a special dinner would take place on the 25th inst., to do honour to M. Henri Correvon, of Geneva.

Royal Caledonian Horticultural Society's Show.—The spring flower show of the above was patronised by a larger number of the public than usually attends on the opening day, and the takings amounted to £250; afterwards, however, the attendance, though by no means small, was not quite so large as in former years.

National Chrysanthemum Society.—A meeting of the General Committee took place at Anderton's Hotel, Fleet Street, on the 12th inst. E. C. Jukes, Esq., vice-chairman of the committee, presided. After the reading of the minutes, and some discussion arising from a personal explanation by the Secretary, Mr. E. Rowbottom was elected a member of the Floral Committee, in the place of Mr. C. E. Shea, who has resigned. Mr. W. Herbert Fowler was unanimously elected chairman of the Floral Committee for 1893-4, in the place of Mr. C. E. Shea, resigned. Messrs. Henry Cannell and E. Molyneux were elected members of the General Committee, in the places of Mr. A. J. Veitch, resigned; and Mr. R. Payne, deceased. The Hon. Secretary announced that the reserve fund amounted to £39 15*s*, and that the schedule of prizes, delayed through the resignation of Mr. C. E Shea, as chairman of the Floral Committee, would be issued at once. Several new members were elected, and the Tonbridge Gardeners' Association admitted to affiliation. The proceedings closed with the usual vote of thanks to the chairman.

Experiments with Insecticides at Evesham.—On Saturday last, the 15th inst., the Stott Fertiliser and Insecticide Distributor Co. (Limited) were invited to give an exhibition of their varied appliances for the prevention and destruction of insect and other pests, by some members of the Evesham Fruit Growers Association. The time fixed was 10 a.m., in the orchards of Joseph Masters, Esq., ex-Mayor of Evesham. A numerous company of fruit-growers were present from Toddington, Evesham, and Pershore. All the appliances and insecticides of the Company were experimented with, and for the first time the new 30-gallon engine was brought out. This engine is fitted with a patent quadruple-acting forcing-pump. The patent distributors were fixed on the handles of the pump, and from each a distributor was fixed, and the new adjustable sprayer was used. The distributors were charged with "Killmright," and various bushes and trees sprayed with the solution given off. The result was everything that could be desired; caterpillar, aphis, and red-spider alike met their fate. The patent syringe was next charged, and used on black-fly, and although the strength was not more than ½ oz. to the gallon, this pest was quickly destroyed wholesale. This being an informal meeting of the fruit-growers of the district, the results were so satisfactory that it was decided to invite all the members to meet at 11.30 on Saturday next at Lord Sudeley's, Toddington. Mr. Stott expressed his thanks, and remarked he should only be too pleased to give a further demonstration. Mr. Wise remarked he should expect as many members to be present as could make it convenient.

East Anglian Horticultural Club.—A very successful concert was given in the Assembly Room of the Agricultural Hall, Norwich, by the *employés* of Messrs. Daniels Bros., seedsmen of that town, on the evening of the 13th inst. The club consists of a large number of East Anglian gardeners, and its main object, as the name would imply, is to promote the interests of horticulture. The committee are empowered to apply their surplus funds to charitable purposes, such as the assisting of gardeners overtaken by misfortune, and it was in aid of this benevolent object that the concert was given.

English and Tasmanian Apples.—Some fruits of the above, kindly sent for our inspection by Mr. Webber, Covent Garden Market, show how complete is now the overlapping of two Apple seasons, that of our own country and Tasmania. The fruit consisted of Ribston Pippins, and so far as appearance went, but little difference was observed. The English-grown was naturally a little wilted, whilst the colonial was still plump. Some of the latter had a green rind, resembling the fruit of Northern England and Scotland, whilst the other was high coloured, as we see it in Sussex, Worcester, or Kent.

The Surveyors' Institution.—At the ordinary general meeting, held on Monday, April 10, a paper was read by Mr. T. Bright, on "Underwoods: their Growth and Utilisation." A discussion followed, and was adjourned to the next meeting; and a vote of thanks was unanimously passed to Mr. Bright for his paper. The next ordinary general meeting will be held on Monday, April 24, when the adjourned discussion on the paper read by Mr. T. Bright at the last meeting, on "Underwoods: their Growth and Utilisation," will be resumed; and should time permit, a paper will be read by Mr. R. F. Grantham (Associate), entitled "Recent Experience in Sewage Filtration considered in Relation to River Pollution." The chair to be taken at 8 o'clock.

Presentation to Mr. and Mrs. E. S. Dodwell.—The committee formed to raise a fund in order to make a suitable presentation to Mr. and Mrs. E. S. Dodwell, on the occasion of celebrating their golden wedding on the 20th inst., decided in consideration of Mrs. Dodwell's state of health, not to make a formal presentation in person on their wedding day as originally intended; but a sterling silver tea and coffee service was forwarded to Oxford, with many hearty congratulations. Advantage will be taken of the gathering at Stanley Road, Oxford, on the occasion of the annual festival of the Carnation and Picotee Union, to make a formal presentation of a silver salver and any other piece of plate which may be decided upon.

Hyde Park.—The flower walk in Kensington Gardens is just now quite gay with flowering trees and shrubs. Worthy of special mention are Pyrus japonica, Prunus triloba, with delicate blush-coloured double flowers, thickly set on long slender branches; the common Lilac, its profusion of flowers rendering the bushes conspicuous objects; and the beautiful Magnolia Soulangeana, flowers large, white, veined, and shaded purple; the Double Cherry (Cerasus avium multiplex), one of the loveliest flowering trees, and quite hardy, is just coming finely into flower. There are also some splendid patches of Scilla sibirica under the trees in the walk, the shade afforded by these bringing out the colours magnificently. Colonies of Hyacinths and Tulips planted between the herbaceous plants afford a gay floral display. The Hyacinths, Tulips, and Narcissi in Park Lane are about at their best; a little rain would, however, much improve them.

Technical Education at Cambridge.—The Cambridge University Extension authorities have already announced as part of the programme of their summer meeting, to be held in Cambridge next autumn, five courses of practical work in science in the university laboratories and museums, the subjects selected being chemistry, electricity, botany, physiology, and geology. As however the date of the summer meeting, July 29 to August 26, is too early for many teachers in elementary schools, whose holidays fall during harvest-time, arrangements have also been made for two courses in agricultural chemistry, specially adapted to meet the requirements of teachers sent with scholarships by their respective County Councils. Each course will extend from August 25 to September 12 inclusive, and will thus include sixteen working days, on each of which several hours' work in the university laboratory will be provided. One course, conducted by Mr. Fenton, one of the university demonstrators, is intended for students who have done little or no laboratory work, but have acquired a knowledge of theoretical chemistry, and will be similar to the course given last year, and attended by about 120 County Council scholars. The other course, conducted by Mr. R. H. Adie, one of the Cambridge extension lecturers, will be more advanced in character, and will be adapted to students who went through last year's course with credit, or have done similar work elsewhere. Accommodation for 120 students can be provided at these two courses.

Newcastle and District Horticultural Mutual Improvement Society.—The monthly meeting of the members of the above Society was held on Wednesday, the 12th inst., in the Wood Memorial Hall, Mr. A. Heslop presiding. Mr. G. Walker, of The Cedars, Low Fell, read a thoroughly practical paper on "Tomatos," which was followed by a lengthy discussion. The benevolent scheme was allowed to stand over for further consideration until next meeting.

The Tunbridge Wells and District Gardeners' Mutual Improvement Association.—The Committee of the above, in presenting the fourth annual balance sheet and statement of accounts, for the year ending March 31, 1893, are able to congratulate the members on the satisfactory amount of work accomplished during the past year. The balance at the bank on the general account of £45 18*s*. 6*d*., being an increase of £11 15*s*. 7*d*. for the year.

A New Narcissus.—That industrious cultivator and raiser of Narcissi, the Rev. G. H. Engleheart, Appleshaw, Andover, kindly sends us his latest success, viz., a flower which is the result of crossing N. poeticus ornatus and N. p. poetarum. In his note accompanying the new flower, and those of its parents, Mr. Engleheart says:—"The great

increase of size is very remarkable; the cross-bred plant may, without exaggeration, be described as in all respects twice the size of either parent. From this same origin I have flowers even larger, and with conspicuous eyes of deep crimson. All the flowers sent have been grown under the same conditions in my garden, and are all far below normal size, owing to the extraordinary drought, which on this hot and dry soil is felt severely by the Narcissi. This new strain of N. poeticus is larger, more robust, and far more floriferous than the kind known as grandiflorus." [The flowers sent for inspection measured $3\frac{1}{10}$ inches in diameter, and possessed petals which are of greater breadth than those of N. ornatus, with the deep orange-coloured corona of N. p. poetarum, and the perfume of N. poeticus. Their rather poor substance, as compared with the blooms of either of its parents, seems to be its only failing. As a plant for good-sized groups and masses on the turf or in borders, it should be a most effective plant. Ed.]

Fig. 73.—Hæmanthus lindeni, hort. linden: flowers salmon-coloured. (see p. 474.)

Wood Green Horticultural Society.—A special meeting of the members of this Society took place in the Masonic Hall, on Tuesday evening, April 11, to hear an address on the Auricula from Mr. R. Dean, Ealing, there being a large attendance. A great deal of interest gathered about this meeting, many amateurs of the district having begun the cultivation of this fascinating flower, though the strains in their possession are simply the border varieties; and a number of specimens of locally grown flowers were staged. In response to a hearty vote of thanks, Mr. Dean urged his hearers to make a point of attending the annual exhibition of the National Auricula and Primula Society at the Drill Hall, Westminster, on the 25th inst., when they would be able to see Auriculas shown in their best form, and in a great variety of types.

The Frosts and the Fruit Bloom.—Whilst the weather will remain the chief topic of conversation with humanity for all time, just now its possible effects on the fruit bloom is in everyones' mouth. Those whose acquaintance with the subject is superficial, see in the brilliant sunshine and warmth of the days, allied to the remarkable abundance of bloom on all kinds of fruit trees, only that which is rich in promise. Those who are better acquainted with facts see in the long-continued low temperature at night, and sharp, if dry frosts, much to create alarm. Some over-wise people have suggested that the cold nights do serve the good service of keeping bloom in check, and yet are oblivious of the fact that it is on the average in greatest luxuriance fully a week or two too early. Still further do they fail to see how severe is the ordeal through which bloom has to pass where the temperature ranges from 60° to 70° in the day, down to 20° at night, for 12° of frost seems to have been frequently recorded. The hope of the fruit-growers just now lies in the fact—first, that there is such a wealth of bloom, that if but one-third of it is saved, there will be a heavy crop of fruit; and secondly, that the weather has been so abnormally dry, that there has been little of moisture settling on the flowers. Undoubtedly, a change to a softer atmosphere and frequent showers would be hailed with the utmost satisfaction. In a hundred directions rain is needed, and its value in warding off frost and fertilising the fruit bloom is not one of the least. We can largely now, thanks to better knowledge, do much to protect fruit trees from insect pests; but from such frosts as we have recently experienced, there seems to be no protection.

Quinine in America.—Judging from a recent report of the quinine market, it seems that the consumption of this all-important medicine, though still realising low prices, is on the increase. Brunswick manufactured quinine was fetching last month only a trifle over 8*d.* per oz. It was stated by a New York house that the imports of quinine (as sulphate and in the bark) into the United States in 1892 amounted at least to 4,500,000 oz., or half the estimated output of all the factories in the world. As it is said to be a well-known fact that stocks in the States are lighter than usual, it is argued that the consumption of quinine in America must be on the increase; also that generally all over the world the consumption is ahead of the production, and that the deficiency is supplied by the surplus stocks of former years. If this is true, it is good news for Cinchona planters.

Perfume-yielding Flowers at Grasse.—It is reported that the Violet crops in the south of France this spring, have given only a mediocre result, the output being not quite sufficient to satisfy the requirements of the local manufacturers. It seems that during the present, and in many previous years, the Violet plants have suffered from a blight, which has injured the flowering. The French and Algerian Geranium growers continue to complain of the competition to which they are being subjected by the distillers in Réunion, whose output is increasing very rapidly. Almost every steamer that arrives at Marseilles brings Réunion Geranium oil, sometimes by thirty cases or more in one consignment. The Orange trees at Grasse promise a good crop of flowers. Jonquils are now being gathered, but the prices realised for these flowers are so low, that they are gradually going out of use for perfumery purposes.

Planting of Newcastle Town Moor.—The Mayor, in the course of some sensible remarks which he made at the Easter Guild of Freemen recently, and especially in his remarks to this effect, that "if the tree planting had been carried out many years ago, by this time there would have been a drive and an avenue of trees second to none in the Kingdom. Not the least interesting feature in connection with the tree planting, is the fact that it has given work to scores of men who otherwise would have gone without any work for some time, and whose wives and children would probably have been without food."

Zamias: their Poisonous Qualities.—A recent number of the *Queenslander* says, that a letter which Dr. T. L. Bancroft has received from Mr. Wm. Broome would appear to remove all doubt as to the disease known as "rickets" in cattle being caused by the animals eating the Zamia. The disease is prevalent in Western Australia, and in 1890 a Royal Commission was appointed in that colony to inquire into the cause of it. The bulk of the evidence attributes the disease to the cattle eating the nut of the Zamia. It appears beyond dispute that the disease, both in Western Australia and in Queensland, is confined to country in which the Zamia grows, and it was given in evidence that the nuts of the Zamia were found in several instances in the stomachs of affected animals. If it be

accepted that the disease is caused by the Zamia, the only remedy will be for those occupying country on which the Zamia grows to cut down and carefully burn every plant. In the destruction of the Zamia, it will be necessary to consume the whole of the plant by fire, as all the evidence seems to point to the fact that when scorched or half-consumed by fire the plant is more relished by cattle than when in a green state.

New and Curious Substances from Plants.—Amongst a number of obscure but chemically-interesting substances which have recently been obtained from plants, we notice the following:—From the root of Corydalis cava, M. Freund has isolated several alkaloids, namely, corydaline, bulbocapnine, and corycavine. G. Carrara has obtained condurangin from the bark of Gonolobus condurango; this subsance is supposed to be identical with the zincetoxin from Asclepias vincetoxicum. Schimmel, the great German essence manufacturer, has found cineole in the oil of Lavandula spica. Gérard has shown that the choluterol derived from phanerogamous plants is identical in physical and chemical properties with the phytosterin of Hesse; whilst that obtained from cryptogams is similar to the ergosterin of Tausit. From the Belladonna, E. Merck has obtained another alkaloid, namely, apoatropine. Altogether, this plant well deserves its other name of "Deadly Nightshade." Schmidt has found scopolamine in Hyoscyamus niger, Atropa belladonna, Datura stramonium, and Duboisia myoporoïdes. C. Senger finds that Artemisia absinthum contains large quantities of absinthin. From Licari kanali P. Barbier has isolated licarol.

Aristolochia.—Not only is the flower of these plants very singular to outward appearance, but the internal construction is equally interesting. The stamens form a column, and at the back of each stamen, and, as it were, prolonged from it, is a peculiar appendage, the exact nature of which has been a matter of dispute. The position of the appendages superposed to the stamens, forms an obstacle to considering them as styles; others, therefore, think them mere excrescences from the stamens, but if so, then where are the styles? Mdlle. A. Mayoux, of the Faculty of Sciences of Lyons, has investigated the subject afresh, and, after considering the views put forward by various botanists, proceeds to give the results of her own investigations into the presence and distribution of the vascular system of the flower, in the hope that in connection with the results obtained by other methods, a satisfactory conclusion may be arrived at. She concludes that in most of the species of this genus the staminal column consists of six stamens, alternating with six stigmas. One half of each stigma is concrescent with the adjoining stamen, and the concrescence extending beyond the anthers, the result is the formation of the six appendages "superposed" to the stamen, each appendage being composed of the coherent halves of two stigmas, an arrangement similar to that which occurs in the stigma of Papaver.

Cytisus Andreanus.—In a communication to the *Garden*, M. André says that this plant is grafted on the Laburnum, and in this way may be grown on calcareous soil, where the Broom would not thrive.

Boston.—During his recent visit to Japan, Prof. Sargent sent home to the Arnold Arboretum a great many seeds, numbering several hundred species and varieties of trees and shrubs. These include Pines, Birches, Oaks, Chestnuts, Magnolias, Rhododendrons, Andromedas, Actinidias, Hydrangeas, Hypericums, Rosa multiflora in several forms, &c., all more or less rare and novel here, and some not yet classified anywhere. The hardiness of many of these remains to be proved, but it is confidently expected that out of the collection many valuable additions to our list of hardy ornamental shrubs will be secured. The seeds are all sown in boxes and pots, and some will probably take a year or two to germinate, but there are already 121 varieties up, inside of three months of the sowing. Mr. Dawson sows all of the finest seeds, such as Rhododendrons, Andromedas, and Hydrangeas, on sphagnum instead of soil. In some cases he has sown the same varieties in both ways, the result being in every instance greatly in favour of the moss. Flower-pots are half filled with drainage, over this is put an inch of soil, and then the sphagnum is placed on top, and the seeds sown on it. The advantages are many. A light sprinkling will keep the moss sufficiently moist without being too wet, and in dark damp weather there is no danger of sour soil or damping off. In the case of seeds of slow germination, the surface of the soil is apt to get badly caked over with a growth of algæ. This is entirely avoided by using the moss. Transplanting is done with a pair of small wooden pincers, by means of which the tiniest seedlings are pulled out of the moss without injury to the roots, or disturbance of other seeds not yet sprouted, to be then dibbled into flats. Already 10,000 young Rhododendrons have been so transplanted. Among these are some new R. indicums, which may possibly prove hardy here. *The American Florist.*

Home Correspondence.

Rhododendron nobleanum.—On p. 363, this this fine-coloured Rhododendron is mentioned by Mr. Weller, who wonders why it it is not more extensively grown. One reason I can give is, that the flowers open so early in the spring, when in many parts of the country, sharp frosts prevents its usefulness. Possibly some near the sea-coast avoid these frosts. We have here one bush of this species in a large bed, surrounded by other and later sorts, but almost every spring we have the flowers killed by frost—it seems so tender. At the end of January this year, I noticed four trusses that opened well, but they were in the middle of the bush and partly underneath, so were well protected. By the middle of March the whole of the plant was in bloom at its best, but on two successive nights we had 9° of frost, and the whole of the trusses were killed. Some springs they escape, and are then most useful for cutting purposes, as the Rhododendron, I consider, is one of the finest and best of plants for cut flowers. If cut fresh in the early morning, it travels well, and lasts well. *A. Harding, North Hunts.*

Spinach.—For the last ten or twelve years I have been accustomed to reverse the order of things by sowing the Prickly seeded Spinach for summer and the Round seeded for winter use. On our light hot soils the Prickly does not run to flower so quickly as the round-seeded varieties, and the latter varieties appear to stand the winter better than the Prickly. This last winter I have had large breadths of the Victoria, Monstrous, Viroflay, and Prickly growing side by side. The Prickly was sown in order to compare its merits with the others. The two former, both being round seeded, were the best, Victoria yielding the better of the two. I can strongly recommend Victoria as being the best for winter use. Perfectly hardy, it seems to recover much more quickly from the effects of severe frost than the other varieties. *South Devon.*

—— "A. D." refers to this useful vegetable, and wishes to know other gardeners' experience respecting sowing Round *versus* prickly-seeded for winter use. I have been a head gardener for more than twenty years, and have grown Spinach largely, and for more than half that time I have sown none other than the round-seeded kind. I have always considered it to be equally as hardy as the other, and I give it the preference because I consider that it fills the vegetable-basket more quickly. Spinach should be sown in shallow drills at 15 or 18 inches apart, and when large enough to handle, be thinned or singled out to 1 foot apart, kept clean and frequently hoed between, and then good fat leaves are the result. To those fond of Spinach in autumn and spring, two sowings are essential, one of them to be made the first week in August. This sowing will furnish supplies from the end of September to Christmas, or till bad weather occurs. The other sowing should be made the last week in the same month, which will not be fit for picking till after the winter is over, but it will carry on supplies till the spring-sown comes in. This last (August) sowing I have invariably found to withstand a hard winter well, when perhaps 90 per cent. of the earlier ones were killed, or nearly so. *A. Harding.*

Caterpillars.—In one of the London wholesale seed catalogues appears among the flower seeds the name of Caterpillars; and it has occupied a place in wholesale seed catalogues for many years past, though it is gradually disappearing from among their contents. Dr. Lindley and M. Henri Vilmorin attribute Caterpillars to the genus Scorpiurus, but Dr. Hogg to Astralagus hamosus, the Hook-podded Milk Vetch, which he states is so called in reference to the shape of the pods. Though as above observed, Caterpillars finds a place in seed catologues among the flower seeds, M. Henri Vilmorin places it among the vegetables, and in the *Vegetable Kingdom* he enumerates and illustrates four species, all annuals. That which is generally sold as Caterpillars are the seed-pods—entire, not the shelled seeds—of the common Caterpillar, S. vermiculata, which when quite ripe and dry are seen in a curled form, and appear like a good-sized caterpillar. This is the largest podded of the four. Then there are the prickly Caterpillar, S. muricata; the striped S. sulcata, and the hairy S. subvillosa, all three smaller in the pod than the first-named. The seeds can be sown in the open ground like those of ordinary hardy annuals, and they bloom and bear pods in two or three months. Under the head of "Uses," M. H. Vilmorin informs us that the Caterpillars are seldom grown, except as curiosities, from the singular appearance of the pods, which resemble various kinds of caterpillars in a very striking manner. They are sometimes, as a harmless practical joke, put into salads for the purpose of startling those who are unacquainted with them; but, as a vegetable their flavour is very indifferent. *R. D.*

The Verbena.—There are few plants which are capable of presenting a more brilliant mass of colour in the summer flower-garden than Verbenas, where the soil is suitable. Some years ago the plant was much more generally cultivated than now, and probably the greatest drawback to their culture was the liability of the plants to attacks of mildew, and, in the case of young plants, to green-fly. I grow a variety which I had from Mr. Gilbert, gardener at Burghley House, Stamford, and so far I have never found the least sign of mildew on it during the summer months. The plant is robust, of dwarf stature, and it produces a fine lot of bloom. Verbena beds should always have, if the soil is poor, some small quantity of fresh soil, a liberal supply of well-rotted manure, and a sprinkling of soot, and they should be deeply dug. When planted in beds of large size, they soon cover the soil, if they are pegged neatly down. Verbena venosa is one of the most useful species for bedding, the blooms when in masses presenting a very good effect if dotted amongst plants with silvery foliage. These Verbenas are readily raised from seed, but the best way with them is to lift in the autumn a few of the root masses and box them up, and during the month of February place these in slight heat, when they soon throw up plenty of shoots that may be taken for cuttings. *H. Markham.*

Large Nepenthes Pitchers. — Well-grown Nepenthes are always attractive, especially when the pitchers are of a large size, and the gardener who succeeds in growing N. Rajah so as to obtain pitchers approximating the size of those it bears in its own native habitat, will accomplish no mean feat in horticulture, as up to the present all Nepenthes growers have failed with this species, which perhaps is the most wonderful of the genus. At present it is very scarce in cultivation. The following measurements were taken from a plant of N. Mastersiana, which was bearing eighteen finely-developed pitchers, in the collection of T. Wilson, Esq., of Sheffield. Length of pitcher 13½ inches, measuring from mouth of pitcher to base; circumference at widest part 11 inches. One of the pitchers Mr. Hannah, the gardener, informs me held nearly a quart of water. The height of plant growing in a basket is about 4½ feet. N. Curtisi var. superba is also in extra fine condition; length of pitcher from base to rim, 9¼ inches; length from base to top of lid, 11½ inches; circumference at thickest part, 11¾ inches. Other kinds are grown at this establishment, but these in particular are striking examples of high-class cultivation. *W. Harrow, Sheffield.*

The Gooseberry Caterpillar.—(See p. 392). The young caterpillars hibernate under the fallen leaves, and begin again to feed in the coming spring.

In July they change between some leaves into chrysalis, that gives the Abraxas after some weeks. *Dr. Emil Kalender, Cologne.*

EARLY SWARMING OF BEES.—It may be interesting to some of your readers to hear that we had a swarm of bees on Friday, April 7. This, I believe, is exceptionally early; at least, for this locality. If the old adage be true, that a swarm in May is worth a load of hay, what are these worth? *W. G., Worcestershire.*

THE EARLY SPRING.—It is very interesting to read the different notes with regard to the blossom of the fruit trees, and the expected safety of the same. But on the 13th we had 4° of frost, which damaged a great deal of blossom on the Apple and the Morello Cherry. The weather previous to the 13th was very hot, excepting the nights, and most things are very forward. Nearly all Broccoli are passed, including the Model and Gilbert's Late Queen. I picked Gooseberries on the 17th (Keepsake). We have only had one slight shower, ·09, during the last thirty-two days. Rain is wanted badly indeed. *North Devon.*

THE TEMPERATURE IN WARWICKSHIRE.—This morning, April 14, my thermometer, at 3 feet from the ground, stood at 23°, or 9° of frost, and I fear the fruit crops will suffer; Plums, Pears, and Cherries are white with bloom. *Thos. Woodford.*

FORCED STRAWBERRIES.—Not having tried the variety John Ruskin, I am unable to speak as to its merits as a forcer. I may mention, though, that I was somewhat doubtful of its merits when I saw it boomed so strongly in the general press a little over twelve months ago of fruit fetching £2 per lb. in the market, thinking that any growers who could net such a price for its fruit would have preferred keeping it in their own hands a little longer, unless they wanted to sell plants and not fruit. Auguste Nicaise, which I have tried for the first time this spring, has proved to be a really good, useful variety; my plants were not strong, but they have produced a good crop, many of the individual fruits being 1½ oz. each, and I hope to grow more of it another year. As one of the first to draw your readers' attention to the good qualities of La Grosse Sucrée seventeen years ago, I have pleasure in seeing that it is being still cultivated successfully by several of your correspondents. It has formed a third of the 1200 plants that I grow, for many years past. *Yorkshireman.*

STRAWBERRY JOHN RUSKIN.—I notice your correspondent, Mr. Rickett, finding a number of faults with the Strawberry under notice, and shall be curious to hear how it behaves at other places. I have forced it three seasons, and nothing could be better. We put in nearly 200 into a cool vinery on the 1st of last December, top-dressed them, and on the 1st of January, put them into heat of about 50°; they threw up their flower-stems particularly strong, and when the flowers expanded, the temperature was raised to 60°, and then to 65° at night. The flowers were brushed over with a rabbit's tail, and I think every bloom set perfectly, in fact, I never saw any kind set so well. On March 10, we gathered 2 lb., some of which weighed half an ounce. The fruit made 20*s.* in the open market. I gathered 14 lb. of good fruit from 189 plants. I enclose my salesman's letter for your inspection. Not a spot of mildew ever seen on them, if it had been, I should have killed them at once. *R. Gilbert, Burghley.* [The note, dated March 14, alluded to, is to the effect that the fruit of J. Ruskin sent by Mr. Gilbert, was of good size for an early Strawberry, larger than Viscountess, and that it appeared to travel well. Ed.]

—— John Ruskin Strawberry has done well with me this season. I put into the forcing-house one hundred plants the first week in January, and I gathered good fruit on March 23, several weighing 1 oz. a-piece, and from these plants I have gathered 13 lb. of excellent fruit, good in colour and flavour, and the plant quite free from mildew. It may be considered a very good Strawberry for early forcing, and it is one that I intend to grow another year. *James Hope, Weston Park, Shifnal, April* 17.

CAMELLIA RETICULATA.—While on a recent visit to Chatsworth Gardens, my attention was particularly riveted upon two fine plants of the above, ladened with buds, trained to the wall in the corridor, planted out, of course, and by the time this note appears in the pages of the *Gardeners' Chronicle*, these plants will present a picture of great beauty. Mr. Chester has favoured me with the dimensions of these, and the figures given cause those in works on horticulture to look somewhat diminutive. The height of the plants are 22½ feet; width, 24 feet, the other 22 feet; circumference of stems at 1 foot from the ground 20 inches. It is only when these are planted out that one sees the flowers develop into large size, pot or tub cultivation diminishes the size of the petals. This is a beautiful species, deserving of wider cultivation than it receives at present, that is where room can be found for its accommodation; the petals are not so formal as is the case with the ordinary run of Camellias. *W. Harrow, Sheffield.*

GHENT QUINQUENNIAL.

We have in the following report dealt as fully as possible with the more interesting exhibits. In the leading article a general description of this beautiful show will be found, and therefore we need not allude further to that matter.

The Orchids.

These plants, arranged in the great hall, may be said to be the foremost and most remarkable display of the whole show, the tastefully-arranged background of mirrors, crimson velvet, and tapestry, and the richly-draped alcoves, allowing of the varied and lovely plants appearing to the best advantage. The main groups were very fine, but some of the special classes were weak, perhaps in consequence, and some were not represented. For the accommodation of the competitors for the coveted prize, the Gold Medal given by His Majesty the King for the best collection of 100 exotic Orchids, a circular stage, 30 feet in diameter, was placed in the centre of the rotunda, and this being equally divided, was occupied on the one side by the grand exhibits of M. Jules Hye-Leysen, of Coupure, Ghent, and on the other by those of that liberal and enthusiastic amateur of Orchids, M. Georges Warocqué, of Mariemont, and in these two grand collections, which, taken together, formed perhaps the finest stand of Orchids ever exhibited, much of the interest centred. Inspection soon revealed the fact that M. Jules Hye had the advantage, his collection containing some phenomenal specimens, and being arranged cleverly, not to hide any one of the important objects. The Gold Medal given by the king was awarded to M. Jules Hye, and the second Prize Gold Medal went to M. Warocqué. Where all were good, it is difficult to make a selection, but some of the beauties grouped together in M. Hye's collection could be at once singled out. Foremost among these were the superb Cypripedium Laurebel × var. Hyeanum, with its rich vinous crimson-tinted flowers and shining wax-like texture; Cattleya Lawrenceana splendens, a brilliant variety, with the petals dark purplish-crimson like the lip; Lycaste Poelmani, with brownish sepals, yellow petals, and the lip thickly set with long hairs. (It is probably a form of L. lasioglossa, Rchb. f.) Miltonia Bleuana superba ×, a charming hybrid; Cypripedium tesselatum porphyreum ×, and the beautiful C. Lawrenceanum Hyeanum; while among Odontoglossums there were many unique things, of which it was difficult to judge the origin. Among these were O. pulcherrimum, like a good O. crispum, but with Wilckeanum spotting and lip; O. nobile, a beautifully-spotted variety, with some trace of O. Hunnewellianum; O. Wilckeanum albens; and among the other rich forms which can be identified with O. crispum, the fine rose and purple-spotted O. c. Wrigleyanum; and among Pescatoreis, the pure white O. P. album, the noble O. P. grandiflorum, and some superb violet-spotted varieties. But turning to the larger specimens in the elevated centre, beneath the noble specimen of Cocos insignis (an exhibit of M. Em. De Cock), which crowned the whole, we find grandly-flowered plants of Cymbidium Lowianum, Dendrobium Dalhousieanum, Epidendrum radicans, E. O'Brienianum, Oncidium sarcodes and other elegant Oncidiums; Dendrobium Wardianum, Ada aurantiaca, with about 100 spikes; Dendrobium thyrsiflorum, with twelve huge heads of bloom; Lælia Boothiana, shown under its old name Cattleya lobata; Masdevallia ignea, with 200 flowers, and other species proportionately large; Cymbidium eburneum, with twenty flowers; the charming Dendrobium nobile Ballianum, grand forms of Cattleya Mendeli, and other Cattleyas and Lælias, and indeed a wealth of beautiful flowers on superbly grown plants at all points. M. Hye must be complimented in the example he has set Orchid amateurs in all parts of Europe.

Almost equalling its rival collection was that of M. Georges Warocqué, so fine indeed were the specimens, that it required the eye of a connoisseur and the dividing line in the stage to detect that the whole had not been staged by one exhibitor. In M. Warocqué's collection, the Odontoglossums were very fine, and especially the white O. Warocqueanum, whose only colour is the yellow on the column, and some chrome-yellow marks in the lip; the many hybrids of the O. Andersonianum section, viz., O. Warnbekeanum, O. Bleichroderianum, O. hebraicum, &c. Of other Odontoglossums, the wholly yellow O. Canari resembled an unspotted O. Leeanum; O. crispum lilacinum, and a noble O. Wilckeanum, which looked more like a fine spotted O. crispum, were remarkable. At the back of this fine collection were specimens of Oncidium ampliatum covered with flowers, Vandas, Dendrobes, Cypripedium Lindleyanum, Cymbidium Lowianum, with a score of fine spikes; a noble Cattleya amethystoglossa, with three large bouquets of flowers, and handsome Cattleyas, Lælias, &c., and among the prettiest of the smaller species were Zygopetalum Lindeni, Cochlioda Noezliana, and C. vulcanica grandiflora.

Next in interest, to the botanist, at least, came the collection of M. Alf. van Imschoot, Mont St. Amand, Ghent, which was arranged to face the central stage, and which justly secured the Gold Medal offered for the greatest number of species of Orchids, embracing, as it did, more than 220 distinct species. An attractive feature was a trained piece of Vanilla planifolia, bearing seed-pods such as are grown in the tropics for commerce, but which are not often to be observed on these plants in Europe. Beside this, the baskets of Orchids hanging from the brackets overhead, and the noble specimen of Cymbidium Lowianum, the slender but profusely-flowered Epidendrum Wallisii, the bright and fresh-looking Vandas, Cattleyas, and Lælias, made a pleasing effect. In the centre was a plant of the true Vanda insignis, and among a host of interesting things were Dendrobium cymbidioides, D. Kingianum albidum, D. McArthiæ, Lycaste fulvescens, with many flowers; Zygopetalum gramineum, Cœlogyne sulphurea, Vanda alpina, Cyrtopodium cardiochilum, Galeandra Devoniana, Odontoglossum cristatum, a very richly-coloured O. polyxanthum, Ansellia africana, Brassias, Ericas, &c., truly a very remarkable exhibit.

In class 60, that for forty Cypripediums and Selenipediums, M. Ed. Pynaert van Geert, Ghent, showed a superb collection, the plants fresh and healthy, and the flowers fine. They were, moreover, arranged with much art. The plant of the fine variety of Cypripedium Sanderianum represented that remarkable species in the best form we have as yet seen it. Among the best we noted the new Cypripedium Barberryanum ×, C. Pollettianum ×, C. Dauthierii Rossii ×, a very remarkable variety; C. Harrisianum Fournierii ×, also distinct; C. Druryii delectum, C. Wendlandianum ×, the true C. Elliottianum, quite distinct from the fine C. Rothschildianum near it; C. nitidissimum, with nine flowers; C. caudatum, C. Chamberlainianum, C. Doris ×, C. plunerum ×, C. festum ×, C. Boxalli atratum, and others, extra fine. The collection secured the premier Gold Medal in this class, the next best going to M. J. Moens, of Lede, for a smaller, but still very meritorious collection.

Opposite the Cypripediums of M. E. Pynaert van Geert was the fine collection of fifteen exotic Orchids with which M. De Smet-Duvivier took the 1st prize, and which included a beautiful Lælia purpurata with about twenty flowers; Angræcum sesquipedale, well flowered; Cymbidium Lowianum, Cœlogyne Massangeana, Cattleya Mendeli, and C. Trianæ, in great beauty; Oncidium phymatochilum, &c., the whole tastefully arranged with Areca lutescens and Maidenhair Ferns.

In class 19 (seventy-five exotic Orchids), as in all the other classes in which he competed, M. Chas. Vuylsteke, Loochristy-lez-Gand, showed well, his Odontoglossums being superb in growth and in flower, and embracing many rare varieties and hybrids. He secured the 1st prize Gold Medal in this class, and well deserved it. In the centre was a grand Cymbidium Lowianum, with a bright-tinted Cattleya Skinneri, giving a very effective bit of colour; behind it, on each side, were large Phaius and a number of Masdevallias. Cattleya Schroderæ Cypripedium grande superbum, &c., were noteworthy.

M. Fl. Pauwells, of Antwerp, was 1st for thirty exotic Orchids (amateurs), with a pretty group, in which were Ansellia congoensis, Lælia superbiense, Vanda suavis, V. tricolor, V. gigantea, Cattleya Law-

renceana, &c.; and Dr. Capart, Brussels, secured a similar award for fifteen exotic Orchids (amateurs), his Cattleyas, Cypripediums, Cattleya Skinneri alba, and Lælia purpurata being specially good.

In the classes for single specimens, for the best Cattleya, M. Georges Warocqué, Mariemont, was 1st, with a grand C. Mendeli; and M. de Vincke-Dujardin, 2nd. For the best Vanda, M. R. Lemoinier, Lille, was 1st, with a noble V. gigantea. For the best Cymbidium, M. Alf. van Imschoot, was 1st, his exhibit being a good C. Lowianum. For the best Dendrobium, M. de Vincke-Dujardin carried off the prize with a neat specimen of D. nobile. For the finest Cypripedium, M. R. Lemoinier, Lille, was 1st, with C. Lemoinieri ×, and Messrs. Pitcher & Manda of Hextable, 2nd, with C. Greyanum ×. M. de Smet-Duvivier secured the Medal offered for the best Odontoglossum crispum (Alexandræ), with a splendid example; M. De Vincke-Dujardin that for the best Lycaste, with a grand L. Skinneri alba, with nine flowers; M. R. Lemoinier that for the best Odontoglossum other than crispum, with O. Edwardii; the same exhibitor also taking 1st for the best Oncidium. The Medal offered for a single specimen exotic Orchid, remarkable for its good culture and profuse flowering, fell to M. Alf. Van Imschoot, for a perfect specimen of Ansellia africana, with sixteen spikes of flowers. Messrs. Vervaet & Co., Mont St. Amand, took 1st for an Orchid of recent introduction not in commerce, with the clear yellow O. Masereelianum; M. Vuylsteke, 2nd for O. Tovarensis, a singular freak, like a rudimentary O. Pescatorei; and the prize list credits Messrs. Heath & Son with the Silver Medal for the best new hybrid Orchid, we suppose for their beautiful Odontoglossum excellens Tresederianum ×; we failed to find the award on the plant. Messrs. Heath & Son also exhibited Masdevallia Heathii × and other Orchids.

In class 61 (amateurs), twenty Cypripediums, M. Fl. Pauwels was 1st.

In classes 65, 66, new Cypripediums obtained by hybridisation, Messrs. Vervaet & Co., Mont St. Amand, was 1st, with C. Mons. de Curte × (Boxalli × insigne Chantini), C. × Madame de Curte, the same cross, but less spotted; C. Vandewielianum × (Boxalli × Spicerianum), C. Vervaetianum × (Lawrenceanum × Veitchii), C. Denisianum × (Boxalli × Spicerianum), and C. Huybrechtianum × (Spicerianum × hirsutissimum), the last-named (which is like a light-coloured C. × Ceres) from the same exhibitor, being 1st for the best hybrid Cypripedium; the 2nd being the C. Greyanum × of Messrs. Pitcher & Manda. Messrs. Pitcher & Manda were also 2nd for six new hybrid Cypripediums, with a very worthy collection.

It seems an endless task to touch ever so lightly on each of the numerous fine exhibits, but mention must be made of the very fine lot of ten Cattleyas and Lælias (nurserymen) which M. De Vincke-Dujardin, of Bruges, staged in class 72 a very beautiful C. intermedia, occupying the centre, with good C. Lawrenceana, C. Schroderæ, with nine flowers; Lælia purpurata, L. cinnabarina, &c., around; of the fine Vandas of the same exhibitor, which took the 1st prize in their class; the prize collection of twelve Dendrobiums of M. Alf. Van Imschoot, and the very beautiful collections of Odontoglossums, which were staged by all the exhibitors of that genus without exception. Among them were M. Chas. Vuylsteke's 1st for a collection of thirty Odontoglossums; M. Geo. Warocqué 1st for a collection of fifteen Odontoglossum (amateurs); M. Peeters, Brussels, 1st for a very fine collection of fifteen Odontoglossums (nurserymen); and Messrs. Vervaet & Co., Mont St. Amand, 1st for the best six O. crispum. M. L. Duval, of Versailles, also arranged a grand lot of O. Pescatorei.

M. H. Pauwels took 1st for twenty Cypripediums (amateurs), and various other exhibitors contributed good Orchids, not the least admired of which were the splendid arrangement of cut Orchids in three large vases, set up by M. A. Van Heede of M. St. Amand, and the chastely beautiful and novel white Eulophiella Elisabethæ, one of the finest introductions of l'Horticulture Internationale, Brussels.

But turning from the showier beauties, we, like most of the visitors, were arrested by a very pretty group of wondrously beautiful terrestrial Orchids, which were the only exhibit in class 91, twenty Orchids for the open ground, and these were staged by that enterprising and enthusiastic nurseryman and bulb-grower, Mr. C. G. van Tubergen, jun., Zwanenburg, Haarlem, and consisted of neat well-grown plants of the following and other species, viz., Orchis Robertiana, O. provincialis, O. Bancroftii, Ophrys aranifera, O. fusca, O. speculum, O. tenthredenifera, Aceras anthropophora, Habenaria dilatata, Cypripedium acaule, C. pubescens, C. fasciculatum, &c., the pretty little collection displaying more quaint beauty and variety in the small area occupied by it than any other similar space in the whole exhibition.

New Plants.

These formed a specially important feature, and were for the most part set out in the galleries. The greatest interest centred upon the class for six plants, flowering or otherwise, and as recorded on p. 480, Messrs. Sander & Co., St. Albans, were 1st, winning the Silver-gilt Medal; and M. Linden, of Brussels, 2nd. In the next class, the Silver-gilt Medal was awarded to M. Duval, Versailles, for six new plants, in or out of flower, and not in commerce, and he exhibited Pteris Victoria var. splendens, a beautifully variegated form, graceful and pleasing, the colour quite silvery and distinct; Vriesia hybrids, as V. splendens major, V. fenestralis ×, V. f. variegata, V. f. × fulgida, and V. splendens var. minor. The Silver Medal of the 2nd class went to M. Frœbel, Zurich.

In the class for a hardy plant, new, and not shown at any exhibition of the Society, Mr. Van Tubergen, Haarlem, won the Silver Medal of the 1st class, with the beautiful Iris Lorteti, one of the most distinct of the Oncocyclus group; whilst in the class for a stove foliage plant the chief place was occupied by M. Pynaert Van Geert, Gand, with Hypolytrum Schraderianum, a bold handsome plant, with fine broad deep green leaves finely curved, described in our colums at p. 414. The Silver Medal of the 1st class for a flowering greenhouse plant was awarded to M. Krelage, Haarlem, who had the new Richardia aurata, which has deep green leaves blotched with silver, the spathe cream-coloured. M. Vuylsteke, Loochristy, had the Silver Medal, 2nd class, for one hardy flowering plant with Azalea nepalensis, which is of the A. rustica type, the flowers rose-coloured and very bright. The Silver Medal of the 1st class for one seedling stove foliage plant went to M. F. Collumbien, Ghent, for a variegated-leaved Cliveia, very distinctly and attractively marked.

A very charming exhibit won the principal Silver Medal in the class for one hardy foliage plant, M. Sallier, Neuilly, France, having Nicotiana colossea variegata, the leaves broad, of a fine bold shape, and glaucous and green and white variegated, very pleasing.

An interesting class was that for ten plants in flower or otherwise, sent out since 1890. MM. Jacob-Makoy & Co., Liège, secured the Gold Medal, value 50 francs, for good plants, amongst them being Hypolytrum Schraderianum, Nidularium Makoyanum, foliage green, striped with yellow; Pandanus Baptisti, the foliage of a fine deep green colour, and very handsome; and Maranta iconifera argentea, with silvery variegation.

A class of importance was that for a new plant from seed recently introduced. The 1st prize, a Gold Medal, value 100 francs, was offered by M. le Baron Chandon de Briailles, President of the Society of Horticulture and Vine Culture, Epernay, and was awarded to M. Vuylsteke, for Azalea mollis var. alba plena, a pretty semi-double variety, white, with a yellow centre.

Dr. Wendland showed a very interesting new plant from the neighbourhood of Kilimanjaro named Saint Paulia ionantha. The plant is a Gesnerad with exactly the habit and general appearance of Ramondia. It is to be figured in an early number of the *Garten Flora*. The Senecio sagittifolius figured in our columns, p. 355, fig. 50, was shown by the same exhibitor.

Stove Plants.

The group comprising the stove plants was of importance, and many beautiful things were to be seen, amongst Crotons and Dracænas in particular. One of the chief classes was that for twenty-five fine foliage stove plants, the 1st prize, a work of art, was won by M. Em. de Cock, Ghent. He showed many old favourites, such as Pandanus Veitchii, the finely-marked Vriesia hieroglyphica, Dieffenbachia Bausei, Dracæna Lindeni, Pothos aurea, Begonia maculata, Anthurium crystallinum, and the distinct Maranta Makoyana—all the specimens very creditably grown.

The next class was for twelve plants with variegated foliage, the Gold Medal being awarded to the Société Horticole Gantoise, and we noted similar plants to those named above, as Pandanus Veitchii, Leea amabilis, Croton Andreanus, Vriesia hieroglyphica, Dieffenbachia Bausei, and Maranta zebrina.

Nepenthes were not remarkable, but a very good collection of fifteen won the Gold Medal for Mr. A. Dallière, Ledeberg, who exhibited the types N. Wrigleyana, N. Curtisi, N. phyllamphora, N. Hookeriana, and N. Rafflesiana. The Silver-gilt Medal for six Nepenthes, conspicuous for their fine culture, went to M. Fl. Pauwels, Antwerp, N. Wrigleyana being perhaps the finest of them. M. Louis de Smet, Ledeberg, won the 2nd place; whilst for a single specimen, the premier honour was awarded to M. Louis de Smet, who had a good example of N. Mastersiana. The collection of forty fine-leaved Begonias from M. G. Morel, Mont St. Amand, was not remarkable for good culture, although interesting for the great number of varieties exhibited. The 1st prize was withheld, thus the 2nd only went to this exhibitor. B. Lucie Closson, green and reddish leaved, and B. fulva, with silvery foliage, were the two prettier.

M. Rodigas, the director of the School of Horticulture, Ghent, was 1st, taking the Silver-gilt Medal for twenty-five Coleus, and we noted amongst them some very finely-coloured kinds, the plants neatly grown. M. L. de Smet-Duvivier was the only exhibitor in the classes for twenty and ten Marantas, but the plants were very creditable. In the former class of this collection, the latter to be of specimen-size, we noticed excellent M. amabilis, M. Makoyana, M. Massangeana, M. musaica, M. Veitchi, and M. Wioti; whilst of the ten specimens, M. Lindeni, M. zebrina, M. Makoyana, and M. Warscewiczi were very good. The Crotons were worthy of record. The best fifteen plants, which won the 1st prize and the Gold Medal, came from M. Dallière, Ledeberg, who had the varieties Baron Jas. de Rothschild, Madame Baillon, green, with yellow variegation; Countess, M. Leroy, Regalis, and Carrieri. M. Duval was 1st for eight Crotons, Marie Duval, Baronne de Rothschild, and magnoliæfolius, being the best. Several classes were devoted to Dracænas. The chief was for thirty plants in variety, the Gold Medal going to M. L. de Smet-Duvivier. We made note of the useful D. albo-marginata, D. Baptisti, D. Baueri, D. Doucetti, D. Goldieana, D. indivisa, and its variety, lineata; D. mortfontainensis, D. terminalis, D. stricta, and the variety alba; the foliage was of good colour, and the plants well grown. The Gold Medal was gained by Mr. J. E. Story in the class for twenty Dracænas with finely-coloured leaves, D. Wilsoni and the crimson-hued D. stricta being excellent. There was good competition, M. O. Wattecamps-Swellen, Ghent, 2nd. The most beautiful seedling Dracæna not in commerce was shown by M. Van Coppenolle, Meirelbeke, a narrow-leaved variety, graceful, with green leaves, variegated with a lighter hue. The exhibition was made gay with such classes as those for twelve D. Lindeni, and the splendidly-grown plants, compact, and of fine colour, from M. F. Buysse, Meirelbeke, were very praiseworthy; also those from M. Van Coppenolle, the former winning the 2nd prize. Also of note were the twelve prize plants of Dracæna Massangeana, well grown in every way from Mr. J. E. Story, Ghent.

The best-grown specimen of a stove Dracæna came from the last-named exhibitor, who had D. striata aureo-lineata, which, while being like D. Lindeni, is not so rich in colour.

Bromeliads.

These plants one expects to find in good character at Ghent, and there were several noteworthy groups of them, and about a dozen classes. The finest thirty plants came from M. Poelman-Maenhout, Mont St. Amand, who showed remarkably well-grown specimens, amongst them in particular several species of Vriesia, as V. fenestralis Moensi, V. Barilleti, V. hieroglyphica, V. Leodiensis, and some Nidulariums—N. rutilans, &c. The winning collection of fifteen plants in bloom, from M. R. Grenier, Mont St. Amand, was excellent, and good examples were to be seen in Caraguata cardinalis, bright scarlet colour; Vriesia Leodiensis splendens, and Nidularium pictum.

MM. Jacob Makoy et Cie. had the best fifteen fine specimen plants, showing well seven Vriesias, V. hieroglyphica being particularly good, and V. canistrum, green, blotched with a deeper shade. One of the finest examples in the show was the specimen Vriesia hieroglyphica from M. J. Apers, Loochristy, which was awarded a Silver Gilt Medal. It was fine in colour, and a very shapely plant. The best example in bloom is V. trifurcata, from M. Duval, Versailles; and he showed the finest three new hybrid Bromeliads, viz., Vriesia Aurora, V. Kittel-

liana, and V. Wioti. A new hybrid, not yet sent out, provides one class; M. Duval winning the chief Medal, with Vriesia Devansayana, the Silver Medal going to MM. Jacob-Makoy et Cie., for a new introduction, namely Hoplophytum Makoyanum. There were several other classes. Thus, the finest example of Aralia Chabrieri came from M. Van Coppenolle, and the best Croton from M. J. De Cock, a specimen of C. magnifolius, very finely-coloured, green and yellow. We may mention that M. Pynaert van Geert showed the finest Cyanophyllum, a specimen of C. magnificum. Philodendron Sellowianum was the finest specimen, and was shown by M. L. de Smet-Duvivier.

Anthuriums.

These plants made one of the finest features of the exhibition, and formed masses of brilliant colour, which was relieved by the fronds and leaves of the Ferns and Palms.

A splendid group of twenty-five plants in spathe was shown by M. Louis de Smet, whose exhibits comprised chiefly varieties of A. Andreanum and A. Scherzerianum. Of A. Andreanum, very beautiful was Roi des Belges, with spathe of a salmon colour; A. A. Ferrierense and A. A. candidum; whilst A. Scherzerianum var. atro-sanguineum was very deep in the colouring of the spathe; A. S. album, and A. S. salmoneum were also noteworthy. The names suggest the colours. The classes for varieties of A. Scherzerianum with red spathes were well filled, and the plants very finely shown, each a picture of crimson colouring. The finest twenty examples were shown by M. Warocqué, Mariemont, who deserves high praise for his excellent exhibit; and we may record that M. Louis De Smet was 2nd, whilst in the class for twelve specimen plants the Gold Medal was again won by M. Warocqué, the examples being worthy of all praise; 2nd, M. J. Moens, Lede. One cannot say more than this.

A more interesting class, perhaps, was that for twenty specimens of this species, and the Gold Medal group from M. Vervaene-Vervaert, was excellent, containing, as it did, many charming varieties, as Leopold II., crimson; La Congolaise, crimson; Rothschildianum, La Reine, white; Grand Sultan, deep crimson; giganteum, also of a fine crimson shade; tigrinum, and Wardi. The 2nd place was taken by M. Louis de Smet.

Still two more important classes occur, one for twelve plants, the spathes to be spotted and striped, and the finest in this class were from M. Vervaene-Vervaert, but they were very much alike. The best six were shown by M. A. Peeters, St. Gilles-lez-Bruxelles, one of the most pleasing forms being Comte de Bousies, enriched with scarlet, on a white ground.

The best plant of the crimson-spathed type was shown by M. Warocqué, a superb example, full of colour, and in every way excellent; whilst in the corresponding class for a spotted spathed variety, M. Louis de Smet was 1st with Madame Arthur de Smet, the spathe having a yellowish ground, spotted with light red. We may dispose of the three classes set apart for A. Andreanum, by mentioning that M. Louis de Smet had the finest specimen with spotted spathes; and in the other two classes, one for a hybrid, and the other for a seedling, an excellent seedling, full of promise, the premier awards were taken by M. Vervaene-Vervaert.

An interesting exhibit consisted of ten Dieffenbachias, comprising D. Bausei, D. Rex, and others, from M. Em. de Cock; whilst the Gold Medal for fifty Caladiums went to M. Ad. D'Haene, Gendbrugge, the plants small, but with well-coloured leafage. A few of the best varieties were Raymond Lemoinier, Automne, almost white, with silvery blotches; Chelsoni, Alfred Bleu, Candidum, and many of the leading varieties.

The Silver Medal for a fine-leaved Anthurium, was awarded the Comtesse de Kerchove de Denterghem, Château de Beirvelde, Gand, for A. ellipticum, a very fine type.

Palms.

These plants gave great relief to the masses of colour in the flowering plants, and there were numerous classes devoted to them. The chief was for a collection of twenty-five specimens, and the 1st prize, a work of art, offered by the Comte de Kerchove de Denterghem, was awarded to the Société Horticole Gantoise, Ghent. These plants were very fine, particularly Elais guineensis, Kentia Fosteriana, K. Belmoreana, Phœnicophorium sechellarum, Areca Baueri, Corypha australis, Chamædorea elegans, and Rhapis humilis. The Gold Medal was awarded to MM. de Smet Frères, Ledeberg. Amateurs were not well represented. The work of art offered for a collection of fifteen specimens, was awarded to M. De Ghellinck de Walle, and very fine were his Areca sapida, Thrinax graminea, Kentia Belmoreana, and K. Fosteriana. A class was also provided for the same number of examples, nurserymen only to compete. Kentia Fosteriana was fine, also Latania borbonica, Areca lutescens, Glaziova insignis, Rhapis flabelliformis, and Sabal Blackburniana. An important class was for twenty rare kinds, and an interesting collection was shown by M. Em. de Cock, who had amongst others, Phœnix Rœbelini, Latania rubra, Elais guineensis, which was frequently to be seen in the exhibition; Licuala grandis, Cocos Weddeliana, Livistonia ferruginea, Verschaffeltia splendida, and Rhapis humilis.

The most beautiful collection of specimen greenhouse Palms were those from M. L. Spae-Vandermeulen, who had Areca Baueri, Phœnix reclinata, Latania borbonica, Kentia Fosteriana, and Cocos Bonneti.

Eight fine Kentias were those from M. Em. de Cock, which won the Gold Medal. K. Fosteriana was again in evidence; and the same number of Cocos, well shown, obtained a Gold Medal for M. Louis de Smet. C. Weddeliana was in good character. M. C. Petrick had the Silver-gilt Medal for six Palms of recent introduction, and showed, amongst others, Rhopaloblaste hexandra, which was exhibited at a recent meeting of the Royal Horticultural Society.

For a new Palm, not yet in commerce, M. P. Breinig, Mulheim, was 1st, with Kentia canterburyana folius-aureo variegatis, a variegated variety, not likely to be of great value in gardens, we think. Kentia Dumoniana, a distinct and handsome Palm of green colour, was exhibited by M. L. Spae-Vandermeulen, in the class for a recently-introduced Palm, and gained the 1st prize. No less than twenty classes were devoted to single specimens, Areca Baueri, &c., and some remarkably fine examples of cultivation were to be seen, the A. Baueri from M. B. Spae being a very praiseworthy plant, as also the Latania borbonica from the Comtesse de Kerchove de Denterghem.

M. Vervaet-Vervaene was a successful exhibitor, having the finest Areca sapida, Phœnix tenuis—a splendid example, and Washingtonia robusta. Kentias Fosteriana, Canterburyana, and Belmoreana were in fine character. These classes of distinct Palms were amongst the most interesting in the show. The Cycads made neat groups. The chief class was that for fifteen specimens, and the winners of the chief prize were MM. de Smet Frères, who showed especially fine plants of C. circinalis, C. tonkinensis, Macrozamia villosa, and M. Shepherdi. Much the same species were shown in the class for eight, where MM. de Smet Frères again came to the front with fine plants, and also for a new Cycad, exhibiting C. Shepherdi, a bold growing form, of fine colour. Very good were the Pandanads, and MM. Jacob-Makoy et Cie., won the Gold Medal for ten specimens. We made especial note of the excellence of Pandanus ornatus, P. Veitchi, P. Desmetianus, and P. Kerchovei. M. Spae-Vandermeulen showed splendid plants of Pandanus Veitchi, and won also for three specimen Pandanads, showing P. glaucus, P. Kerchovei, and P. ornatus. The finest single specimen was one of P. ornatus. A Silver Medal of the first class was awarded to M. Pynaert van Geert for a new and beautiful Pandanus discolor.

Azaleas.

The Azaleas were the most important plants for effectiveness in the exhibition. The competition in these classes is, as a rule, very keen at Ghent, and an important feature was that for sixty specimens, in not less than thirty varieties. Much interest was centred on the awarding of the prizes, but the most victorious was M. B. Maertens, Laetham St. Martin, who won this, the work of art value 200 francs, offered by MM. de Smet, in memory of their father. The varieties were, as a rule, well known, and the plants throughout very fine, being masses of bloom, and excellent in every way; this was one of the best exhibits in the exhibition. We may note a few of the best, viz., Triomphe de St. Amand, M. Labronne, Germania, bright rose; Violacea multiflora, dark magenta; M. L. Van Houtte, Jean Van, dark crimson; Triomphe de Gand, rose; Le Flambeau, bright crimson; Baron Nathaniel de Rothschild, deep magenta; Mdlle. Marie Ross, lovely salmon; Souv. de François Vervaene, white: Comte de la Vorre, bright red; Perfection de Gand, brilliant rose; Bernard Andreas, rosy-pink; Baronne de Vriere, white; Jean Van der Croussen, bright rose; Schyne, white; and Marie Planchon, white, very finel grown, but known to Azalea fanciers. M. Jos. Vervaene received a Gold Medal as the 2nd prize; and M. L. Vervaene the 3rd.

A class of equal importance was that for 100 Azaleas, and here M. Ad. d'Haene, Gendbrugge, was 1st, exhibiting excellent plants, well-flowered; and we made note of the following varieties as being worthy of remark:—Gloire de Belgique, white, striped with red, very pleasing; Raphael, white, lemon centre, an excellent flower; Ed. Minnie Vervaene, deep crimson; Simon Mardner, double rose, very handsome; Marie Thérèse, rose centre, frilled towards the margin, which is white; Neige et Cerise, white and cherry colour, very distinct; Reine du Portugal, white; Reine des Roses, beautiful rose colour; Souvenir de François Vervaene, white, touched with red, and fringed at the margin; Superba (Liebig), rich crimson; Reine des Belges, Flambeau, rich crimson; Bernard Andreas alba, white, touched with lemon; alba illustrata, white, an excellent variety; Daphne, white, greenish in the centre, and striped with rose; Comte de Chambord, rose, and a white margin, upper petals spotted with crimson; Mdlle. Louise de Kerchove, red, upper petals of a deeper tint, and the margin white; Herot, Apollon, &c. The 2nd place was taken by M. J. Coster, Melle; and the 3rd by M. L. Eeckhaute, St. Denis, Westrem. We noted in the last-mentioned exhibitor's lot several unusually-fine varieties, although the 2nd prize collection was superior on the whole, but the competition was very close, viz., M. Louis Eeckhaute, quite like a Camellia, flower large, and deep rose; Souvenir de Recteur Kickx, rose; Henri Heine, magenta; Ernest Fierens, crimson; Vander Haeghen, large flower, white, touched with lemon-yellow; Zoe, crimson; Victor Cavelier, bright magenta; and the beautiful Balsamiflora were good, the last named in particular.

Another very interesting class was that for twenty varieties, sent out since 1885, specimens, and the Gold Medal was awarded to M. Jos. Vervaene. These plants were of much interest, and the majority of them were sent out in the years 1888, 1889, and 1890. The finest were President Ad. D'Haene, Jean Van Eyck, President Comte Oswald de Kerchove, Nigrescens, and Ibis Rose, all of good colours.

One of the most important classes was that for new varieties, for which a work of art was offered by M. T. J. Terdel, Dresden, for twelve of the newest, and this much-coveted award was taken by M. J. Vervaene, who had the following, which we describe with moderate fulness:—Madame Romaine de Smet, a very charming flower, rich pink, set off with a white margin; Perle de Ledeberge, a lovely double-flowered white flower, excellent; President Adolphe d'Haene, single, very deep crimson, and of medium size; Le Printemps, a single flower of a crimson shade, of excellent form, and robust; Unicolor, a small flower of an intense shade of crimson, very striking; M. Joseph Vervaene, a semi-double flower, of a deep shade of scarlet, with a curious bronzy shading; Madame Joseph Vervaene, a large double flower, the colour delicate pink, with carmine spots in the centre, the margin being white; Veronica, a double rose-red flower of much beauty, the margin wavy; Castor, a bold, fine flower of attractive colour; and Odin, magenta-red flower, the markings of a deeper colour.

The Gold Medal was awarded to M. J. de Kneef, Gendbrugge, who had Ministre L. de Brunger, flowers of a salmon-red shade—very pleasing; Yvonne Blommaert, pink, spotted with red; Henri Conscience, a flower of a salmony shade—very distinct and attractive.

The classes for Azaleas were so many that it is impossible to do more than briefly refer to the more important. Thus a very interesting collection of thirty specimens was shown by M. de Ghellinck de Walle, the best varieties being Souvenir de Meyerbeer, bright rose; Eulalie Van Geert, white touched with rose; Cedo Nulli, rich magenta; Coloris nouveau, crimson; Modèle, rose, fine colour; Alba illustrata; Louise Margottin, white, and Dame M lai i, bright rose. Comtesse de Kerchove de Denterghem had the 2nd place with good examples. M. de Ghellinck de Walle was 1st amongst amateurs with twenty specimens, and in the corresponding class for trade growers, the 1st place is occupied by M. Vuylsteke with creditable examples, well grown and flowered, whilst the Gold Medal went to M. V. J. Vervaene, who had a good example of the variety Oswald de Kerchove. M. Jos. Vervaene was 1st for twelve specimens in the trade class, and the Comtesse de

Kerchove in the amateur section; in both instances the plants were of fine culture.

A very interesting class was that for twelve double-flowered Azalea indica. The Gold Medal going to M. Vulysteke, who had in fine character Deutsche Perle, Empress of India. rose, &c., all well cultivated. Madame V. Jean Vervaene had the best specimens of white-flowered varieties, and MM. Vermeersch et De Baerdemaecher, the finest double-flowered seedling Azalea, a good variety, the flowers large, of crimson colour, and of firm texture. They were also 1st with one single-flowered seedling.

The best Seedling Azalea, not yet in commerce, was exhibited by M. P. E. De Cock, in Adversaire, the flowers large, rose, with deeper-coloured spots. M. De Ghellinck de Walle and M. Vervaene-Vervaert were also successful exhibitors. Azalea mollis were very fine. A beautiful collection came from M. Pynaert van Geert, the various varieties displaying great range of colour, Leon Pynaert, M. A. de Cock, Françoise Hevor, Comte de Kerchove, Alphonse Lavalleé, Ernest Bach, Madame Delme, and Madame A. Verschaffelt. The 2nd prize was awarded to MM. de Smet Frères.

In another class, one for hybrids of A. mollis × A. sinensis, the premier place was taken by M. A. Koster of Boskoop, the well-known Azalea grower, who, as might be expected, showed a very charming collection, the flowers remarkable for brilliancy of colouring, size, and form. A few of the striking varieties are Dr. Masters, Emile Durien, Emilie Dupont, Jules Closson, Mr. Harry Veitch, J. H. Laing, A. F. Barron, and Victor Philippot; the Silver-gilt Medal went to M. Pynaert van Geert. For a collection of twelve plants, A. mollis hybrid, with double flowers; A. rustica, fl.-pl., the chief award was made to M. Vuylsteke, the finer kinds shown being Hora, yellow, with deeper centre; Norma, salmon-red; Byron, white; and Ariadne, white, very pure, and pleasing. M. Pynaert van Geert had the most beautiful six single-flowered plants, remarkable for colour, vigour, and freedom of flowering, a delightful exhibit. We may also praise the thirty plants of spotted varieties of A. mollis, which were a source of attraction from M. L. de Smet, whilst M. Vuylsteke had the best specimen.

Rhododendrons.

The Rhododendrons were very creditable, and the most interesting class, perhaps, was that for twelve new varieties; the Silver-gilt Medal going to M. Vervaene-Vervaert, who had many lovely plants, and we may mention as noteworthy the following:—Marie Thérèse, white flowers, upper petals spotted with dark crimson; Memoire du P. Bodouin, rose, claret-coloured spots; Gedeon, rose; Bossuet, rosy colour, with dark spots; Jules Cæsar, also of a rosy shade; Fenèlon, crimson, dark spots; Juliette, lilac; and the delicately-coloured Jeanne d'Arc. M. Seidel gained the Silver-gilt Medal for a seedling variety, and M. Pynaert van Geert, the finest specimen. There were, however, several large collections of Rhododendrons. Thus the finest forty specimens came from M. Cocquyt-Fortie, Ghent, who showed well, noteworthy being Star of Ascot, Stella, Michael Waterer, Helen Waterer, Mrs. John Clutton, Raphael, Mrs. John Waterer, Etendard de Flandre, and Vesuvius.

A splendid collection was that from M. Pynaert van Geert, which gained the Premier Prize—a work of art; and we noted an exceptionally good gloriosum, white touched with rose; Lord Stamford, crimson, and G. Cunningham. Among Mr. Pynaert's exhibits were found hardy Rhododendrons in bloom, fine plants, and sturdy specimens:—Madame Carvalho, flowers white, with greenish-brown spots—more than 6 feet across; Madame Louis Van Houtte, tender, rose-coloured at the edges, the centre part white, tinged with flesh-colour, blood-red spots; Mrs. John Penn, flowers salmon-red, centre clear; Stella, flowers rosy-lilac, blackish-crimson spots; Mrs. R. S. Holford, flowers red, slightly salmony—a plant 6 feet across; Charles Baglay, flowers carmine, tinged with lilac, spots coppery-bronze—plants 6 feet across; Prince Camille de Rohan, a variety very popular among florists for culture in pots, and sale in the market. Flowers white, bordered with rosy flesh-colour; a large brown spot, borders wavy; plant 6 feet across. Vesuvius, brilliant cerise-red. All the other plants were from 4 to 5 feet across. A collection of twenty-four specimens from M. Em. De Cock was worthy of note, as also were the same number of spotted varieties, from M. L. Spae-Vandermeulen. The best seedling came from M. Seidel. A very interesting class was that for hybrid Himalayan Rhododendrons and Java kinds, and one saw good examples of each type in R. Sesterianum, Queen Victoria, W. J. Standish, a pleasing white flower, &c.

The Ferns

were either of ordinary merit, or, as in some of the classes for collections other than Tree Ferns, and for special genera, below the average, as witness the number of 1st prizes withheld. Two of the finest of the new or rare class, but not offered in competition as single specimens, were the Alsophila atrovirens, staged in the 1st prize group of new plants, exhibited by Messrs. F. Sander & Co., and their beautiful Hæmidictyon marginatum, with its massive yet elegant fronds of a charming tint of green. The variegated Adiantum cuneatum of Messrs. Pitcher & Manda, the United States Nursery, Hextable, Swanley, also came in for a large amount of attention, especially among florists. Varieties and probable hybrids of Pteris Victoria were exhibited as novelties by various exhibitors, and the Pteris Rex of M. De Smet-Duvivier seemed likely to make a good market plant of the P. tripartita type. Tree Ferns were as usual at Ghent well represented; the collections of thirty, set up by M. de Ghellinck de Walle (1st prize), and by Madame la Comtesse de Kerchove de Denterghem, were very fine; and also good was the collection of thirty Ferns with which Messrs. Duriez, père, of Wondelghem, took the Medal in Class 233. Other good exhibits were the 1st prize eight Tree Ferns of Messrs. De Smet Frères, and the 2nd of M. Louis de Smet; the prize collection of Filmy Ferns of M. Louis de Smet; the collection of twenty Adiantums of Messrs. Duriez, of Wondelghem; the pretty six Platyceriums of M. Jules de Cock, Ledeberg; the fine single specimen Platycerium of M. A. de Meyer, Gentbrugge, and the large Adiantum Farleyense, shown by Messrs. Vermeersch and de Baerdemoecker. Selaginellas were but indifferently represented.

Camellias.

These plants werewell worthy of note, especially the fine group of thirty plants from M. L. Eeckhaute which gained the chief prize. It is now late for the flowering of Camellias, but the plants have been kept back, and were shown in splendid condition. Countess of Orkney, white, striped with pink, is noticeable. M. Eeckhaute carried all before him with Camellias, and showed the fine C. reticulata, an old but worthy plant, well.

Miscellaneous Stove Plants.

These formed a very distinct group, in which many fine plants were shown. The large class for forty examples, in or out of bloom, was represented by the Ghent Horticultural Society, which received the premier prize—that established by English friends in memory of the late M. Louis Van Houtte (Père). Verschaffeltia splendens, Nephrolepis davallioides furcans, Anthurium Veitchi, Leea amabilis, and Alpinia vittata, are worth of note, whilst the same Society came 1st, Aglaonema Rœbellini being of note. The Gold Medal, we may mention, was awarded to M. L. De Smet-Duvivier. The class for twenty specimens in bloom made a change. A great assortment of plants was shown by M. L. Van Driessche-Leys, Ghent, who was 1st, thus winning the prize offered by the Queen of the Belgians. Rhododendron fragantissimum, Choisya ternata, and Polygala Dalmaisiana were the most noteworthy. M. Em. de Cock, was, it will be noticed, 1st, both for fifteen flowering, or for the same number of foliage plants, having Rhapis flabelliformis, Phormium Colensoi, &c. M. G. Tretin, Meirelbecke, won with eight plants; and Messrs. Pitcher & Manda, Hextable, Swanley, Kent, were 1st for Sarracenias and allied species; they had a fine collection of Cephalotus, Darlingtonia, &c. This firm took a Silver-gilt Medal for hybrids, also for the best specimen Sarracenia, showing a fine plant of S. Chelsoni. Very bright in effect was the show of Cliveias, and the varieties are in many cases named, but there is much sameness between them, and fewer names would be an advantage. The plants were finely grown, and made an interesting feature, particularly the bold group of twenty examples which gained M. J. Moentjens, Mariakerke, the 1st place. The Gold Medal was awarded to M. A. L. Rosseel, Tronchiennes. Two classes were provided for twelve plants, one for the trade and the other for amateurs. In the former case, M. B. Fortie won the chief award; and in the latter M. L. van der Bos, whilst MM. Blancquaert et Vermeire was 1st for six specimens. M. Vuylsteke had the finest single specimen, and Madame V. Enoeck, Gendbrugge, the best seedling, but we do not care for its dull leaden colour.

A distinctive feature consists in the four Strelitzias from M. E. Cannaert, which took the 1st prize. The species shown were S. regina, S. longiflora, S. humilis, and S. pumila. In addition a fine plant of S. juncea was exhibited by the same gentleman.

A large number of classes were devoted to specimens, with which we can only deal in a general way; but the effect of the grouping of one exhibit was very fine. Noteworthy was the immense example of Sparmannia africana from the Comtesse de Kerchove, the plant full of bloom—very handsome and striking. Choisya ternata was finely shown, the plants excellent, and full of bloom, and the best came from M. Van Driessche-Leys. A note may also be made of Cytisus racemosus, excellent plants in every way; whilst C. or Genista Andreanus was also a feature of interest; this plant is now largely grown. Another plant worthy of notice was Boronia heterophylla, and a splendid group of twenty plants coming from M. Louis de Smet.

The Gold Medal for a collection of Cape plants was won by M. Em. de Cock, who had good examples of well-known species. Illicium religiosum was shown by M. Bedinghaus, in the class for the most beautiful greenhouse plant, other than several kinds named, as Ericas, &c.

Forced Plants.

The section devoted to forced plants was a large one. A Gold Medal was awarded to M. Van Driessche-Leys, for his twenty-five forced hardy shrubs, as Tree Pæonies, Philadelphus, and Deutzias, whilst Roses formed an important feature. Considering they were forced, the specimens were in many cases noteworthy. M. Ch. Vanderhaeghen, was the chief prize-taker. The great class was that for 100 varieties. The plants shown were standards, and well-flowered; the chief varieties being Maréchal Niel, Prince Camille de Rohan, Jean Liabaud, Jean Ducher, Boule de Neige, Captain Christy, Elise Vardon, Grand Mogul, Grace Darling, Madame Falcot, Madame Paquerette, Perle de Lyon, Marie Van Houtte (excellent), General Schablikine (which has salmon-coloured flowers), and Rubens. The same exhibitor was 1st for forty and thirty plants, also having the best fifteen specimens of Maréchal Niel. M. Ernest Fierens, Ghent, had the best specimen, showing Gloire de Dijon very creditably.

The finest ten Lilacs were those from M. L. De Bock, Ghent; and M. I. Wyckaert, ainé, Ghent, and M. Em. De Cock won respectively for Hydrangeas and Deutzia gracilis.

For twelve specimen Kalmias, M. Y. De Coster, Melle, was awarded a Silver-gilt Medal. The same exhibitor showed the best single specimen, also Andromeda floribunda. We may note the twenty-five pots of Lily of the Valley of M. Louis De Smet, were well-grown and flowered; whilst a mass of crimson colouring was afforded by the prize lot of Spiræa palmata from M. A. Demeyer, Gendbrugge. S. japonica aureo-reticulata from M. J. Meirschaert, Melle, may be noted as an interesting exhibit that won a Silver Medal.

Pansies were well exhibited by M. D. Bullens, and hardy Primulas by M. J. d'Hoop, Ghent, and M. J. Collumbien.

Pelargoniums, Carnations, &c.

The Pelargoniums need not be commented upon, but a creditable collection of twenty plants of Carnation Souvenir de la Malmaison won the Silver-gilt Medal for M. O. Vander Cruyssen, and the comparatively new Madame Warocqué, which has crimson flowers, as a distinct class, the best plants being shown by M. S. Bracke, Loochristy. Cinerarias were not remarkable, nor the Amaryllis, after the splendid English hybrids. The flowers lack the lustre and massiveness that distinguish the best English-raised Amaryllis. The Gloxinias were good, although not surprisingly fine, and some of the collections were evidently damaged in transit. A very creditable collection of thirty plants of G. crassifolia came from M. Delaruye-Cardon, and some of G. punctata from the same firm.

In the varied collection of twenty Gloxinias, shown by the same exhibitor, and which had the Silver-gilt Medal, Mont Blanc, white, was in good character.

Hardy Bulbous Plants.

This is another group of much interest. The Hyacinths were not up to the mark as a rule, but the collection of fifteen plants in fifty varieties from Messrs. Byvoet, Bros., Overveen, and which won the chief prize, was a noteworthy exhibit. M. J. Kuyche, Ghent, had the Gold Medal. M. Krelage, Haarlem, showed the best 100 plants, also the finest 300 double Tulips, and M. Voet, Haarlem, the best single

variety. An interesting collection was the Darwin Tulips from M. Krelage, who was 1st. M. B. Spae showed well Lilium longiflorum var. Harrisi. In the bulb section, the exhibits of M. van Tubergen, Haarlem, were of much interest; and he won the Gold Medal offered for 100 pots of bulbous plants, which included species of Muscari, Tulipa retroflexa, T. Greigi, and T. Kaufmanniana. Hippeastrum pratense, scarlet, very neat flowers; Griffinia hyacinthina, various kinds of Anemone, Irises in variety, I. Lorteti, I. Korolkowi violacea, hybrid Lachenalias, Fritillarias, Gladiolus tristis, &c. The same exhibitor won the Silver-gilt Medal for thirty species and varieties of Fritillaria.

Ornamental Greenhouse Plants.

The largest class in this section was that for a collection of twenty-five plants, the chief place being taken by M. J. de Cock, who showed, amongst other things, Hydrangea hortensis argentea marginata, a very pleasing plant, the leafage almost white, edged with light green. The Oranges were noteworthy, and a fine colour-effect was obtained from the groups of twenty-five plants in fruit, M. Dallière, Ledeberg, winning the premier award. The Phormiums were represented by fine specimens, P. tenax in particular being huge examples; and worthy of note was the example from M. L. Eeckhaute, and the two from M. G. Fretin, Meirelbecke. M. Gyzelinck, Melle, exhibited Dracæna lineata and D. australis aureo-lineata well, whilst worth mentioning was the plant of D. Douceti from M. Pynaert van Geert. To show the extent of the exhibition, we may mention that there were classes for Myrtles, Laurustinus, and Laurels, and they were very good. M. van Coppenolle was the prize-winner for Laurels.

Hardy Ornamental Plants.

This was a rather weak section, and the competition was slight. The chief exhibitor was M. Bedinghaus, who was placed 1st for twenty variegated plants, showing Ivies, Euonymus, &c., whilst he was well to the front for twenty hardy Japanese shrubs, but as these were well known subjects, we need not further allude to them. Twelve and six creditable Euonymuses were also shown by this exhibitor. Aucubas, Hederas, Box, &c., were shown, and a satisfactory collection of twelve Pernettya mucronata won for M. Pynaert van Geert the Silver Medal.

Conifers.

We cannot praise these greatly. A collection of forty species from M. F. Burvenich, sen., Gendbrugge, was of interest, Cupressus Lawsoniana aurea being exhibited well, and this won the Gold Medal, M. Braeckman, Wetteren, having the best twenty-five examples. More beautiful, however, than this class of Conifers was the collection of greenhouse Araucarias, the Gold Medal going to M. Jacob Makoy, who had a very charming exhibit, A. Bidwilli and A. excelsa glauca being of note, the last-mentioned of a very beautiful type, the leafage quite of a clear glaucous tint, very distinct, a good ornamental plant. Several other classes were set apart for the Araucarias, specimen and otherwise.

It is interesting to notice that the Veitch Memorial Medal and prize of £5, offered for hybrids, was awarded to M. Maréchal, Liège, who had Vriesia crosses of interest, but we did not see much of great beauty, or, we should think, value either.

Succulents.

A small section was devoted to this class, and the smaller plants, we must say, were remarkably well grown, clean (if we may so express it), and of deep colour. The Gold Medal for twenty-five Agaves, Beaucarneas, &c., went to M. Bedinghaus, who was the chief exhibitor throughout. M. L. de Smet was 1st for twenty-five specimen Cactus, and for twelve Euphorbias.

Plant-houses, &c.

A section of the exhibition was for plant-houses and heating apparatus, boilers, &c., and we will briefly allude to the more important exhibits. The Gold Medal, for a temperate-house, went to Messrs. Foster & Pearson, Beeston, Notts, who exhibited a very neat and excellent structure, the chief points of which were a movable roof, the lights can thus be taken off at any time; the top ventilation is given by a movable blind, and the side ventilation is under the stage. It is heated with the Beeston boiler, built into the brickwork, and the house has strong iron rafters. It worthily gained the premier award. A neat pretty structure wins for M. E. Van Gheyt, Meirelbecke, the 2nd place. The Gold Medal Orchid-house was shown by Mr. J. B. Court, Koekelberg, the house being about 35 feet long and 22 feet wide. It is well built, fitted with wooden roller blinds, which afford, however, in our climate, a too dense shade. The ventilation was of good character, and the house worthy of commendation. M. Buss, Ghent, gets the small Gold Medal. A large exhibitor was M. Buss, who had the Gold Medal for a greenhouse, &c. The houses are well constructed, on good principles, and adapted for their purpose. The Ghent Gas Company had the Gold Medal for apparatuses heated with gas and oil—useful contrivances, but not superseded by our own types.

There was a good array of boilers. A multiplicity of tubes seemed to be the chief feature. Such displays, however, are of importance, and we are pleased to see that in this exhibition they are well represented. M. Ed. Maher had an apparatus for heating winter gardens, &c., with a boiler like our saddle; also M. Bakaert, Chaussée de Bruxelles, 35, Ledeberg, Gand; M. Ch. Bouquet, Chaussée de Bruxelles, 111, Ledeberg, Gand; M. Kerner, also of the Chaussée de Bruxelles; M. van Heddeghem, and several others, exhibited hot-water apparatus. Messrs. Foster & Pearson had a very neat and elegant apparatus, a steam hot-water radiator, which was portable. An enormous display was made by M. Dutry, Colson, Ghent, this occupying a very large space, the exhibits consisting of a variety of tools for garden work, syringes, water-engines, garden-rollers, and tents, arranged with conspicuous good taste, and one of the more interesting features of the show.

MM. Letœuf and Guion, Paris, had a variety of apparatus; and other exhibitors of miscellaneous things were M. Buss, MM. A. Delanier, Bros., Ghent; and MM. Block & Welsch, Meirelbeke; in the two latter cases the exhibits consisted of garden statues and vases.

We may mention that the Gold Medal for an amateur's greenhouse, fitted with hot-water apparatus, went to M. Fl. Van Hoecke, Ghent. M. Dutry Colson led well in the class for garden implements, gaining the Silver-gilt Medal for a most meritorious exhibit, to which some allusion has already been made.

Before closing our remarks upon this splendid show, we may say that possibly through the great difficulty experienced in learning the awards until a late hour that there may be some omissions, which will probably be made good in our next issue. A few exhibits not for competition were, for instance, of great importance, and one of the most charming plants shown was the Rhododendron named Helène Schufferer, from M. J. F. Seidel, Striesen, Dresden; the plant is of very neat and compact habit, the flowers borne in a well-shaped head, and waxy-white.

M. Lemoine, Nancy, France, showed a very charming collection of Lilacs, comprising those recently raised by them; and Deutzia parviflora, which is a beautiful Chinese shrub, the flowers small, pure white, and the corymbs forming wreaths of bloom—a delightful plant. The now popular Parrot Tulips, from M. Krelage, were worth a note for their singular form and bright colouring.

English Exhibits.

The Amaryllis from Messrs. J. Veitch & Sons, Chelsea, were placed in one of the galleries, and constituted a beautiful feature. It was quite one of the finest masses of colour in the show, every variety characterised by fine colouring, breadth, and freedom. We need write no more on the Amaryllis from Chelsea, these having been recently described in our pages (Silver-gilt Medal). In one of the plant-houses in the grounds, Messrs. W. Cutbush & Son, Highgate, N., had a collection of hard-wooded plants, Boronias, and many other things, besides Mignonette Cutbush's Giant, a very fine variety. Messrs. Blake and McKenzie, Edinburgh, had seed packets, and contrivances for filling them.

New Palms.

Amongst the new Palms we noticed Ptychoraphis Augusta shown by M. Pynaert Van Geert, which was very graceful and distinct in character; and one named Kentia Fortunei, had rich foliage, with very broad leaflets, a fine Palm. There were prizes also offered for two specimens of Phœnix tenuis, Chamærops Fortunei, and Cocos Benneti. M. de Ghellinck de Walle, M. Vander Bogaerds de Moergestel, and M. J. de Cock were the chief exhibitors.

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees — a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending April 15.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1893.	Below 42°, difference from Mean since January 1, 1893.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1893.	Total Fall since Jan. 1, 1893.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1893.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	0 aver	33	22	+ 104	— 13	2 —	71	14·1	33	24
1	1 +	41	22	+ 94	+ 6	1 —	55	6·4	37	34
2	1 —	36	20	+ 126	— 40	4 —	45	4·6	55	35
3	1 —	46	22	+ 156	— 9	4 —	50	5·1	52	38
4	1 —	52	26	+ 192	— 15	4 —	48	4·9	53	37
5	1 —	45	15	+ 129	— 27	4 —	48	6·0	56	39
6	1 +	46	15	+ 123	— 35	3 —	59	10·1	38	31
7	0 aver	41	15	+ 148	— 69	5 —	49	6·4	56	33
8	0 aver	46	12	+ 148	— 55	6 —	49	8·8	68	42
9	2 +	44	8	+ 96	— 82	5 —	60	8·0	36	28
10	1 +	51	11	+ 105	— 85	5 —	52	8·9	61	33
*	1 +	50	0	+ 203	— 51	5 —	57	7·4	59	45

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; (* Channel Islands.)

THE PAST WEEK.

The following summary record of the weather for the week ending April 15, is furnished from the Meteorological Office:—

"The *weather* again continued very fine and bright in almost all parts of the kingdom. In the extreme north of Scotland, however, some slight rain fell occasionally, and by the end of the period the fall was general over Ireland and the north of England also.

"The *temperature* for the whole week did not differ materially from the normal; but it was generally low during the middle part of the period, and high both at the beginning and the end. The highest of the maxima were recorded on the 9th in Scotland, and on the 10th in England and Ireland; and varied from 70° in 'England, S. and E.,' and from 66° in 'Scotland, N. and E.,' and the north of Ireland, to 63° in the 'Channel Islands,' and to 61° in 'England, N.E.' The lowest of the minima were registered, as a rule, on the 13th, when they ranged from 21° in the 'Midland Counties,' and 23° in 'Scotland, E.,' 'England, E.,' and 'England, S.W.,' to 29° in 'Ireland, N.,' and 36° in the 'Channel Islands.' The diurnal range was again rather large at the inland stations, but less so than during the two preceding weeks.

"The *rainfall* was less than the mean in all districts. The greater part of England was again rainless, while in the Irish districts there was no more than a tenth of an inch. In Scotland the fall was more decided, amounting to between three and five-tenths.

"The *bright sunshine* showed a rather considerable decrease, but was still fairly abundant, and exceeded the mean in nearly all districts. The percentage of the possible duration ranged from 33 to 38 in Scotland, from 36 to 61 in Ireland, and from 52 to 68 over England. In the 'Channel Islands' the percentage was 59."

MARKETS.

COVENT GARDEN, April 20.

Business steady, with supplies again good. Prices generally as last week. A fresh shipment of Tasmanian Apples to hand, arriving in better condition. *James Webber, Wholesale Apple Market.*

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arum, per doz. bl.	1 0	3 0
Azalea, dozen sprays	0 6	0 9
Bouvardias, per bun.	0 6	1 0
Carnations, 12 blms.	1 0	3 0
Cyclamen, doz. blms.	0 4	0 6
Daffodils, dble., doz. bunches	1 6	4 0
— single do.	2 0	9 0
Eucharis, per dozen	4 0	6 0
Gardenias, per dozen	1 0	3 0
Heliotropes, per doz. sprays	0 6	0 9
Hyacinths, Dutch, per box	1 6	3 0
Lilac, French, per bunch	3 6	5 0
Lilium Harrisii, doz.	2 0	4 0
Lily of the Valley, doz. sprays	0 6	1 0
Maiden Hair Fern, 12 bunches	4 0	8 0
Marguerites, p. doz. bunches	2 6	4 0
Mignonette, 12 bun.	3 0	6 0
Narcissus, various, French, doz. bun.	2 0	6 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blms.	2 0	6 0
Pelargoniums, scarlet, p. 12 bun.	4 0	6 0
12 sprays	0 9	1 0
Primroses, doz. bun.	0 6	1 6
Primulas, dble. p. bun.	0 6	1 0
Roses, Tea, per dozen	0 6	2 0
— coloured, dozen	2 0	4 0
— yellow (Maréchals), per doz.	1 6	6 0
— red, per dozen	1 6	4 0
— (French) p. doz.	0 9	1 6
Tuberoses, 12 blms.	0 9	1 0
Tulips, red, doz. blm.	0 4	0 6
— white, doz. blm.	0 9	1 0
— yellow, doz. blm.	0 9	1 0
Violets, Parme French per bunch	3 6	4 0
— small English, p. doz. bunches	1 0	2 0

ORCHID-BLOOM in variety not in quantity.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arums, dozen pots	12 0	18 0
Azalea, per doz.	24 0	42 0
Adiantum, per doz.	6 0	12 0
Aspidistra, per doz.	15 0	30 0
— specimen, each	7 6	21 0
Cineraria, per doz.	4 0	9 0
Cyclamen, doz.	9 0	18 0
Cyperus, per dozen	4 0	10 0
Dracæna, each	1 0	5 0
Erica, various, doz.	9 0	21 0
Ferns, various, doz.	4 0	9 0
Ferns, small, per 100	5 0	8 0
Ficus elastica, each	1 6	7 6
Genista, per doz.	9 0	12 0
Hyacinth, doz. pots	10 0	12 0
Lilium Harrisii	18 0	30 0
Lily of the Valley, 12 pots	9 0	15 0
Marguerite, per doz.	6 0	12 0
Mignonette, doz. pots	6 0	9 0
Palms, various, each	2 0	10 0
— specimens, each	10 6	84 0
Pelargoniums, p. doz.	12 0	18 0
— scarlets, p. doz.	4 0	9 0
Primula sinensis, per doz.	4 0	6 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Apples, p. half-sieve	2 0	3 6
— Nova Scotia, per barrel	10 0	17 6
— Tasmanian, per case	2 6	10 0
Cobs, per 100 lb.		
Grapes, new, per lb.	4 0	6 0
Lemons, per case	12 0	20 0
Pine-apples, St. Michael	4 0	8 0
Oranges, Florida, per case	10 0	16 0
Strawberries, per lb.	1 6	5 0

VEGETABLES. — AVERAGE RETAIL PRICES.

	s. d.	s. d.
Beans, French, lb.	1 6	2 0
Beet, red, per dozen	2 0	3 0
Carrots, per bunch	0 4	0 6
Cauliflowers, each	0 3	0 6
Cucumbers, each	0 4	0 8
Endive, per dozen	2 0	3 0
Herbs, per bunch	0 9	1 0
Lettuces, per doz.	1 6	2 0
Mushrooms, punnet	2 0	
Mustard and Cress, punnet	0 4	
Parsley per bunch	0 3	0 6
Seakale, per basket	2 0	2 6
Shallots, per lb.	0 6	
Tomatos, per lb.	1 0	2 0
Turnips, per bunch	0 4	0 6

POTATOS.

Trade for old Potatos still very slow and prices low, except for best samples, which maintain fair prices.

NEW POTATOS are arriving in large quantities, both from Teneriffe and Malta—Rounds making 11*s.* to 13*s.*; Kidneys, 12*s.* to 22*s.* per cwt. *J. B. Thomas.*

SEEDS.

LONDON: *April* 19.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write, that in spite of the long-continued and remarkable drought, there is a healthy steady demand for field seeds. A good downfall of rain is now much wanted, and would greatly increase the sale of seeds, and at the same time quickly reveal the extreme narrowness of available stocks. Quotations generally show this week no important variation. For Tares, the sale is slow. Bird seeds likewise meet a meagre inquiry. There is rather more doing in Peas. Haricot Beans are neglected. Mustard and Rape seed keep firm. Very low prices prevail for White and Scarlet Runners.

FRUITS AND VEGETABLES.

BOROUGH: *April* 18.—Quotations:—Kale, 1*s.* to 1*s.* 6*d.* per bushel; Turnip-tops, 2*s.* per sack; Broccoli, 1*s.* 6*d.* to 2*s.* 6*d.* per bag; Greens, 1*s.* 6*d.* to 2*s.*; Parsley, 3*s.*; Carrots, 2*s.* 6*d.* to 3*s.* 6*d.*; Turnips, 1*s.* 6*d.* per dozen bunches; English Onions, 11*s.* to 12*s.* per cwt.; Horseradish, 2*s.* 3*d.* to 2*s.* 6*d.* per bundle; Apples, 4*s.* 6*d.* to 6*s.* per bushel.

STRATFORD: *April* 18.—The supply at this market during the past week has been excellent, and a brisk trade has been done at the undermentioned prices:—Greens, 2*s.* to 3*s.* per bag; do., 1*s.* 3*d.* to 1*s.* 9*d.* per sieve; Cauliflowers, 1*s.* 6*d.* to 2*s.* per dozen; do., 6*s.* to 9*s.* per tally; Carrots, household, 40*s.* to 50*s.* per ton; do., cattle-feeding, 18*s.* to 34*s.* do.; Parsnips, 6*d.* to 9*d.* per score; Mangels, 16*s.* to 21*s.* per ton; Swedes, 18*s.* to 20*s.* do.; Onions, English, 220*s.* to 240*s.* do.; do., Dutch, 8*s.* to 8*s.* 6*d.* per bag; Apples, English, 2*s.* to 6*s.* per bushel; do., American, 12*s.* to 20*s.* per barrel; Cucumbers, 2*s* to 2*s.* 6*d.* per dozen; Sprouting Broccoli, 2*s.* to 3*s.* per bag; Rhubarb, 1*s.* 6*d.* to 2*s.* 6*d.* per dozen.

SPITALFIELDS: *April* 18.—Quotations:—Sprouting Broccoli, 2*s.* 6*d.* to 3*s.* per sack, and 1*s.* 6*d.* per bushel; Spinach, 2*s.* 6*d.* to 3*s.* per bushel; Curly Kale, 2*s.* to 2*s.* 6*d.* per bushel; Sea-Kale, 1*s.* 3*d.* to 1*s.* 6*d.* per punnet; Radishes, 2*s.* to 2*s.* 6*d.*; Cauliflowers, 7*s.* to 10*s.* per tally; Greens, 4*s.* to 5*s.* 6*d.*; Spring Onions, 3*s.* to 4*s.*; Parsley, 5*s.* to 6*s.* per dozen bunches; forced Rhubarb, 1*s.* to 1*s.* 3*d.*; natural do., 1*s.* 6*d.* to 2*s.* 6*d.*; Mint, 5*s.* per dozen bunches; Mustard and Cress, 2*s.* per dozen baskets; Horseradish, 2*s.* to 2*s.* 6*d.* per bundle; English Onions, 13*s.* to 18*s.* per cwt.; Egyptian do., 14*s.* to 15*s.* do.; Parsnips, 8*d.* to 10*d.* per score; American Apples, 15*s.* per barrel; foreign Tomatos, 1*s.* 6*d.* per box.

FARRINGDON: *April* 20.—Quotations:—English Onions, 12*s.* to 14*s.*; Parsnips, 40*s.* to 50*s.*; Beetroot, 2*s.* 6*d.* per cwt.; Lettuce, St. Malos, 6*d.* per dozen; Asparagus, 1*s.* to 1*s.* 3*d.* per bundle; Carrots, 60*s.* to 65*s.*, per ton.; Radishes, 6*d.* per dozen; Canary Tomatos, 1*s.* 3*d.* to 2*s.* per box; Gooseberries, 2*s.* per basket; Apples, Tasmanian, 7*s.* 6*d.* to 9*s.* 6*d.* per case; American Nonpareils, 14*s.* to 16*s.* 6*d.* per barrel.

POTATOS.

BOROUGH: *April* 18.—Quotations:—English Magnums, 40*s.* to 60*s.* per ton. Others as previously reported. New, 2*d.* to 5*d.* per pound.

SPITALFIELDS: *April* 18.—No alteration to report.

STRATFORD: *April* 18.—Quotations:—Magnums, 40*s.* to 60*s.*; Bruce's, 45*s.* to 70*s.*; Imperators, 40*s.* to 60*s.*; Scotch Magnums, 55*s.* to 65*s.*; do. Bruce's, 60*s.* to 75*s.*; Main Crop, 80*s.* to 90*s.* per ton.

FARRINGDON: *April* 20.—Quotations:—Main Crop, 80*s.* to 90*s.*; Sutton's Abundance, 75*s.* to 80*s.*; Bruce's, 60*s* to 65*s*; Magnums, 55*s.* to 60*s.*; Imperators, 55*s.* to 60*s.* per ton.

LONDON AVERAGES: *April* 19.—Magnums, 40*s.* to 65*s.*; Hebrons, 60*s.* to 70*s.*; Imperators, 50*s.* to 70*s.*; Champions, 45*s.* to 55*s.*; Belgians, 40*s.* to 50*s.* per ton. New:—English, 3*d.* to 6*d.*; Jerseys, do., 2*d.* to per 6*d.*; Guernsey Kidneys, 3*d.* to 4*d.* per pound; Canary Kidneys, 12*s.* to 16*s.* per cwt.

NOTICES TO CORRESPONDENTS.

APPLES SHOWN BY MR. W. DIVERS AT THE LAST MEETING OF THE ROYAL HORTICULTURAL SOCIETY: *X.* The bad condition of these fruits is explained by the fact that they were packed and sent off in time for the meeting of March 28 and delayed in transit, not being shown by Mr. Barron till fourteen days later.

BOOKS: *W. E. A.* Those you name are published by Watlee Burpee & Co., Philadelphia, U.S.A. *Onions for Profit*, price 50 cents; *Celery for Profit*, price 30 cents; *Manures: How to Make and how to Use them*, price 50 cents. Obtain through a foreign bookseller.

CROSS BETWEEN CYPRIPEDIUM BIFLORUM AND C. BARBATUM. *F. Henkle.* We know of no such cross having been made. They are nearly allied species, and a cross between them would probably exhibit but few variations—not enough to induce hybridisers to make the cross. C. barbatum has been used as pollen or seed parent in many instances, with the result of beautiful varieties being obtained in this country.

INSECTS: *W. A. S., W. S.* Next week.

INSECTS IN VINERY: *Dickson, Brown, & Tait.* The beetles in the vinery are Trox sabulosus, and are quite harmless to plant life. They live in dry carcasses, hides, horns, bones, &c.; this hint may perhaps enable you to account for their presence, and to find a remedy by removing the cause. Vines are sometimes "manured" with the bodies of stray cats, &c.; these on becoming dry would attract beetles of this nature. *R. McL—J. S* The insect is the destructive clay-coloured weevil, Otiorhynchus picipes, which feeds at night on buds, young shoots, bark, leaves, &c. Spread cloths beneath the Vines in the afternoon, and go into the place at night with a dark lantern, turn the light on suddenly, and the insects will at once fall on to the cloths, when you must not delay to collect them. By following this practice for a fortnight there will be considerable lessening of their numbers. Fork quick-lime into the upper crust of the Vine-border, say, 3 to 4 inches below to destroy the grubs. The present time is not too late.

INSECTS IN A BOX, BUT WITHOUT A NOTE: *J. Cowderoy.* Two black creatures were found smashed out of form. You should send others securely packed in a strong box.

IVY: *J. T. E.* There may be poisonous properties in Ivy, but we have never before heard of anyone being made ill by trimming the plant. Perhaps some of our readers who may read this note will kindly give their experiences.

KEW BULLETIN: *Ed. In. Louvain.* 1, the first number of this publication appeared on January 1, 1887; 2, the price, 2*d.* per number; 3, it is published monthly; 4, by Eyre & Spottiswoode, East Harding Street, and may be purchased of them; or of Adam & Chas. Black, 6, North Bridge Street, Edinburgh; or, Hodges, Figgis, & Co., 104, Grafton Street, Dublin.

MUSHROOM SPAWN: *Spawn.* The so-called "spawn" (mycelium) is developed from spores in horse droppings and loam under certain conditions of warmth and moisture, and naturally in manured ground out-of-doors and generally in the autumn. We do not know the exact degree of warmth the makers apply, but it would not exceed 80° in the clumps of half-dried bricks. Get Mr. Wright's book "Mushrooms for the Million," published at 171, Fleet Street.

NAMES OF PLANTS: *F. Henkle.* Triteleia uniflora; introduced from Buenos Ayres, not Palestine.—*F. R., Leicester.* Large flower, Magnolia conspicua; small one, Spiræa Thunbergii.—*Harewood, Leeds.* Dendrobium Pierardi.—*A. B.* Pittosporum Tobira and Pimelea ligustrina.—*T. D., Sheffield.* Sprekelia formosissimus.—*F. N.* 1, Chrysosplenium oppositifolium; 2, send better specimen; 3, Saxifraga hypnoides; 4, Saxifraga muscoides.—*O. O.* Doronicum austriacum.—*F. E. C., Lismore.* Anemone nemorosa Robinsoniana, the blue variety of the Wood Anemone.—*G. H.* 1, Cydonia japonica; 2, Berberis Darwinii; 3, Viburnum tinus; 4, Cerasus Laurocerasus; 5, Berberis aquifolium; 6, Ribes sanguineum.—*J M.* Next week.

RULE II. IN SCHEDULE: *C. H. S.* We cannot see any reason against your paying 5*s.*, and showing in the amateurs' class, if you so choose. A millionnaire might elect to live in a cottage, and surely he would be eligible to show as an amateur, if he paid his 5*s.*, instead of the cotter's subscription of 2*s.* 6*d.* The rule is made to serve the poorer exhibitors.

SOWING SEED OF PERPETUAL FLOWERING CARNATIONS: *W. W* It is now too late to sow seed to raise plants for winter blooming next year, and under the best kind of treatment these would not bloom before midsummer. It is generally the best practice to raise these in January in considerable numbers from the best strains, in warmth of 70°, sowing the seed in shallow pans of sandy loam and a little leaf-mould, covering the seed very lightly, keeping them in heat only so long as the first true leaf is visible, when they should go into a less warm place, and be grown on with more and more air, and less artificial warmth till they come into a cold frame in April. The seedlings should be pricked off into other pans, in rather richer soil, and they may remain in these till the end of May, when they should be planted on a sunny border in well prepared soil, at about 18 inches apart each way, which will not be found too great, as seedlings grow with much vigour. This method has the advantage over pot culture, seeing that there will be a large proportion of single flowers of small value, and many undesirable, indistinct colours, and poor forms. Having selected the best at flowering time, these may be propagated from by layering in July and August, or the plants may be carefully taken up in September, and wintered in cool frames till early in February, when by introducing them to gentle heat, cuttings may be obtained, which if struck in bottom heat of 85°, will under fair culture make good flowering plants the following winter.

THE APPLE JACQUIN: *Philomelus.* The certificates of the Royal Horticultural Society are awarded to the object shown unless otherwise mentioned, no matter who the exhibitor may be. Sometimes, in the case of a new fruit, flower, &c., the raiser's name is given.

VINES: *W. B.* The Vines are dead, and they were probably nearly so when you lifted and replanted them. The fresh soil sent is a suitable one. Plant new Canes in May or June in a growing state, if you can get them.

COMMUNICATIONS RECEIVED.—A. B.—A. F. U.—E. Dyke.—M. T.—J. W. S.—L. H. S.—F. J. T.—H. M.—H. W. W.—D. E. C., Secretary, Edinburgh Botanical Society.—J. R.—J. B.—W. G.—C. H.—J. G. B.—A. D.—R. D.—W. K.—A. F. B.—E. M.—A. B.—J. J. W.—W. H.—J. T. N.—E. C.—H. C. P.—T. T.—B. W.—B. & Son.

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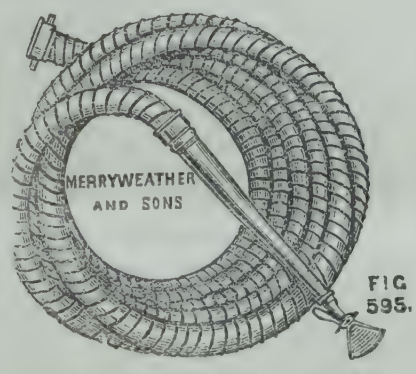

FIG 595.

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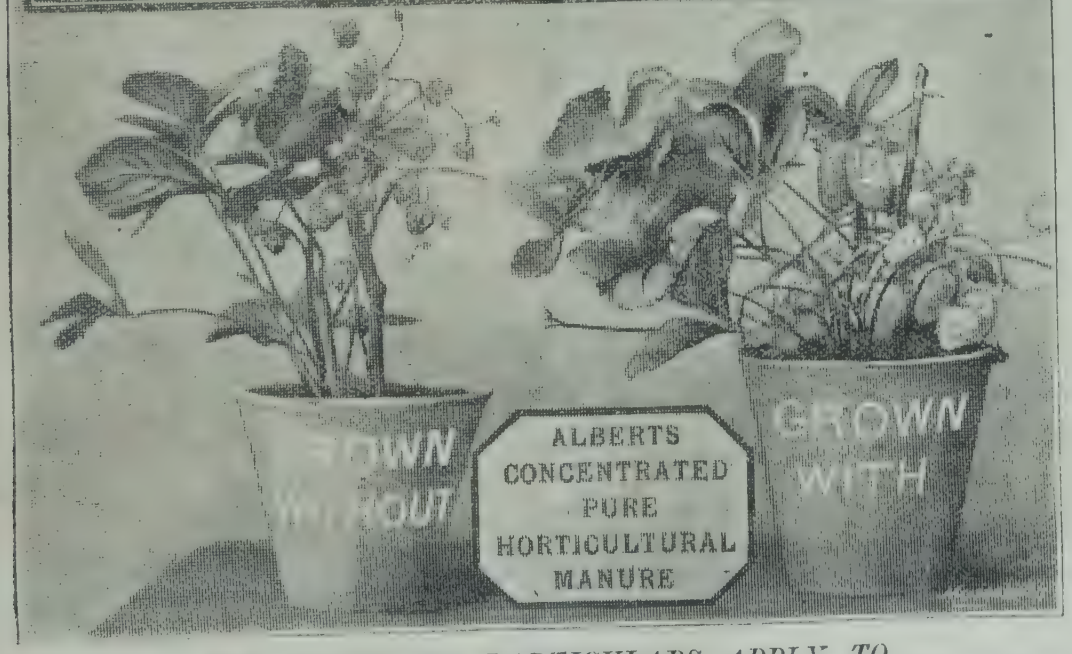

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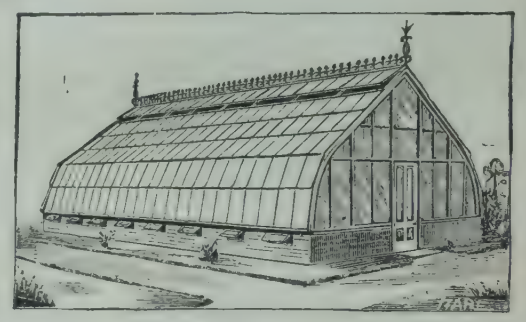

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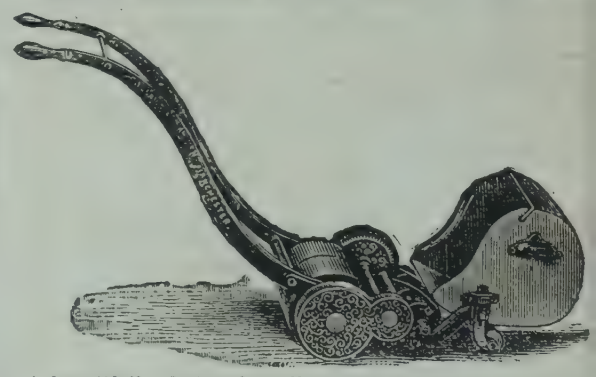

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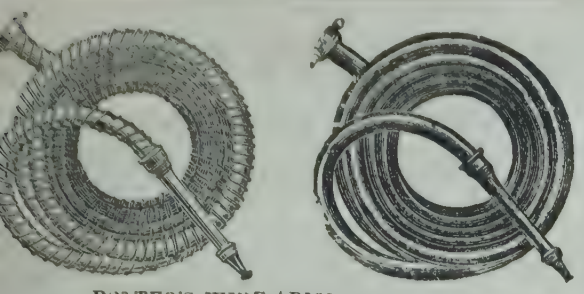

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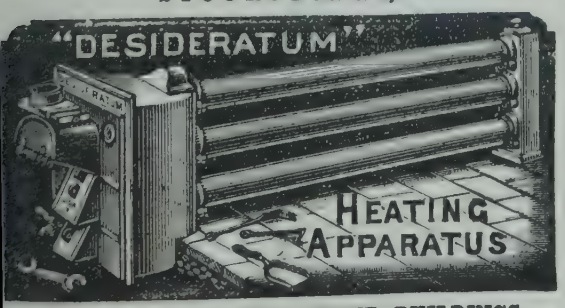

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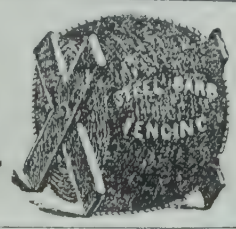

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WANTED, a GARDENER, for May Term, where one man is kept.—Knowledge of Orchids indispensable.—Apply to Messrs. CROLL, Seedsmen, Dundee.

WANTED, a WORKING GARDENER, where an under man is kept, and help given when required.—Apply, R. BUCKWORTH, Cley Hall, Swaffham, Norfolk.

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WANTED AT ONCE, a thoroughly efficient FOREMAN, for Market Nursery. Must have excellent references. State wages required (with cottage), and experience.—H. MARSHALL, Nurseries, Barnham Junction, Bognor.

WANTED, a young MAN, who thoroughly understands Budding, Grafting, and Training of Fruit Trees and Roses, and general Nursery Work.—State age, wages required, and where employed, to THOMAS HORSMAN, Ilkley, Yorks.

WANTED, a young MAN, well up in Grapes, Peaches, Tomatos, and Soft-wooded Stuff for Market. Also, MAN for JOBBING WORK. Must be sober, and of good character. State particulars and wages required to T. C., Kelsey Manor Gardens, Beckenham, Kent.

WANTED, AT ONCE, a young MAN, for the Houses, used to Growing Tomatos, Cucumbers, &c. Bothy. Vegetables found.—Apply, stating wages, &c., to HEAD GARDENER, Garendon Park, Loughboro.

WANTED, a sharp, active young MAN, from a Market Nursery, to take Charge of a Set of Houses, under the Foreman; one used to Ferns preferred. Wages, 18s.—State age, &c., to TURNER BROS., Nurserymen and Florists, Garston, Liverpool.

WANTED, a young MAN, for Cucumber and Tomato Growing, &c.—Apply to G. PRICKETT AND SONS, Floral Nursery, Enfield Highway.

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Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

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GARDENER (HEAD).—A. YOUNG, Gardener to J. P. C. Musters, Esq., Annesley Park, Notts, can with confidence recommend his Foreman, John Charlton, to any Lady or Gentleman requiring a good and trustworthy man. Good Fruit and Flower Grower.

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JOURNEYMAN, in the Houses.—Age 22; Gentleman's Private Garden preferred. Seven years' excellent character. Can be well recommended.—E. RICHARDS, Bellair, Mylor Bridge, Penryn, Cornwall.

JOURNEYMAN.—J. Rowlands, The Manor Gardens, Bardney, Lincoln, will be pleased to recommend F. Atkin (age 23), who has been employed in the gardens here three years. Abstainer. Shall be pleased to answer any inquiry.

JOURNEYMAN, Inside, or Inside and Out.—Age 23; seven years' experience in good places. Abstainer.—C. PANNELL, Church Street, Castle Hedingham, Essex.

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JOURNEYMAN, Inside.—Age 23; has had good experience in the various departments. Can be well recommended by last and previous employers.—E. COOK, Buckden, Huntingdon.

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JOURNEYMAN, Inside, or Inside and Out.—Age 21; seven years' experience.—E. GOULD, 107, Whitehorse Lane, South Norwood, S.E.

JOURNEYMAN, Inside.—Age 20; seven years' experience; can be well recommended. Disengaged.—H. WARREN, Station Road, Cheam, Surrey.

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IMPROVER, or JOURNEYMAN (Third), in the Houses.—Age 19; four years' experience. Good character. Plant-houses preferred.—THOMAS W. GRIMES, Culverhay, Wotton-under-Edge.

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IMPROVER, in a Garden.—Age 17; well educated. Willing to pay a small premium.—K., 2, Elsie Villas, Princess Road, Bournemouth West.

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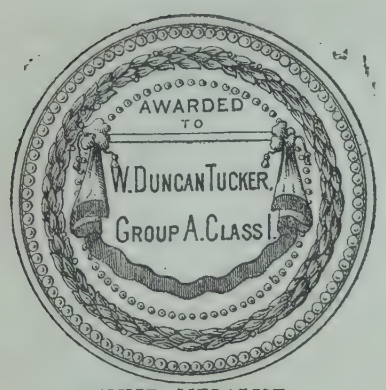

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CONTENTS.

Apiary, the	520	Palm, a new	507
Apple Reinette du Canada	521	Pears on Thorn stocks	516
Bacteria in soil	505	Petroleum and insects	516
Benevolent Institution, Gardeners' Royal	513	Plants, new or noteworthy—	
Book notice—Manual of Orchidaceous Plants	515	Fritillaria Whittallii	506
Bugs, Madame Vinke's Nursery	515	Galanthus Ikariæ	506
Calla Pentlandii	516	Iris Bismarckiana	506
Crichel House	508	Narcissus, Dammann's hybrid	507
Dendrobium nobile, a fine specimen of	508	Scilla leucophylla	503
Earl's Court Exhibition	513	Plum of East Anglia, the	516
Erythea edulis at home	508	Violet	516
Erythronium grandiflorum	516	Poppies	516
Florists' flowers—Carnation Duke of York	520	Societies—Edinburgh Royal Botanic	519
Pink, the	520	Linnean	512
Forestry	521	National Auricula and Primula	518
Ghent Quinquennial	512	Newcastle Botanical and Horticultural	520
Grapes, packing	515	Royal Botanic	519
Guadalupe island	507	Royal Horticultural	517
Jardin des Plants, Paris	515	Strawberry John Ruskin	516
Law note—Flower show dispute	521	Streptosolen Jamesonii	520
Life in the soil	505	Technical Education	514
Market gardening under glass	516	Wilton House, spring gardening at	516
Orphan Fund, Gardeners'	514	Week's work, the	510
		Flower garden, the	511
		Fruits under glass	510
		Hardy fruit garden	511
		Kitchen garden, the	510
		Orchid houses, the	511

ILLUSTRATIONS.

Azalea mollis var. Anthony Koster	513
Crichel House	509
Erythea edulis	507
Gooseberry Sawfly	522

"GARDENERS' CHRONICLE."

LARGELY INCREASED CIRCULATION.

IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

Increased to the extent of 75 per cent.

Advertisers are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS *at home and abroad, and is preserved for reference in all the principal Libraries.*

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A special importation from Messrs. WALTER KEMSLEY & Co. 44, Leadenhall Street, London, E.C., comprising :—
PHALÆNOPSIS GRANDIFLORA (Java).
CYPRIPEDIUM BELLATULUM, large masses only
,, CHAMBERLAINIANUM.
,, EXUL SUPERBUM, this is distinct from previous lots of Exul, the flower being much larger.
SACCOLABIUM CITRINUM, together with an entirely

NEW CYPRIPEDIUM

From Sumatra. The Collector sends us a dried flower of this, which will be exhibited at the Sale, and says:—"The flowers are fully as large as CYP. LAWRENCEANUM, labellum lemon-yellow, dorsal sepal in the form of C. Rothschildianum, with pink markings."
Also a small shipment of DENDROBIUM FORMOSUM from Burmah.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, May 2, at half-past 12 o'Clock.
On view morning of Sale, and Catalogues had.

Buckhurst Hill.

Between Chingford and Buckhurst Hill Railway Stations, adjoining the Forest.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at The Mart, Tokenhouse Yard, E.C., on WEDNESDAY, May 3, 1893, at 2 o'Clock, the desirable FREEHOLD PROPERTY, known as THE FOREST NURSERY, Reindeer Lane, Buckhurst Hill, comprising Brick-built Cottage, five Greenhouses, and nearly half-an-acre.
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Friday Next.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, May 5, at half-past 12 o'Clock, rare TERRESTRIAL ORCHIDS, for Cool house or Frame, including the fragrant yellow Disa cornuta, D. draconis, large white and rose; D. graminiflora, large blue; D. lacera, blue with red fringed lip; D. purpurescens, purple; D. lugens, lilac, with large emerald-green lip; D. venusta; Satyrium sphærocarpum, S. membranacerum, S. maculatum, &c. Also a few fresh imported plants of a large violet and white SCHOMBURGKIA, and other ORCHIDS.
On view morning of Sale, and Catalogues had.

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ODONTOGLOSSUM ALEXANDRÆ

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On view morning of Sale, and Catalogues had.

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CLEARANCE SALE of PLANTS.
By order of the Executors.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, as above, early in May, the Collection of STOVE and GREENHOUSE PLANTS, a few lots of ORCHIDS, AZALEAS, 2500 GERANIUMS and other BEDDING PLANTS, a very fine lot of PALMS, DRACÆNAS and other PLANTS for Decoration, including some good specimen KENTIAS.

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By order of the Executors of the late Mrs. Arbuthnot, of Bridgend Place, Bexley. Absolutely without reserve.
IMPORTANT SALE of this VALUABLE COLLECTION, the whole of the plants being in perfect health.

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Anguloa Ruckeri
Cattleya gigas imperialis, very fine plants
,, ,, Sanderiana, very fine plants
,, Mendelii, especially fine plants
,, Trianæ
,, Gaskelliana
,, speciosissima
,, Mossiæ
,, Bowringiana
,, Dowiana
Cœlogyne Dayana
,, cristata, large plants
Cymbidium Lowianum, fine plants
Cypripedium insigne
,, Schroderæ
,, Druryii
,, Rothschildiana
,, caudatum
,, Stonei
,, Morganiæ
,, Arthuriana
Epidendrum vitellinum majus
Lælia purpurata, extra fine varieties, 30 plants
Lælia purpurata Brysiana
,, anceps stella
,, ,, Sanderiana
,, ,, alba
,, elegans
Lycaste Skinneri
Dendrobium nobile nobilius
,, ,, Cooksonii
,, nobile
Odontoglossum Alexandræ, 500 plants, including many specially fine varieties
,, vexillarium, 100 plants, in grand condition, and many exceptionally fine varieties
,, Pescatorei
Oncidium macranthum
Phalænopsis Sanderiana, 30 plants
,, amabilis, 30 plants
,, Schilleriana
Sobralia macrantha, 4 plants, Wooley's variety
Vanda tricolor
,, suavis
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,, Sanderiana

The whole of the Collection is in the highest state of cultivation, and many grand varieties will be found amongst the Cattleyas and Lælias. The Odontoglossum vexillarium are in superb condition, and full of flower-buds; also the Odontoglossum Alexandræ contain many specially fine varieties.
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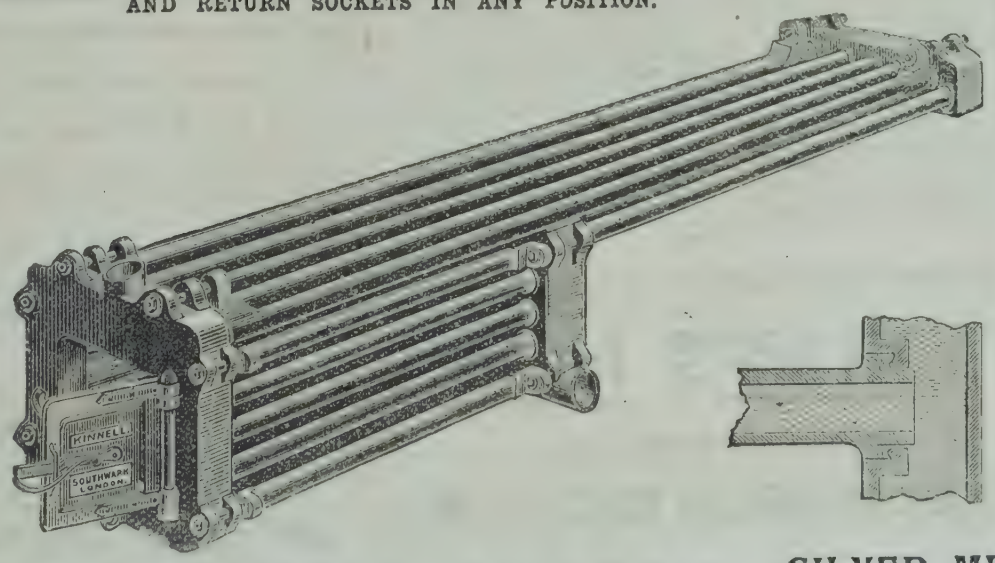

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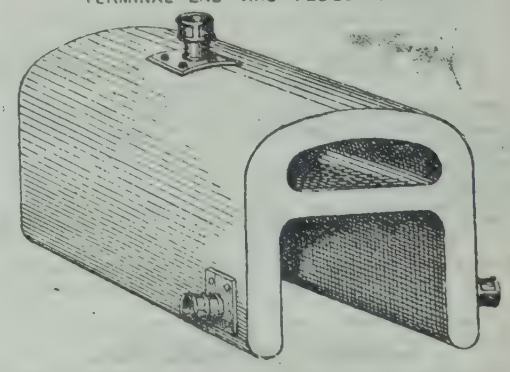

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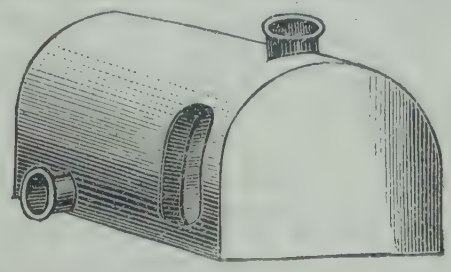

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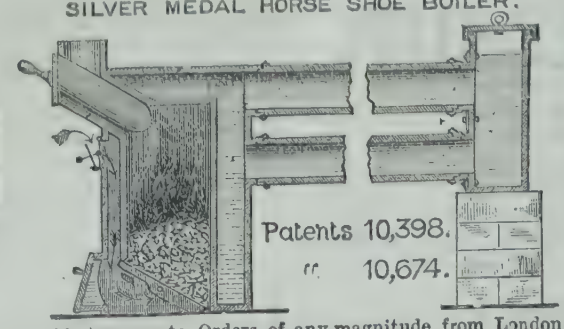

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Begonia, Tuberous-rooted, Single. Large brilliantly coloured flowers, of all the most beautiful shades. Good strong flowering tubers in splendid mixture, per 100, 30*s.*	4	6
,, **Double-flowered,** very fine mixed, 9*s.* and	12	0
Calla "Little Gem." Elliott's variety. True charming miniature Arum, each, 1*s.* 6*d.*	15	0
Tuberoses, American Pearl. Fine bulbs. Per 100, 17*s.* 6*d.*	2	6

All carriage free at prices quoted.

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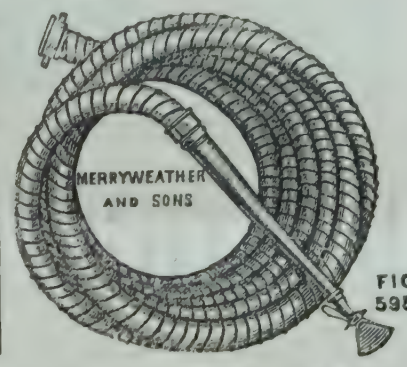

FIG 595.

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Schedules on application to—
W. J. G. BEDFORD, Surg.-Major, Hon. Sec.
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Entries close on THURSDAY, May 4.

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NATIONAL CHRYSANTHEMUM SOCIETY.
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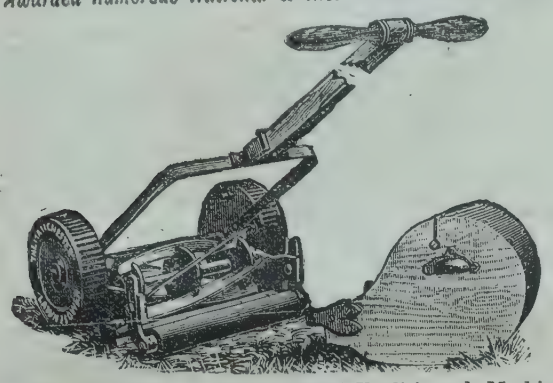

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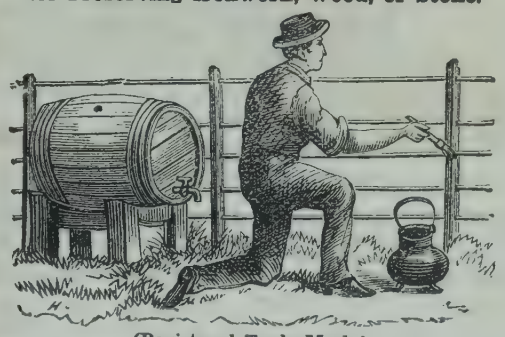

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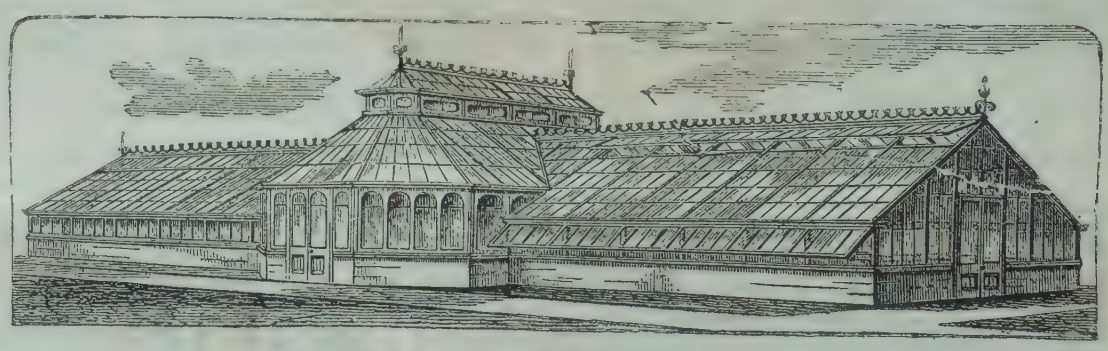

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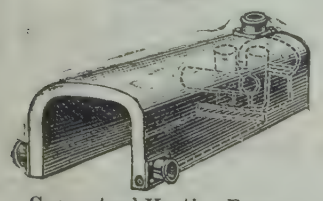

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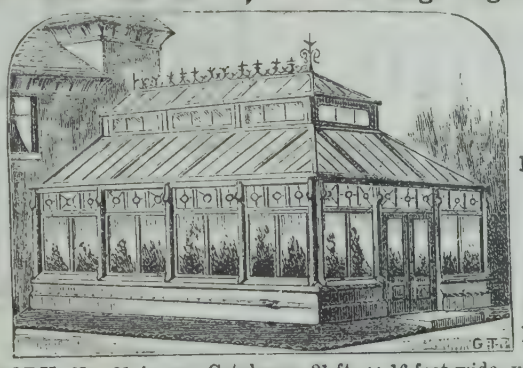

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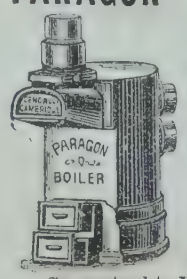

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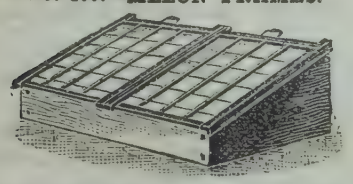
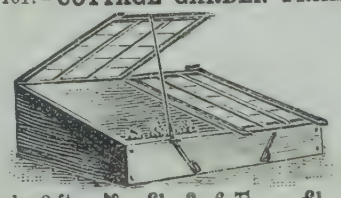


6 ft. by 4 ft., with 2 lights	All sizes carriage paid.	£2	0	0
8 ft. by 5 ft. ,, 2 ,,		2	15	0
8 ft. by 6 ft. ,, 2 ,,		3	0	0
12 ft. by 6 ft. ,, 3 ,,		4	2	6
16 ft. by 6 ft. ,, 4 ,,		5	5	0

No. 101.—**COTTAGE GARDEN FRAME.**



4 ft. by 3 ft.	With sliding lights.	£1	2	6	With hinged lights, as shown.	£1	5	0
6 ft. by 4 ft.		1	15	0		2	0	0
9 ft. by 4 ft.		2	7	6		2	15	0
4 ft. by 4 ft.		1	7	6		1	10	0
8 ft. by 4 ft.		2	2	6		2	7	6
12 ft. by 4 ft.		2	17	6		3	5	0

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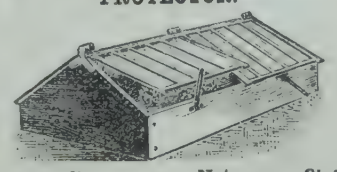

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4 ft. 6 by 4 ft.		1	15	0
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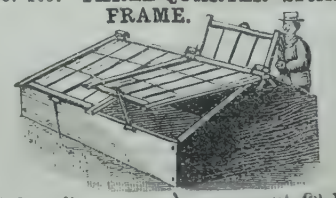
9 ft. by 4 ft.		3	0	0

No. 105.—**THREE-QUARTER SPAN FRAME.**



5 ft. by 5 ft.	All sizes Carriage Paid.	£2	10	0
10 ft. by 5 ft.		4	5	0
8 ft. by 6 ft.		4	5	0
12 ft. by 6 ft.		5	12	6
16 ft. by 6 ft.		7	5	0

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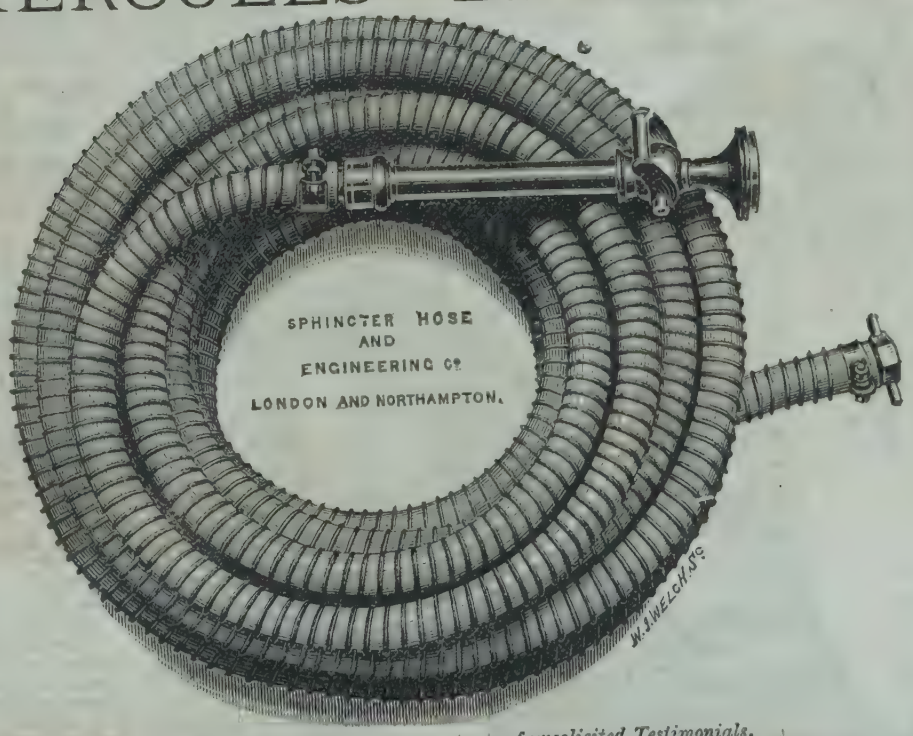

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From Mr. J. SMITH, The Gardens, Mentmore:—
"The Cinerarias we raised from the seed you sent last year have all turned out very large, the flowers of great substance, and good colours."

From Mr. J. CORBETT, The Gardens, Mulgrave Castle:—
"Your Giant Cineraria is all that can be desired; it is a valuable strain; the flowers are very large and splendid in colour, of all the finest shades; the blues are undoubtedly the best I have met with."

From Mr. G. WYTHES, The Gardens, Syon House:—
"The Giant Cineraria Seed sent me turned out some fine plants, of good habit, large blooms, and beautiful colours; it is a fine strain, and a decided acquisition."

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"Your Giant Cineraria is a first-class strain, of a dwarf sturdy habit; flowers large size, good colour and substance."

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THE

Gardeners' Chronicle.

SATURDAY, APRIL 29, 1893.

LIFE IN THE SOIL.

WE now know three things at least about the soil we cultivate, viz., that it is of mineral origin, formed primarily of rock-dust, and so inorganic. Then it has added to it from time to time the organic matter afforded by the decomposition of plants and animals, such as dead and decaying vegetation, and the various animal manures. But thirdly, and in this case lastly, there is actually life in the soil, microscopic it is true, but vegetable life, active and potential, as all life is anywhere and everywhere, for where there is life there is no absolute rest, something is ever and always being done. In a word, vegetable life as we know it to-day is ever and always potential, and it is always operating on and altering the chemistry of other matter around it either living or dead. This much is especially true of the living vegetable organisms which are found more or less abundantly in all soils.

These soil-organisms are really minute members of the fungus family, very low organisms it may be from a biological standpoint, even although it is part of a biologist's faith to call nothing, however low or minute, in the scale of life, "common or unclean;" and so even the low fungoid forms of life, now so familiar under the general name of bacteria, deserve the gardener's attention, seeing that they work for him unceasingly, even if, like the work of the good fairies of old, their operations be unseen.

Bacteria are then simply extremely minute representatives of the Mushroom and Toadstool family of plants, full of energetic potentialities for evil or for good, as the case may be, just as the higher fungi may either feed us or poison us, according to natural laws, not as yet well "understanded of the people."

Someone once said to an American humorist, I think it was Mark Twain, "Yes! you see the botanists are very clever people, but they, even can't say, how we should distinguish Mushrooms from Toadstools." "Oh! that is easy enough," said the humorist, "you should eat the darned things right away; then if you live, it's a Mushroom, and if you die, it's a Toadstool!"

This is a strong appeal in favour of actual experience, as opposed to mere theory, and as a fact we know and learn much more of the bacteria by experience, i.e., by the results of their labours than we at present can do of the organisms themselves, and so the working results of soil bacteria are evident, for it is their office to reduce the organic matter deposited in the soil to the elements of the rock dust, and of the atmospheric carbon and nitrogen whence it was originally derived.

Now, bacteria generally agree, so far, with

*

the great fungus family of plants, that the activity of some is malignant, and that of others, is benevolent and life-giving. Bacteria, in a work, may be bacteria, but they are divisable into two distinct sections or groups. There is, in fact, a notable difference between the "bad fairies—the imps of darkness," that cause pathological disorders, such as anthrax, typhoid fever, and small-pox, or hydrophobia and tetanus—and the "good little people," that really act as the benevolent scavengers of Nature, and diffuse new life, and health, and beauty all around them, in garden and field; and to the latter group or division belong the soil-organisms, to which we desire to draw the especial attention of all interested in soil or earth-culture to-day. The bacteria of cultivated soils belong to the micrococci, rounded or egg-shaped bodies, not unlike frog-spawn when highly magnified, which carry on great chemical changes in the soil. There are presumably different species of bacteria that do this, some of which are spoken of as the "nitrous" and others as "nitric" organisms of the soil, and each organism has its own special work or function to fulfil.

The general work of both these organisms is to carry out or to cause what is called "nitrification" in the soil, a process of oxidation or decomposition by which organic and inorganic matter is rendered soluble or immediately available for growing crops. You can sow or plant a crop in the soil, but that does not mean that soil-food is at once fit to be taken up in watery solutions by the rootlets of the crop. Planting or sowing the land is, in fact, analogous to taking a horse to the water—you can "take him there, but you can't make him drink." So you can plant your fruit trees, or sow your vegetable seeds in the earth, but unless the soil organisms have rendered the plant-food soluble, i.e., unless it has become "nitrified," the plants will not, because they cannot, take it up and send it to their leaves for further development, and thence to be returned or attracted to flowers, fruits, or stems, for man's service and delight. We have said that there are two groups of bacteria that act in the nitrifying process continually going on in the soil, and from the latest evidence it appears that the function of the "nitrous" organism is to attack the ammonia in the soil, and form from it what are called nitrites, and after the ammonia (nitrogen) is thus changed, the "nitric" organism begins its work upon the nitrite, and reduces their composition into nitrates, i.e., nitrogen in a soluble state available for the rootlets of living vegetation. Thus we here see a most beneficent kind of "symbiosis," a potent co-operation ever going on between the higher and the lower races in the vegetable world; and after this, need we wonder at the folk-lore which tells us of the "good fairies" that carried on the farmwork at night unseen and unheard? That bacteria did this in all the farmhouse operations of brewing and baking, and cheese-making, as well as on the farm itself, is a well-known fact to-day, and one with which we cannot become too familiar in the garden.

It may interest some readers to know that microscopic slides of the "nitrous" organism or bacterium, prepared by Prof. Winogradsky, can be obtained of Messrs. Newton & Co., of 3, Fleet Street, E.C., and those who would like to dive deeper into this fascinating question of life in the soil may consult with advantage the following papers, &c.:—

Winogradsky, in the *Annales de l'Institut Pasteur*, 1890.

Munro, in the *Journal of the Royal Agricultural Society of England*, December, 1892.

Frankland (at Royal Institution) in *Nature*, June 9, 1892.

Warington, R., letter in *Nature*, vol. xliv., p. 190, on "Nitrification in the Soil."

Those interested in economic bacteriology severally might with advantage refer to—

"Recent Contributions to the Chemistry and Bacteriology of the Fermentation Industries," *Cantor Lectures*, 1892, Society of Arts, London (price 1*s.*); or, *Our Secret Friends and Foes*, S.P.C.K., 1893, price 2*s.* 6*d.*

In conclusion, I should like to say that the whole subject of soil-organism, as also of bacteria generally, is well worthy of the gardener's closest attention, seeing that these organisms seem to lie at the very base of all growth-force, as well as at the root of most, even if not of all, kinds of decomposition as it occurs in the garden.

In a future paper, I should like to draw further attention to the bacteria peculiar to Leguminose vegetables, and which are supposed to possess the unique power of "fixing" free atmospheric nitrogen. *F. W. Burbidge.*

New or Noteworthy Plants.

Galanthus Ikariæ, *Baker, n. sp.**

This new Snowdrop has been discovered in the island of Nikaria (the classical Icaria), which lies a short distance to the south-west of Samos off the west coast of Asia Minor, by the collectors sent out by Mr. Whittall, of Smyrna. My attention was first drawn to it by Mr. James Allen, of Shepton Mallet, who sent me a leaf in February, and told me that he felt confident it would prove to be a new and distinct species. Now we have received a couple of half-dried specimens in flower from Mr. Whittall, and I find that Mr. Allen's prediction is fulfilled. It has the bright green broad leaves of G. Fosteri, the quadrate lobes of the inner segments of the perianth with crisped edges of G. Elwesii, and the single apical blotch upon the inner segments of G. nivalis. Mr. Allen compares the leaves to those of a Leucojum.

Bulb not seen; sheath 2 inches long, truncate at the apex; leaves lorate, rather shorter than the scape, projecting from it 4 to 5 inches at the flowering time, bright glossy green, ½ to ¾ inch broad, the margin not at all recurved; scape 7 to 8 inches long; bracts linear, with reflexed edges, 1½ inch long; pedicel shorter than the bract; ovary oblong, ⅓ inch long; outer segments of the perianth oblong-spatulate, nearly an inch long; inner cuneate, half as long, emarginate, with square apical lobes crisped at the edge, and with a tendency to recurve at the tip, the single apical green blotch occupying half of the outside of the segments; stamens rather shorter than the inner segments; anthers orange-yellow, minutely mucronate. *J. G. Baker.*

Iris (Oncocyclus) Bismarckiana, *Regel in Hort. Dammann; Baker, Handb. Irid, p.* 18 †

This fine new species of Oncocyclus was introduced a year or two ago from the Lebanon country by Messrs. Dammann. It is briefly noticed in my handbook, but has never been properly described, and I have never seen a specimen before the one which Mr. Sprenger has now kindly forwarded, from which my description is taken. The leaves are much broader than those of any other Oncocyclus. The outer segments of the perianth are dark brown, with a yellow-green groundwork showing towards the edge; the inner segments are very pale, so that there is a great contrast in colour between the two rows. Its alliance is with I. Sari, *Botanical Magazine*, t. 6960. I am sorry that I. atro-purpurea was accidentally omitted from my handbook.

Leaves 6 to 7, in a basal rosette much curved, pale green, broadly ensiform, 6 to 8 inches long, an inch broad; peduncle stiffly erect, one-headed, not longer than the leaves; spathe valves 3 inches long, oblong, acute, permanently imbricated, pale green, tinged with brown towards the tip, not at all scariose at the flowering time; pedicel very short; ovary above ½ inch long; perianth-tube green, cylindrical, under an inch long; outer segments obovate-cuneate, reflexing, 2½ inches long, nearly 2 inches broad, plain dark brown in the middle, thickly veined with dark brown on a yellowish-green groundwork all round, with a velvety cushion down the claw, of which the hairs of the lower part are mainly all yellow; inner segments obovate-unguiculate, 3 inches long, 2 inches broad, veined with dark lilac, and towards the base with brown on a pale lilac ground; style-branches 1½ inch long, very convex on the back, and sharply keeled, with large reflexing quadrate apical crests; anther white, twice as long as the filament. *J. G. Baker.*

Scilla (Prospero) leucophylla, *Baker, n. sp.**

This is a very distinct new Scilla, which has been imported by Leichtlin from the mountains of western Persia. It much resembles in aspect some of the Hyacinths of the sub-genus Bellevallia, but the segments in flower are free down to the base. It is dwarf in habit, with small intensely glaucous leaves and bright purple flowers tipped with green. It flowers in April.

Bulb small, globose; leaves four, clasping the base of the stem, erect, 4 to 5 inches long, under an inch broad, rather thick and firm in texture, with obscurely ciliated edges; peduncle green, rather longer than the leaves; raceme oblong, 1½ to 2 inches long; pedicels shorter than the flowers, the upper ascending, the lower cernuous, with a pair of minute white bracts at the base; perianth permanently oblong, ⅓ inch long, bright blue-purple, with a green tip; filaments linear, as long as the perianth; anthers small, dark blue-purple; ovary small, ovoid; ovules two in a cell, basal; style reaching to the tip of the segments.

Fritillaria (Monocodon) Whittallii, *Baker, n. sp.*†

This new Fritillary is wonderfully like our familiar English F. Meleagris in habit, leaf, and flower; but it has an orbicular instead of a linear nectary, in which respect it resembles F. lusitanica and F. messanensis. F. Meleagris is not known with certainty in any part of the region covered by Boissier's *Flora Orientalis*. Its nearest oriental allies previously known, such as F. acmopetala and F. lycia, have non-tesselated or very obscurely-tesselated flowers. The present plant has, I believe, been widely distributed by Mr. Whittall, of Smyrna, by whose collectors it was obtained from the western end of the great Taurus range. My description is drawn up from living plants raised at Kew, from bulbs which he sent us a year ago. It flowers in

* *Galanthus Ikariæ*, Baker, n. sp.—Foliis scapo brevioribus loratis nitide viridibus marginibus haud recurvatis; scapo 6-8 pollicari; perianthii segmentis exterioribus oblongo-spathulatis, segmentis interioribus apice emarginatis lobis quadratis crispatis maculâ viridi unico apicali magno; antheris minute mucronatis.

† *Iris* (*Oncocyclus*) *Bismarckiana*, Regel in Hort. Dammann; Baker, Handb. Irid., p. 18.—Foliis productis 6-7 falcatis ensiformibus pallide viridibus; caule brevi monocephalo; spathæ valvis oblongis magnis sursum fusco tinctis; pedunculo brevi; perianthii tubo brevi; segmentis exterioribus obovato-cuneatis fusci prope marginem viridi flavo decoratis, interioribus obovato-unguiculatis pallide lilacinis venis saturatoribus; styli ramis arcuatis appendicibus magnis recurvatis.

* *Scilla* (*Prospero*) *leucophylla* Baker, n. sp.—Bulbo parvo globoso; foliis 4 erectis lanceolatis intense glaucescentibus margine obscure ciliatis; scapo foliis paulo longiori; racemo multifloro oblongo; pedicellis flore brevioribus; bracteis minutis geminatis; perianthio oblongo purpureo apice viridulo, segmentis lineari-oblongis diu conniventibus; staminibus perianthio æquilongis; stylo elongato; ovulis geminis basalibus.

† *Fritillaria* (*Monocodon*) *Whittallii*, Baker, n. sp.—Bulbo parvo globoso; caulibus gracilibus; erectis monocephalis elongatis; foliis 6—7, linearibus alternis dissitis facie canaliculatis; flore cernuo, perianthio late campanulato basi truncato utrinque viridulo distincte tesselato, segmentis oblongis diu imbricatis, nectario orbiculari; stylo sursum trifurcato.

England at the end of March. We have had incomplete specimens in the herbarium for a couple of years, placed amongst the "doubtfuls."

Bulb small, globose. Stem reaching a length of 1 foot, slender, one-flowered. Leaves six or seven, alternate, distant, ascending, linear, 4 to 6 inches long, channelled down the glaucous face. Perianth broadly campanulate, drooping, truncate at the base, 1½ inch long, tesselated inside and out with brown spots on a green ground; segments oblong, permanently imbricated, ½ to ⅝ inch broad; nectary large, green, globose, placed a little above their base. Stamens more than half as long as the perianth anthers linear, white, ¼ inch long. Style deeply trifid. *J. G. Baker.*

¼ inch broad at the throat, bright yellow at the top. Perianth-segments oblong, spreading, lemon-yellow, ¾ inch long. Corona obconic, orange-yellow, ½ inch long and broad, with an erect minutely crenate margin.

6. Tazetta parent type.—Leaf ¾ inch broad. Scape stout. Umbel of three to five erect flowers, two with pedicels fused nearly to the top; pedicels 1½ to 2 inches long. Tube narrowly funnel-shaped, ¾ inch long, ¼ inch diam. at the throat. Segments oblong, spreading, pale sulphur-yellow, ¾ inch long, Corona funnel-shaped, bright yellow, ½ inch long, ½ to ⅝ inch diameter at the throat, with a truncate erect edge.

7. Tazetta parent Grand Monarque.—Leaf ¾ inch broad. Umbel of two inclined flowers; pedicels 2 inches long. Tube narrowly funnel-shaped, whitish at the top, ¾ inch long, ¼ inch diameter at the throat. Segments oblong, pale sulphur-yellow, an inch long, ½ to ⅝ inch broad; corona lemon-yellow, funnel-shaped, ¾ inch long, ⅝ inch diameter at the throat, with an erect truncate edge.

8. Psyche, Tazetta parent papyraceus.—Leaf ⅓ inch broad. Scape slender. Umbel of two erect flowers with short pedicels. Tube narrowly funnel-shaped, white at the top, ¾ inch long, ¼ inch diameter at the throat. Segments white, lanceolate, ½ to ¾ inch long. Corona white, ¼ inch long and broad.

No. 4 and 5 come in between typical Pseudo-Narcissus, but have three flowers; 6 and 7 approach Macleaii and Sabini; and 8 is like Margaritæ, closely allied to papyraceus. *J. G. Baker.*

Fig. 74.—Erythea edulis.

(A little-known Palm from the Island of Guadalupe, South California.)

Dammann's Hybrids between Narcissus Pseudo-Narcissus and Tazetta.

The following are additional hybrid forms to those already described, obtained by Mr. Sprenger by crossing forms of the Daffodil with Narcissus Tazetta.

4. Tazetta parent aureus. Leaf ¾ inch broad. Scape stout. Umbel of three inclined flowers; spathe 2 inches long; pedicels rather shorter. Tube narrowly funnel-shaped, ¾ inch long, ⅓ inch broad at the throat, bright yellow at the top, green lower down. Perianth-segments ovate-lanceolate, ascending, lemon-yellow, 1 inch long. Corona obconic, orange-yellow, ¾ to ⅞ inch long and broad, with an erect, deeply six-lobed margin.

5. Leaf 1 inch broad. Umbel of three inclined flowers; spathe 2 inches long; pedicels 2 to 2½ inches long. Tube narrowly funnel-shaped, ¾ inch long,

Erythea edulis at Home.

A lonely and gloomy-looking home it appears that island of Guadalupe, as it emerges abruptly from the ocean, with no distant land in sight, at 250 miles south of S. Diego, its vertical cliffs rising some thousand feet high, variously striped with the strange colours of the volcanic rock; apparently inaccessible and destitute of vegetation beyond a scanty crown of Pines on the very ridge of the northern cliffs.

It was in February, 1876, that S. Watson published in the *Proceedings of the American Academy of Arts and Sciences*, vol. xi., the list of plants collected in Guadalupe Island during the spring of the previous year, by Dr. Ed. Palmer, who was the first naturalist to visit this most remote Californian land, and there these few words refer to Erythea edulis.*

"Frequent in deep warm ravines from the northern end to Jack Bay, the only thing on the island having a tropical look. It attains a height of about 40 feet, averaging 15 inches in diameter. Each tree bears one to four clusters of fruit, 4 feet in length, and each weighing 40 or 50 lb. The fruit is eaten by man, goats, birds, and mice. In flower near the end of March."

In the spring of 1885, the island was visited again by Rev. E. L. Greene, of the University of California, and an account of his stay of one week there, and of the plants collected, appeared in the *Bulletin of the California Academy of Sciences*, January, 1886, where this brief mention is made of the Palm:—"There flourishes in the cañons a tall and handsome Palm, which bears an edible fruit, and is the sole produce of the island that looks tropical." The number of November 14, 1885, of the *Gardeners' Chronicle* contains a most interesting notice on the peculiar features of vegetation on Guadalupe, by Mr. W. B. Hemsley, which, however, adds no more information on this subject, as no other source was available to him besides the two above quoted papers.

This is all that was known up to now about a species of Palm offering such peculiar interest, not only to the botanist, for its so narrow limited habitat, and for its affinities to the Australian Livistonas more than to the Mexican Braheas, but also in the eyes of horticulturists, who are sure to find it to be the most elegant of all Fan Palms from the Northern American continent—a fast grower, quite suitable for conservatories in the North, and for the open air in the South of Europe, where a prominent place it is likely to attain also in regard of its fruits, which are similar in size and taste to Prunes.

Since 1875, small quantities of seed have found their way to Europe, but their high price, and the very long time they take to germinate, if not quite fresh, and, chiefly, the nearly total ignorance of the merits of this Palm, have prevented its more general diffusion, and it is affirmed that no large specimens are to be seen in European gardens, while on the mainland of California their number will hardly exceed one dozen.

The remarkable elegance and beauty of the adult specimens seen here, and the wish to unravel the veil that still covered this mysterious representativ

* The slender trunk sometimes 30 feet high (many of 40 fe have been measured), and 15 or more inches in diamet covered with a thick corky cracked bark; the fibrous sheat ing bases of the leaves at length glabrous; petioles stout, ov an inch broad at the summit, plano-convex with acute unarm margins (small rudimentary spines are rather frequent), som what pubescent or glabrate above; ligule 2 or 3 inches lon very densely silky tomentose; blade 3 feet long (often 4 and 5 the (seventy or eighty) folds at first tomentose, cleft to t middle (less deeply on the underside), lacerate at the ape and somewhat fibrous on the edges; panicle 4 feet long (gen rally between 5 and 6), much branched, densely tomento becoming glabrate; flowers numerous in clusters of three four, the corolla (one and a half lines long) twice longer th the calyx; segments of the corolla lanceolate, carpels glabro fruit over an inch in diameter (falling down when ripe), t thick pulp sweet and edible, seeds 7 to 9 lines in diamet slightly flattened on the inner side, with smooth and gray thin, but very hard and bony epidermis; embryo near the b on the dorsal side. Each tree bears one or four panicl blossoming late in March (as early as December and Januar The fruit clusters are said to weigh 40 to 50 lb. *S. Wats in Botany of California, vol. ii., p.* 212. [The words in par theses are added by the present writer.]

of a tropical flora on a land comparatively cold for the latitude it lies in, were enough to induce me to encounter the difficulties of sailing to, and staying on that desert island, long enough to be able to gather full information about E. edulis, which I am now happy to put under the eyes of all persons interested in horticulture, through the columns of the *Gardeners' Chronicle*.

The Island of Guadalupe, lying by 29° lat. N., has an oval shape, hardly broken by unimportant inlets, and is about 19 miles long from north to south, with an average breadth of 6 to 7 miles. The highest peak—Mount Augusta—having an elevation of 4500 feet, only a few hundred feet on the level of the upper plateau, near the centre of the island. It is not exactly a tableland, as it has been described, but presents different plateaus and well-defined circular segments, undoubtedly the result of the now wholly subsided activity of two distinct volcanic centres, of which the principal one has formed the northern part, and shows still more than half the circus of the primitive crater—not less than 4 miles in diameter—while the more eastern portion has been destroyed by the ocean in some posterior convulsion.

The distribution of the Palms appears to have been always restricted to this northern part, probably on account of the excessive aridity of the southern, which is utterly devoid of springs, and is not refreshed by the fogs that are so often brought over the northern by the cool north-western winds prevailing in this region nearly all the year round.

In altitude the Palms occupy rather a narrow zone, ranging from 300 to not above 1500 feet. What appear to be the scattered remains of a formerly considerable grove (such, perhaps, when Dr. Palmer first visited the island) are to be seen on the eastern side, right and left, of the cañon that drains the southern portion of the old crater, and there the Palms must have been thriving when the ground was all covered with a thick underwood of shrubs, mostly Junipers and Ceanothus. If one can judge from the dead stumps there, like everywhere else over the island, the work of destruction has gone on, and the few Palms, only survivors of the arborescent vegetation, show quite a miserable appearance, sadly breaking the monotony of the brownish lava field. In a few more cañons there used to grow Palms, namely in the cañon coming down to the landing, where man has destroyed them all, for thatching the cabins with their leaves, and eating the central Cabbage, which is indeed delicate and sweet. At present the principal and, one must say, the only considerable grove of Palms exists on the north-west, on a steep slope facing the sea, cut by a few deep ravines, and covers an area of 1½ to 2 miles in length, by ½ to 1 mile in breadth. It was indeed splendid and repaying, after many miles of climbing up and down among rocks, to come in sight of this beautiful forest of Palms, waving their gracefully bent light green leaves to the breeze from the underlying deep blue ocean, a striking contrast being made also by some huge dark Pines—P. insignis var. binata, Eng., growing amongst the Palms, not only for the marked difference in colour and appearance, but for our minds being used to symbolise with Pines a cold northern region, with Palms a sunny tropical one.

In former years this grove must have been much more extended towards the north. Very large fires have evidently occurred more than once, fed chiefly by the intermingled Pines, of which a few charred stumps and limbs are yet to be seen, while the burnt up Palms stand erect and unaltered for years. Towards the south end of the Palm grove are still a good number of Oaks—Q. tomentella, Eng. A fine pyramidal tree with very large evergreen leaves covered with white tomentum beneath. This association of Fan Palms, Pines, and Evergreen Oaks is, I think, a feature of some mountains in Mexico.

No undergrowth of young Palms or of any kind of shrub is to be seen under the grove; goats, of which there is an immense number over the island, have a preference for this particular spot, where a luxuriant carpet of grass is growing all the year round. A pretty light blue Nemophila was in flower there early in December—as a deep stratum of rich humus has been forming for years and years among the lava rocks, which protrude their blunt heads everywhere. No better conditions of soil and climate could be desired for the reproduction of the species, favoured by the enormous quantity of fruits produced, but not a single seed escapes the voracity of the goats, which are able to break and digest the kernels, hard as they are. A peculiar characteristic of E. edulis is, that the trunk is quite slender in comparison to its height, and often is slightly bent at the base, so that it has nothing of the heavy massiveness of Washingtonia filifera, and of most of the Sabals. The leaves do not stand stiff and rigid as in other species of the temperate region, but droop gracefully, owing to the length and flexibility of the petioles. What adds much to the elegance of the plant is, that the old leaves, when dead, do not remain to disfigure the upper part of the trunk, but fall down by themselves. The flower stalks reach fully 6 feet in length, and they must be grand indeed, those huge bunches of fruits, quite black when ripe, weighing forty and fifty pounds each! In the island the blooming season is December and January, and the fruits are ripe already in April, a speedy and rather unusual process, if compared with other species of Palms; but the few adult specimens grown in gardens on the mainland appear to be in flower and fruit all the year round, so that the same is likely to occur in the gardens of southern Europe. In such case, however, the panicles are likely to be reduced in size. Special mention must be made of the curious appearance imparted to the trunks of the Palms by the growth of an Usnea (?), which coats them with a sea-green sort of beard, but only on the side facing the ocean.

Young plants of E. edulis, as grown in pots, appear to possess much more gracefulness and decorative value than other Fan Palms; they are for sure to be preferred to Washingtonia filifera as a useful and profitable plant, besides the fruit so abundantly produced. The fibrous expanse of the petioles, when the leaves die off, falls down in a sort of soft thickly-woven mat—a splendid material for packing plants, and to be utilised, perhaps, for other industrial purposes.

About the growth of E. edulis, I must say that fresh seeds germinate in a few weeks, older ones take several months; and after, the plant grows nearly as quickly as W. filifera or Phœnix canariensis, two well-known fast growers.

About the degree of hardiness of this species, judging from the location where it is growing, one ought to believe that it cannot be less than that of W. filifera and of its sister on the mainland, Erythea armata, both well known in European gardens; and it is to be hoped that some information on the subject will be contributed from the gardens of Southern France and of the Riviera. I can only add that a fine fruiting specimen of Erythea edulis is to be seen in the grounds of the University of California, at Berkeley, where occasional frosts are not rare.

How this particular species has been stranded on this limited, lonely island, is a problem that other more competent people will attempt to solve. I have only to say that, since 1875 some botanical explorations have been made on the Peninsula of Lower California and on the adjacent islands, and, while there have been collected some of the plants believed at first to be peculiar to Guadalupe Island, nothing has been seen of E. edulis. Sealers and smugglers, who are well acquainted with every nook of the Lower Californian coast, assure us that no Palm whatever is to be found there. Erythea armata has been collected by Mr. T. S. Brandegee as far south as 29° N. lat.; but inland, ranging north till to about 40 miles from the boundary-line of the United States. Of the home of Erythea armata I hope to be able to afford information another time to the readers of the *Gardeners' Chronicle*. *Dr. F. Franceschi, Los Angeles.*

Orchid Notes and Gleanings.

A FINE PLANT OF DENDROBIUM NOBILE.

The pseudobulb of Dendrobium nobile which is sent with this note was taken from a plant of twenty growths growing in a basket, all being equally as good as this one. It was bought three years ago as a small newly-imported piece of Dendrobium Wardianum Lowii. It may, perhaps, interest some of the readers of the *Gardeners' Chronicle* to be made acquainted with the kind of culture pursued, and which affords such good results. I know that many gardeners advise the cutting down of the old pseudobulbs; but this practice I strongly object to, and I never prune or cut away any of the pseudobulbs before they are at least three years old—in fact, not before they are quite dried up. Some people may say this gives the plant an untidy appearance; but I find that with good strong plants the old growths are not noticed, and even should they be, my advice is to study the health of the plant before its appearance, and to ask yourself, is such pruning natural?

In potting, good brown fibrous peat, charcoal, and crocks are made use of, the crocks, pots, or baskets being made thoroughly clean. The peat is broken into pieces of the size of a Walnut, or a little larger if the plant is a big one, all fine soil being shaken out of it. After crocking the pots, all the old compost is removed, so far as it can be done without injury being inflicted to the roots, and the plant is put on the crocks, and the different parts are filled in separately, as I find is best in the case of all species of Orchids. The plants when potted are returned to their old quarters, and carefully watered, taking care to see that none get over watered; but this is almost impossible if they are properly potted. From this time onwards until the plants have finished their growth, they get the ordinary stove treatment. Our space unfortunately being limited, after the growths are fully made up we remove them to a cold house, stopping the supply of water, and give them full exposure to the sun. With this kind of treatment the buds soon swell up, when they are returned to their old quarters. This kind of treatment I apply to all the Dendrobiums cultivated here, and the plants respond to it capitally. I herewith send you a specimen of some of our pseudobulbs. *Frank Lowe, Easthampstead Park.*

[The flowering growth was a magnificent one of a good form of D. nobile, and it betokened excellent cultivation, as did also some growths of the current season. Ed]

CRICHEL HOUSE.

Crichel, the ancestral home of the Sturts, is charmingly situated in the midst of an undulating and finely-timbered park. It would be difficult to find a place richer in sylvan and arboreal beauty than Crichel, and at no time in the year does the place look better than in June. The Rhododendrons, hardy Azaleas, and many other species of flowering shrubs, with which the grounds are well stocked, are in full flower in that month, and are themselves worth going a long way to see.

Crichel has several fine entrance lodges and avenues, and is situated about 7 miles south of the town of Wimborne, and at a like distance westward from Verwood Station, which, like Wimborne, is on the London and South-Western main line, from Salisbury to Bournemouth and Weymouth. These drives are very enjoyable on a bright summer's day, such as the writer was favoured with, a pleasant diversified tract of country, and quaint and picturesque villages, notably Wychampton, being passed through on the way.

Entering the park by the Chalberry entrance, the drive to the mansion of about one mile, is an interesting one. The road is about 12 yards wide for the first half mile or so, when it joins an old and much narrower one. Wide carriage-drives have a very bold and imposing appearance, and impress the visitor favourably. All drives to country houses of importance should be wide enough to

admit of two vehicles passing each other without one having to go on the turf, as is the case in some places. On either side of this avenue—a new one—are two lines of promising trees of Cedrus atlantica at the back, and common Limes in the front. They are planted 36 feet from the road, and 24 feet from plant to plant in the row. The underlying stratum being chalk, Mr. Beck affords timber trees, when planted for ornamental purposes, capacious holes and a large quantity of sound loam, to which half-inch bones in quantity are added. These trees were planted ten or twelve years ago; they are now about 20 feet high, and of great promise—handsome and symmetrical.

The extensive park has an irregular surface, and is beautifully wooded and watered. The principal kinds of trees are common Oak, Beech, Lime, Spanish Chestnuts, grand specimens of English and about 12 yards high to the ceiling, which is supported and ornamented by four massive circular pillars and five arches, ingress and egress being through the two outside arches, the intervening front space and walls on either side the steps being protected and ornamented by guilded balustrading.

The range from this portico is very extensive and brings into view a fine landscape studded with timber of great age. At some 40 yards eastward from the mansion stands a pretty church; and midway, and extending southward, evergreen Tea and other Roses are observed trained to a light iron fence—a pretty feature. To the north of the mansion the ground rises abruptly to a considerable height, and is well clothed with flourishing trees, as also is Chalberry Hill in the rear, and from the top of which the Isle of Wight can be seen on a clear day.

The pleasure-grounds are on the west and north high, was transplanted by him twenty-two years ago. Mr. Beck evidently acts up to the maxim that what is worth doing at all is worth doing well, and, therefore trees and shrubs intended for specimens or to give fine effect, are planted with much preparation of the soil. Beds and borders of flowering shrubs have been lately planted in what might be called the rustic part, or less well kept parts of the grounds; and in these beds, &c., Lilium candidum, Lily of the Valley, Snowdrops, Daffodils, Roses, Sweetbriar, Daphne odorata, Skimmia japonica are planted. An edging of Veronica elegantissima, or like plants have been afforded, and several varieties of Japanese Maples which were noticed in different parts of the ground, add a novel colouring to the rich autumn tints of the other shrubs and trees.

The flower garden is situated a short distance northward from the mansion, and is quite in keeping

Fig. 75.—view of crichel house, wimborne. (see p. 508.)

Yews; Elms, some of great age, two of which—one on either side—are seen in the view of the mansion (fig. 75), which was taken at a point some distance from the house. One huge Elm standing in the park between the beauteous lake and the east front of the mansion, measures 24 feet round the trunk, and a remarkable fact connected with this tree is worth recording. In the early part of the century, a man climbed up this tree and got into a large cavity in the centre, and so evaded capture by the pressgang. The lake has an area of 33 acres, bold and graceful outlines, and extends from a point near the house for some 600 or 700 yards in a westerly and southerly direction. It has several small islands of irregular outline, which afford capital incubating preserves for the numerous aquatic birds with which the lake is alive. A fine wooded slope makes as fine a background, as the park affords a foreground to the lake. The house is built in classic style, with porticos and massive round pillars on three sides. The principal portico, that on the south front, is about 7 feet above the ground-line, and is reached by a flight of twelve steps. It is 20 yards long, 11 yards wide, sides of the house, and they are of considerable extent, and contain fine specimens of trees, as Cedars of Lebanon, Hollies, Taxodium distichum, Acacia inermis, huge pyramids of Ivy and Honeysuckle mixed, and various kinds and varieties of choice trees and shrubs, planted by Mr. Beck, the "right man in the right place" at Crichel, where he has been employed as gardener for twenty-nine years, his employer when appointed being the late Colonel Sturt. A Cedrus atlantica, planted by the Princess of Wales in January, 1878, as well as a Mulberry tree planted at the same time by the Prince of Wales, are both doing as well-planted trees ought to do. It may here be mentioned that the Prince of Wales re-visited Crichel for the fifth time for a few days towards the end of last November.

Mention has already been made in these notes of the fine specimens, beds, and belts of Rhododendrons, and other American plants which embellish the grounds. We may here mention that a handsome, flourishing specimen of Abies nobilis, 70 feet high, was planted by Mr. Beck; and a Sequoia (Wellingtonia) gigantea near his house, and about 50 feet with the character of the grounds and surrounding objects, the beds of suitable design, being cut out in the turf in open spaces among the trees, these beds being filled with about 15,000 Tulips—Crimson King, La Reine (white tinged with rose), Amy, Yellow Prince (a fragrant variety)—and Narcissus in variety. A splendid show of bloom in April and May is the result. A number of beds have been made a short distance from the flower beds, and these are planted with some 600 of the best varieties of crimson and scarlet-flowered Roses, and other beds are planted with the choicest Gladiolus. Some idea of the number of Roses grown at Crichel may be gathered from the fact that 4000 blooms per week are sent up to Lord and Lady Alington's London house during the season.

The Lilium auratum is much planted out-of-doors, and a long border, 100 by 3 yards, is filled with them. The straight line of turf forming one side of this border, which is in front of a south wall, is effectively broken by a series of semi-circles being cut out of the green sward at short intervals, and which spaces form part of the border, and in summer

are bedded out with Fuchsias, Lilies, &c. Great cross-handled baskets being stood on the intervening green spaces, and filled with various kinds of appropriate flowering plants, the wall in the background being completely covered with Maréchal Niel Rose, the shoots being trained to a wire trellis. From these Roses 1700 perfect blooms have sometimes been gathered at one time. One can imagine the odorous air in proximity to this border when several thousands of flowers of Liliums and Maréchal Niel Roses are open at one time. Large quantities of Lilium auratum, L. rubrum, L. album, and L. longiflorum are also planted in the Rhododendron beds and clumps.

When the display of Tulips is over in the flower garden, bedding-out is begun; and large pyramids of Ivy-leaf Pelargonium Souvenir de Charles Turner and other popular varieties are made use of, besides many other plants similarly or otherwise trained, which are dotted about in suitable places. A herbaceous border, about 100 yards long and 3 yards wide, and running parallel with a trout stream and a dwarf hedge of Sweetbriar from close by Mr. Beck's house to the lake, is also worthy of passing notice.

The walled-in kitchen gardens cover an area of 4 acres, are situate in close proximity to the gardener's house, and were admirably cropped with the best kinds of vegetables. The soil, consisting of good loam 2 feet deep, is liberally manured and well worked, and thus made to yield first-class produce. The glass-houses are located in the two kitchen gardens, and consist of five vineries, three Peach-houses, besides a Peach-case 75 yards long, in which Cherries and Figs are also grown; one Cherry-house, one large span greenhouse, one Rose-house, one Azalea-house, three houses for growing decorative plants in, one Cucumber-house, one plant-stove, two houses for the culture of Souvenir de la Malmaison Carnation, which Mr. Beck, like his neighbour, Mr. Crasp, at Canford Manor, grows well; hot-water pits are provided for the culture of Gardenias, which are admirably grown.

Bouvardias are much grown, and last December a house was filled with plants eighteen to twenty years old, and from 3 to 4 feet in diameter, and smothered with pure white flagrant flowers; a truly grand display. The plants are planted out in a favourable situation in prepared soil (about four parts of fibry loam, and one of sweet leaf-mould and short manure, free from worms, with a liberal admixture of sharp sand being added) early in June, keeping the young growths well pinched until the middle of August, and affording liberal supplies of water at the roots when necessary, the plants being potted into suitable sized pots early in September. Of Malmaison Carnations, 600 young plants were potted up towards the end of September, a goodly number of them being put into 7-inch pots, and between 200 and 300 large plants were shifted into pots 11 inches in diameter, using good rough loam and ½-inch bones as a rooting medium, making the same nice and firm in potting. In the vineries fine crops of Black Hamburgh, Muscat of Alexandria, Foster's Seedling, Alnwick Seedling, Black Alicante, Gros Maroc, and Lady Downes' Seedling Grapes were noticed. There were also fine crops of Peaches; the back wall in one long Peach-house was completely covered with a veritable sheet of Heliotrope blossom. It would occupy too much space to mention even one-fourth of all the good things which were observed in the several plant and Rose-houses—fine specimens of Mignonette (Machet), Azaleas, Clerodendrons, Bougainvilleas, &c.

When visiting gardens in different parts of the country it is pleasant and gratifying to the writer to note a notable tendency on the part of some owners of large gardens to provide house accommodation not only for their head gardeners, but for the young gardeners employed under them. Crichel is one of those places. As Lord Alington has recently had an excellent house in the Swiss style of architecture put up for Mr. Beck, alongside the one he previously occupied for so many years, and which has been converted into an excellent bothy for the young gardeners, and following in the same line are the various offices, fruit-rooms, sheds, and boiler-houses. White House, where Lord Alington's celebrated racehorses are bred, is situate a short distance outside the enclosed park, and is passed on the way thence to Wimborne. Our engraving is made from a photograph taken by Mr. Hazel, Central Photographic Company, Bournemouth. *H. W. W.*

The Week's Work.

FRUITS UNDER GLASS.

By M. Temple, *Gardener, Carron House, Stirlingshire.*

GRAPE VINES.—Where fruit is ripe, and must be kept in good condition for some time, means to preserve the colour and freshness of black varieties should be adopted. Some are in favour of shading the Vines with canvas or other material; but except to preserve foliage that has been injured by red-spider or thrips, I would never exclude sunshine from the Vines, but place a sheet of dark blue tissue paper over each bunch, fastening it to the stalk, and allowing it to hang down over the fruit. With healthy foliage, Grapes may thus be kept from May to September. As soon as a Vine is relieved of its crop, a good syringing should be afforded, to remove dust or red-spider, and freshen the foliage; also water to the border, if the soil has got in a dry state, whether fruit is hanging on the Vines or not.

VINES IN POTS.—These, if there is ripe fruit on them, may be removed to a house facing the north, or to a cool dry room. Early Vines are often in danger of starting into growth too early in the autumn, and of being rendered useless for the following season, and the only method to avoid this mishap is to keep the foliage clean and healthy, and afford free circulation of air.

MELONS.—Succession plants for fruiting in the months of August and September should be planted without further delay. Their management is at this season of a comparatively simple nature, a bed of good rich loam, made very firm, with glass protection, meeting all wants in the southern counties of England; and many of the best Melons we have noted were grown in Potato-pits on plants put out as soon as the tubers were removed, the soil being made level and firm, and two Melon plants placed in the centre of each light—a shoot trained up and another down from each plant, which were allowed to bear two fruits each. From the midlands northward, bottom-heat is necessary for late Melons, and a minimum of 65° should be maintained. Many of the finest crops of Melons are still raised on hot-beds formed with manure and tree leaves, but much damage to the plants is often done at the earlier stages by allowing the rank steam from these materials to enter the frames. A heap of manure should be well turned before it is used for such beds, and put together firmly, and linings of such prepared materials supplied when the heat declines. These are the points of the greatest moment where the good old hot-bed system is practised. An evil in Melon-growing to be guarded against is the crowding of the foliage, which of itself prevents good setting of the blossoms; therefore the frequent stopping and thinning of the shoots is preferable to the removal of much foliage and stems at long intervals.

STRAWBERRIES.—Much injury is often done to fruit by keeping the roots sodden in pans of water, applying putrid liquid manure, and neglecting to supply a sufficient quantity of clear water when necessary to plants with fruit. Pits and frames should now be utilised for forwarding the late pot Strawberries; and for the earliest supply, glass protection of some kind, if placed over beds of plants specially prepared last season, will give fine fruit. Plants in smallish pots may be placed in those a size larger, with some soil or moss in the bottoms, not turning them out. The plants will throw out roots through the hole at the bottom, and derive support from the new soil there placed.

TOMATOS.—Those plants which have set their fruit-blossoms may be assisted with liquid manure, or a surfacing of artificial manure in powder form. Laterals should be rubbed off as soon as observed, and the fruit thinned out from three to six on each bunch, more being left if size and fine quality are not of importance. Pots that are filled with roots will require much water; and if the foliage should become unusually large, it may be reduced in size. I have at the present time the varieties Acquisition and Trophy doing very well in pots standing on boxes filled with rich earth, in a pinery. Those Tomatos which are planted in the borders of Peach-houses should have the soil about them made firm. It is here preferred to grow the plants in peach-houses in pots which have large holes made at the bottom, to allow of the egress of the roots into the rich soil of the boxes. Sow seeds, to afford plants for summer and autumn cropping. Seedlings should not be drawn up weakly by being deprived of light and air.

CUCUMBERS.—The Cucumber crop is abundant this season, the fine weather of March and April having favoured growth and development. The evils of applying cold water at the roots, dryness, severe thinnings done at one time, are fertile causes of bitterness in the fruit, canker, and the prevalence of red-spider. Cucumbers grow well in a high temperature, if accompanied by plenty of moisture; 75° by artificial heat will grow tender, well-flavoured Cucumbers. Cardiff Castle and Monroe's Duke of Edinburgh are very productive varieties with me this season. In frames and pits heated with manure linings, sweet fermenting manure should be applied often. Stop the shoots regularly, and prevent overcropping.

THE KITCHEN GARDEN.

By H. C. Prinsep, *Gardener, Buxted Park, Uckfield.*

SHADING NEWLY-PLANTED CROPS.—With the thermometer registering between 80° and 90° Fahr. in the shade, and bright sunshine during the day, the ground has become very dry, especially in such districts as this, where no rain has fallen since a slight shower in the beginning of March. Newly-planted stuff is almost at a standstill. In districts similarly situated, watering is often a difficult task, for unless the ground is thoroughly soaked, it is with difficulty that recently-moved plants hold their own. In this event, shade should be substituted for the almost impossible watering. Lettuce, Cauliflower, and such plants, that must be transplanted in a small state, would suffer considerably unless shaded for a few hours in the middle of the day till new roots have been formed. Treated thus, they will make rapid progress. Where boughs of any kind are available, they would assist to keep the soil moist, and greatly benefit the crops. The labour in the first instance is a considerable item, but much after-trouble and loss of time is avoided. With newly-sown Peas and Beans the rows should have a good soaking, then be covered with litter, boards, roofing-slates or anything that will prevent evaporation. As the soil is so warm the seed will soon germinate, and when the young plants appear, the coverings must be removed.

MERCURY.—This being a hardy native plant is not grown much in gardens, but in some of the eastern counties it is esteemed, therefore where required, the seed may now be sown. The plants grow apace on good ground, therefore, plenty of room should be allowed them. If sown in drills, they should be 15 inches apart, and, when large enough, the plants may be thinned out to a distance of a foot in the row. The leaves are dark green, and make a good dish when cooked. [The species our correspondent means is not Mercurialis annua, not very common in England, nor M. perennis, which is common and poisonous, but Chenopodium Bonus Henricus, a useful Spinach plant, sometimes called English, False, or Wild Mercury. Ed.]

RADISHES.—In such weather as this, a cool spot of ground must be chosen, as on the north side of a wall, building, or high hedge, for unless the plants can be kept in a growing state, the roots are tough, stringy, and hot-flavoured. The land should be heavily manured, the manure being placed in a layer just about 6 inches from the top. Use sparingly of the seed, else, if there be doubts about the vegetative power of the seed, sow thickly, and thin early if necessary.

GLOBE ARTICHOKES.—Those that were planted at the beginning of the present month will be benefited by soakings of weak liquid-manure, and if they have been properly looked after they will now be throwing up their flower-heads. Encourage the plants to grow rapidly, for the stronger the plants the finer the heads.

CARDOONS.—These should now be sown on well-prepared, enriched ground. If the soil be light or shallow, throw out trenches as for Celery, and place a layer 6 inches thick of well-rotted manure in the bottom, on which return some of the soil thrown

out and made level and firm. The seeds may be sown in clumps of three or four at 15 to 18 inches apart, thinning these plants to one in each clump.

BROCCOLI SEED.—Where not already sown, the main and last lot may now be put in. The same remarks apply to sowing this and other small seeds as were made about Peas and Beans. Shade is quite as important as watering, for if the latter be often done, the soil becomes washed hard, so that the tender plants do not grow away so quickly. Clear the land of stalks from which the heads have been cut, and prepare for digging it as soon as the weather will allow of the latter being done.

SMALL SEEDS.—If Salsafy and Scorzonera are not yet sown, the first favourable opportunity should be seized for getting in the seed. Carrots, Parsnips, and Beet should also be sown if this is not already done. Keep up a supply of Spinach and Turnips by successive sowings, for during such as the present sultry weather, Turnips soon become stringy. On poor ground, New Zealand Spinach may now be sown, as it does not go to seed so soon as the round variety. Perpetual (or Spinach) Beet should also be grown, as the leaves of this may be gathered in abundance through the summer.

[We will add a good word for Kohl-rabi, a vegetable that makes a variety of agreeable dishes, and one which is likely to prove of use should the summer be unusually warm. Sow the seeds like Cabbage or Cauliflower, transplant or not before planting finally; set the plants out 12 to 15 inches apart each way on the flat or in shallow drills; water plentifully after they once get away, and draw for use when they are nearly as large as a cricket-ball. They need no moulding up. It may here be said that plain boiling will not do, but cooking in a little soup or stock, and serving up to table with some kind of sauce, white or other, is a necessity. Sow the table, not the field, varieties of Kohl-rabi, Vienna Kohl-rabi, and early purple Kohl-rabi are the best, and the former is the more delicate in flavour ED.]

THE ORCHID HOUSES.

By W. HOLMES, Gardener, Frogmore Lodge, Tamperley.

THE MEXICAN HOUSE.—Sobralias macrantha and zantholeuca, yellow-coloured flowers, S. leucoxantha, flowers white with a yellow throat, are splendid, if rather ephemeral Orchids, equalling in my opinion, the finest Cattleyas grown. Sobralia xantholeuca will keep in good condition from three to four days; but all the species make up for their short-lived day by the long succession of the bloom; and we have had plants which have borne flowers for a period of two months. I find that they do better on the shady or the north side of the Mexican-house, if they can obtain more direct sunlight than is thought advisable by some growers. With this kind of treatment the plants make more robust stem-like growths, and they flower more freely than when grown under shade. A good potting compost for these fleshy-rooted plants should consist of equal parts of the best turfy, fibrous loam, and the best peat that can be got, adding a good sprinkling of broken crocks and coarse silver sand. The pots should be well crocked to allow of the thorough drainage of the materials, the plants needing copious supplies of water when growing. When potting them, keep the crown of the plant below the rim of the pot, so as to allow space for the waterings. All the subjects in this house from the present time onwards should receive plenty of moisture, or a check will be inflicted. Odontoglossum citrosmum, if growing in this house, will now be opening the earliest of its flowers, and should be copiously watered; but when in full flower the plants may be taken to a drier house, too much moisture spotting the flowers. In a temperature of about 50°, they make a grand show until the month of June, at which time growth should be encouraged, preparatory to a long rest. The needful potting may be done after flowering is past, using peat and chopped sphagnum moss. The plants grow satisfactorily in shallow pans, if these are hung close up to the roof. Odontoglossum grande, O. Insleayi, O. I. leopardinum, and O. I. splendens succeed in the Mexican-house. These last-named species are liable to scale more, perhaps, than any other, and sponging with soft soap and water must be followed up. Cattleya citrina, which is a species some find difficulty with, should be grown in the shadiest part of the Mexican-house. The plant should be now flowering or approaching it, and until new pseudobulbs are formed the plants should be kept moist at the roots. Cattleya citrina grows fairly well when put on Teak-wood rafts, with a little fresh sphagnum moss, and made firm; this is better than bare rafts, moisture being kept more readily about the plants when moisture is required. It is a plant that always grows downwards, no matter how it is placed. I have potted it in shallow pans, but always found the new pseudobulb grew over the side in a downward direction. By syringing these suspended plants daily, they will need to be watered with the can but once a week. We give abundance of air, both top and bottom, whenever the weather permits, on the leeward side. The temperature should be 60° to 65° at night, with a rise of 10° by day.

THE HARDY FRUIT GARDEN.

By T. TURTON, Gardener, Maiden Erlegh, Reading.

PLUMS AND SWEET CHERRIES ON WALLS.—Unless we get rain in quantity before these lines appear, the watering of Plum and Sweet Cherry trees must not be longer delayed. The watering should be thorough, and continued until it is known that the borders are moist down to the subsoil. The continuous rains which we experienced during February, so saturated the ground, that where the soil is of a retentive nature everything has been favourable to a healthy bloom and growth. On lighter soils earlier attention with regard to watering trees would prove beneficial if given with judgment, and not in too great a quantity at one time whilst the weather is cold, but giving a moderate watering every day for about a week. Search the trees for grubs, and continue to syringe once a week for the present, using soap-suds and tobacco-juice as an insecticide.

GENERAL WORK.—Apricots will require a watering similar to that recommended above, and everything possible should be done according as the weather is genial or otherwise to encourage the fruit to grow as large as possible before they commence to stone, not neglecting a second thinning of the fruit, and sparing no pains to select those best placed to leave for the crop. In the event of the drought continuing, a good hoeing or syringing with the garden-engine will keep aphis at bay, and in other respects benefit the trees. Continue to wage war against both black and green aphis on Peach and Nectarine trees, and continue the disbudding, especially of young trees not yet in free bearing. All newly-planted and replanted trees must be regularly syringed when the weather is dry to encourage root-action. Pears, both on walls and early varieties in the open, and especially that free setting sort, Doyenné d'hiver, must have timely attention with regard to thinning the fruit. Where the trusses of blooms have set thickly, the stronger being at the base, pinch the truss down to two or three of the bottom fruits, according as the sort is large or small. Horizontally-trained trees can be induced to extend their branches by keeping pinched back the breast-wood at once.

PLANTS UNDER GLASS.

By BAILEY WARDE, Gardener, Birkhall Gardens, Ewe.

CACTUS SPECIOSISSIMUS is a useful plant to grow for a supply of bright flowers at this season, and they stand well for a long time in water. If the cuttings are allowed to dry for a time before plading them in the soil they strike freely in a little heat; and old plants will flower for many years if potted into loam, peat, and sand, with a good quantity of brick or lime rubbish mixed with it. Give them well-drained pots, keep rather dry during the winter, and give a good supply of water when growing. Planted out in a conservatory or greenhouse border with shoots trained to wall or end of house, they are easily managed.

SPARMANNIA AFRICANA.—Where space is available, plant this out against a wall or pillar in greenhouse or conservatory, the flowers and foliage being much better than when it is grown in a pot, the flowers and bright green foliage are often useful for decoration. It can be grown in pots, but it then requires well feeding. Cuttings will strike well now in heat in good sandy soil.

IVY-LEAVED GERANIUMS.—Attend to the potting and training of the double and single-flowered varieties. Afford the plants a rich loam mixed with leaf-mould and sand and supply them with plenty of liquid manure when well-rooted. If large plants are wanted grow as pyramids they form useful decorative plants. The single-flowered variety L'Elégant is useful for baskets, among the best double varieties are Souvenir de Charles Turner, Madame Crousse, H. Cannell, and Flambeau.

WINTER-BLOOMING PLANTS.—Strike cuttings now of Centradenia floribunda, C. rosea, Centropogon Lucyanus, Eranthemum Andersonii, E. pulchellum, Pentas carnea, Libonia floribunda, L. Penrhosiensis, and Kalanchoe carnea. Old plants of these should be pruned back and re-potted.

POINSETTIA PULCHERRIMA.—Push on old plants and take cuttings as soon as possible, they should be struck in small pots. Place them in a gentle bottom heat and shade well from bright sunshine.

LINUM TRIGYNUM.—Push these on in a little heat, and when they have made a start, repot into good loam and leaf-mould, with a little sand and rich manure. When growing freely, place them in a house where they can be syringed two or three times a day, as they are much subject to the ravages of red-spider; a cool greenhouse suits them well during the summer.

GESNERAS, TYDEAS, AND ACHIMENES.—Bring these on as required, and see that they do not remain too long in a dark place. Gesnera foliage should be kept well over the sides of the pots, and the growths should be dwarf and as strong as possible. Achimenes will grow and flower well in a warm greenhouse during the summer months, and are better without fire-heat, they will be benefited by a little shade during bright weather, also by well diluted liquid-manure twice a week.

THE FLOWER GARDEN.

By T. H. CRIPPS, Gardener, Cranford Manor, Wimborne.

HERBACEOUS SPECIES OF LOBELIA.—These tall-growing plants, of which cardinalis and its variety Queen Victoria, and syphilitica are the best known, make a grand display, and if seed be sown at the end of next month, and the seedlings grown on and wintered in frames from which frost is excluded, strong plants will be raised for planting out at this season. The soil in which they are grown should be well enriched with decayed manure, for they cannot be too liberally treated in this matter. The dark crimson foliage of strong healthy plants is very striking, as are the spikes of scarlet flowers. They look well planted in masses, or mixed with other plants.

SWEET PEAS.—The earlier sowings of these plants will in some early places now require to be supported; and if another sowing be now made, the bloom will be much extended.

CARNATIONS AND PICOTEES.—Seeds of the so-called border Carnations and Picotees may now be sown thinly in pans, pots, or boxes, filled with some finely-sifted loamy soil, placed in cold frames, where it will germinate surely and strongly if shaded from hot sunshine, the seedlings being pricked out in boxes, &c., when 2 or 3 inches high. The final planting of these should be done before crowding spoils them. Any Lily bulbs which may have been left out of the ground till this date should now be planted. It is a good plan to make clumps of from three to twelve, and to ensure clean and rapid growth surround each bulb with half a spadeful of leaf-mould and sharp sand. Where beds of hardy annuals have been sown for summer display, and have not germinated, water the soil heavily with a fine rose water-can, and cover the ground with mats during the day.

HERBACEOUS PLANTS.—Should the dividing of the roots of plants of Helianthus, Phlox, Aster, Anemone japonica, which do not start so soon as many other herbaceous plants, have been delayed, it is not too late to do so, if care be taken, and plenty of water afforded in dry weather. The borders should be freed of weeds by hoeing them; and those made last autumn, or since then, should get a thoroughly good soaking with clean water, and a mulching of short manure round about the plants. Delphiniums and Pæonies will now require to be secured against injury by wind. The hardy species of Lilies are appearing above ground, and a strict look-out must be kept for slugs and snails, which are great feeders on the young stems. The Everlasting Pea, if the soil is rich, forms such dense masses, that it becomes at times necessary to thin some of it out to ensure good flowering.

BEDDING-PLANTS.—Bedding-plants of most kinds may be removed to cold frames, and plenty of air afforded them by day, but for the present the lights should be closed at night. Calceolarias in frames may now be exposed entirely, and planting commence about one week from this date.

EDITORIAL NOTICES.

Illustrations.—*Photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c., are particularly solicited; but the Editor cannot be responsible for loss or injury.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Advertisements should be sent to the PUBLISHER.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

WEDNESDAY, May 3 { Royal Botanic Society: Musical & Promenade.

THURSDAY, May 4—Linnean Society.

FRIDAY, May 5—Dundee Horticultural Association.

SHOWS.

TUESDAY, May 2 { Eastbourne Horticultural Society: Early Summer Show (two days).

SALES.

TUESDAY, May 2 { Orchids from Messrs. Walter Kemsley & Co., at Protheroe & Morris' Rooms.

FRIDAY, May 5 { Orchids from Messrs. F. Horsman & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—51°.5.

Ghent Quinquennial.

A few more notes may be made with profit upon the exhibition at Ghent, which was reported in our columns of last week. The Azaleas justify further remark, and the following varieties have flowers of distinct character and much beauty.

The names of the prize-winners have been previously recorded, but we may mention that the collections of Mr. Joseph Vervaene in particular, contained many choice kinds. Oswald de Kerchove was shown well; and it is a fine Azalea, the flowers semi-double, full, and large, the colour very distinct, best described as pinkish-salmon, shading off to a paler tint towards the margin. Another fine semi-double kind is Vervaenana, the flowers of a fine pink colour, very attractive against the white margin, both exhibited well in the Gold Medal collection of Mr. Joseph Vervaene in the class for sixty plants. The following are all fine kinds, and it is worthy of note that in spite of the hundreds of plants of distinct varieties shown in the classes for Azaleas, only one good plant was to be seen of A. balsaminæflora, which is a synonymn of A. Rollinsoni and A. roæflora. A very fine specimen was shown by M. Eeckhaute, and we should like to see this charming Azalea more common in English gardens. It was at one time grown considerably, but is not so often seen now. The flowers are compact in shape, like those of a Balsam much enlarged, hence the varietal name, and of a pleasing salmon colour. The plant was covered with flowers, but this was as fine as we could discover, the only example in the show, although a special class was set apart for six specimens. A very good variety shown by M. J. de Coster, Melle, named J. Halart, the flowers magenta shaded with purple, large, and handsome. Fiowers of this colour are often dull and uninteresting, but in this case unusually rich and pleasing. Other varieties that should be noted are Mammoth, the flowers of large size, but they are of excellent shape, and the colour is rose, with a shading of magenta; Mathilde, the flowers double, full, large, and delicate blush, almost white, relieved with a few stripes of carmine. When laid on a suitable ground, the striped flowers possess much beauty. A kind named Mr. Gladstone, is pretty, the flowers lilac, shaded with a rosy-tint, and semi-double; also Maistre A. de Brunyer, the flowers single, and salmon in colour, touched with red; Hardie, single, intense scarlet, and valuable for its deep colouring; Memoire de Madame Van der Cruyssen, single, delicate blush, with spots of purple; and Madame Leon Bois, showy in colour, the ground-work of the flowers white, upon which the bright scarlet stripes are in bold contrast.

We mentioned in our report last week that the varieties of Azalea mollis were amongst the more effective exhibits in the show, and the groups of M. Koster, Boskoop, and M. Pynaert van Geert, in particular, call for mention. Further allusion may well be made to this class, which is neglected in English gardens; at least, such noble plants as were exhibited at Ghent are seldom met with in this country. This Aza'ea and its many varieties are however rapidly increasing in popularity, both in pots and the open. Excellent varieties were shown in the class for so-called crosses between A. mollis and A. sinensis, a few beautiful kinds being A. F. Barron, the flowers bright orange, a rich and striking colour; Dr. Masters, brilliant yellow; J. H. Laing, orange, tinted with bright red; Comte de Kerchove, scarlet, shot with orange, bright and showy; and M. Moritz van Crayesteyn, orange-scarlet. These were in the collection from Pynaert van Geert. Amongst others is the Azalea mollis section, a few in the prize collection of M. L. de Smet, we made note of as distinct Alphonse Lavallée, red; Ernest Bach, flushed with rose; Baron Constant Rebecque, yellow; Comte de Quincey, the flowers large and creamy-white in colour, or delicate lemon-yellow, the upper segments yellow; and Consul Pecker, the flowers bright rosy-red in colour.

Note was made in last week's report of a Rhododendron named Helène Schiffner, shown by M. F. J. Seidel, Striesen, Dresden, but another kind was also shown by this exhibitor, named Kaiser Wilhem; the plant is dwarf, exceptionally free, and the flowers are borne in compact handsome trusses, the colour being rich rose. Those of the previously-mentioned kind are white, and the two forms make a useful pair for decoration or for the greenhouse. Of the curious hybrids shown by M. Pynaert between Azalea mollis and Rhododendron ponticum var., we shall have occasion to speak later on; they form a distinct section, to which M. Rodigas has given the name Azaleodendron. Mention should also be made of the very pretty Japanese forms exhibited by M. Paillet, of Chatenay, under the name of Azalea japonica lilacina.

The Bertolonias exhibited, not for competition, may be alluded to. They were shown by the firm of M. Louis van Houtte père, and comprised several varieties of attractive leaf colouring, two we singled out for special mention being Souvenir d'Antoine Chantin, the foliage of a peculiarly beautiful crimson-majenta colour, a pellucid distinct shade; and Reine Marie Henriette, the leaves barred with bright silver.

It is interesting to note that in one group of new plants introduced since the year 1890, the chief exhibits were Irises. The Iris family of late years seems to have become more popular, especially the Oncocylus Irises, as I. Lorteti. I. lupina, I. Leichtlini, and I. sindjarensis were also represented in this group; and worth mentioning also is Lachenalia aurea reflexa, the flowers of a deep yellow colour, and distinct in character. It is a plant that should become common, and a few specimens in the greenhouse would make a show. The flowers are not only bright in colour, but of large size. In a collection from M. F. Desbois, Mont St. Amand, we noted five plants of distinct character. Hydrangea Otacksa compacta is well named, the growth being, as the name suggests, and the varied coloured flowers are interesting; but more distinct than this is Cineraria maritima fol. aurea, the leaves green, variegated with bright yellow, and the variegation is not spotty. The variegated variety of Tropæolum Lobbi deserves mention, because it is variegated, but as regards its utility that is another question. A useful plant is Carex japonica aureo-marginata, the graceful leaves green, margined with yellow.

The classes for Yuccas and allied plants were interesting; many species and varieties were shown, the specimens, as a rule, remarkably well cultivated. We merely touched upon these in our report, but now allude more particularly to the Yuccas of M. Bedinghaus, Ghent—Y. Mazelli, Y. Desmetiana, the leafage of a rich bronzy-green colour; Y. gloriosa argentea marginata and Y. gloriosa aurea marginata are attractive, especially the two last-mentioned, which are good ornamental plants, the leafage in the former was margined with yellow, and in the latter creamy white.

Agave Leopold II: a fine plant was shown by W. B. Kellock, Esq., Stamford Hill, London, and the plant presented by him to the King of the Belgians. It is a cross between A. schidigera princeps and Agave filifera, the result being a distinct form, the colour deep green, and at the margin of the foliage are silvery filaments, similar to what is seen in Yucca filamentosa. The plant was well grown, and interesting as an exhibit from an English amateur. A. ensiformis and A. univittata were also shown by Mr. Kellock.

Visitors to the Ghent Quinquennial must have felt that the Belgians know well how to grow under glass such plants as Kalmia latifolia and Choisya ternata. We have never seen either of these shrubs better cultivated, especially the Kalmia, each specimen being dwarf, compact, and a mass of white flowers, excellent for the choicest kinds of decorations. It is seldom or never so well grown in England, but the Kalmias are amongst the best shrubs for forcing gently under glass. Indoor plants are the chief exhibits at the Ghent International Exhibition, as few classes are set apart for hardy flowers or bulbs, and except for the beautiful groups of M. Van Tubergen, Haarlem, the well-known hardy bulb grower, this class would not be greatly represented apart from the usual spring flowers as Hyacinths and Tulips.

As regards the outdoor exhibits, boilers, plant-houses, &c., we have already given sufficient attention to, but mention may be made of the frames of Messrs. Foster & Pearson, Beeston, Notts, which were awarded the Silver Medal. They are most useful, well constructed on good principles, and should find great favour in gardens. We have already alluded to the Gold Medal temperate-house, one of the most important exhibits in this department of the exhibition.

The boiler trials have been going on for some time, each apparatus having been tried under identical conditions. Simplicity of construction, facility of repair, and of maintenance, size of apparatus in relation to heating surface, rapidity of action, were all taken into consideration. Forty-five points (*cotes*) were assigned for economy of fuel; thirty-five to security, facility of repair, &c.; ten to rapidity of action; ten to minimum of setting "encombrement"—in all, 100 marks. Thus tested, MM. Lebœuf & Guion, of Paris, obtained 83 per cent. of possible marks (Gold Medal); M. Bekaert, of Ledeberg, 72·7 (Gold Medal); and M. Van Heddeghem, of Ledeberg, 72·6 (Gold Medal).

In the catalogue are given tabular details showing the comparative consumption of fuel, the weight of water in the cistern-reservoir, the augmentation of temperature in degrees Centigrade, the number of units of heat communicated to the water of the cistern-reservoir, the duration of the trials in minutes, the amount of heat lost by the reservoir, the amount of heat lost in the flow and return-pipes, the amount of heat absorbed by the water and metal of the apparatus and its pipes, the amount of heat utilised absolutely, and in proportion to the amount of fuel consumed; the surface heated in square mètres, the volume occupied by the apparatus in cubic mètres, the section of the chimney-flue in square mètres, and the weight of the apparatus in kilogrammes.

We shall also have other opportunities of speaking of the experiments with manures, and the chemical details concerning the soil, &c., given by M. Georges Truffaut, junior.

Linnean Society.—Thursday, April 20: Professor Stewart, President, in the chair. The Rev. A. B. Morris was admitted, and Mr. A. Trevor Battye was elected a Fellow of the Society. In view of the approaching anniversary meeting, the election of auditors took place, when Dr. Meikle-john and Mr. E. A. Bathers were nominated on behalf of the Council, and Messrs. Thos. Christy and W. F. Kirby on behalf of the Fellows. The President took occasion to notice the retirement of Mr. F. H. Kingston, after thirty-six years' service as lodge-keeper, and presented him with a testimonial in the shape of a cigar-case containing five-and-thirty pounds in bank notes, which had been subscribed on his behalf by all the societies in Burlington House. After a suitable response on the part of the recipient, attention was directed to some photographs of Burlington House, with the gateway as it existed before the rebuilding in 1868, and showing the old colonnade which had since been demolished, and was lying still uncared for in Battersea Park.

—— On the occasion of the evening meeting, which will be held on Thursday, May 4, at 8 p.m., the following papers will be read:—1, "Nervous System of Myocine Glutinosa," by Alfred Sanders, F.L.S.; 2, "On Polynesian Plants, collected by J. J. Lister, Esq.," by W. B. Hemsley, F.R.S., &c.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—Last Friday evening a meeting was held in Redland Park Hall, Bristol, for the purpose of advocating the claims of the Gardeners' Royal Benevolent Institution. J. H. LOCKLEY, Esq. (late High Sheriff for the county), presided, and was supported by T. WALLS, Esq. (town councillor), Dr. SHAW, and other influential gentlemen. It was explained that Mr. HARRY J. VEITCH (Treasurer of the Society), who had been announced to give an address, was unable to be present through pressure of business. The sum of £20 a year, said the Chairman, at which old age pensions were fixed, meant 8s. a week; and the majority of societies in Bristol, some of which had been in existence for 150 years, rarely apportioned to a man or woman who had reached the eligible age a larger amount than this. If this Society could be induced to open a branch in Bristol and the neighbourhood, he felt quite sure of this—that by the gardeners themselves showing they had an interest in the Institution, which was established purely for themselves, there would be no lack of outside interest to help them. Mr. GEORGE J. INGRAM (Secretary) followed with an exhaustive address on the principles, objects, and needs of the Institution; after which it was unanimously resolved to form an Auxiliary for Bristol, Bath, and neighbourhood.

EARL'S COURT EXHIBITION.—We understand that the Commissioner of woods and Deputy-Surveyor of the three Crown forests will send in large exhibits. Amongst these may be mentioned fossil trees, specimens of the duration of the marking of trees, with forest tools and other appliances in general use in forests. By the kindness of the Committee of council on Education and the South Kensington authorities, an instructive collection of colonial woods showing their breaking resistance will be on view. Pictures of forest trees and scenery will form an attractive adjunct. The trustees of the British Museum have also sanctioned the loan of duplicate specimens of British woods. From other sources, both public and private, examples of the size to which acclimatised trees attain in this country, together with data of the soils in which they find their most congenial resting-places will be sent. Similar objects in the way of growing trees in the outside gardens will be found. An interesting display in this way will be made by Mr. C. TURNER, Royal Nursery, Slough, in one large Pear-shaped bed, divided into three interesting sections, viz., one to represent forest stuff grown in heavy soil, one in chalk, and one in light soil. The Slough firm will also plant numerous other beds and borders, as will Messrs. LEE & SON, Royal Vineyard Nursery, Hammersmith; WILLIAM PAUL & SON, Waltham Cross; and others. Whilst a good Rhododendron display by Messrs. H. LANE & Co., Berkhamsted, will impart a welcome change, when in flower, to the more sombre forestry surroundings of the gardens, which, it may be mentioned in passing, have been this year remodelled and considerably improved, under the directions of Mr. H. E. MILNER the distinguished landscape gardener, and Chairman of the Executive Council of the Exhibition. The different "styles" of gardening exemplified last year are not necessarily repeated this season. At the northern end of the building will be found, as last year, a bit of flower gardening under cover, laid out with grass plots, walks, and raised beds planted with fine Palms, Tree Ferns, choice flowers, flowering shrubs, &c., by some of the leading nurserymen and florists. Here, then, in case of an inclement season, these attractions may be enjoyed regardless of weather. In this main building another special feature will be the display of ornamental English and foreign woods, shown in their

FIG. 76.—AZALEA MOLLIS, VAR. ANTHONY KOSTER: FLOWERS, YELLOW, SHADED WITH ORANGE.

(Shown by Messrs. H. Lane & Son, of Great Berkhamsted, at the Royal Horticultural Society's Meeting, April 11, 1893. See Report in *Gardeners' Chronicle*, April 15.

application to furniture, the interior decoration of houses, &c., also other interesting exhibits of a horticultural nature. Here will also be found some of Messrs. Pulham & Son's rockery creations. A Happy Valley will take the place of the Long Walk, Windsor Forest. Close here will be found Messrs. Cheal's interesting exhibit, referred to in more detail recently. The Lakes of Killarney, too, in the Western Gardens, will find hosts of admirers of this famous spot. These are only mentioned to introduce instances amongst other good things in the special way which will attract attention. A reminiscence of the Naval Exhibiton will be found in the shape of a model of the Eddystone Lighthouse, and a novel attraction will be a *facsimile* of the Paris Bastile. The arena which the Wild West Company occupied last year is being converted into a lake, wherein will be given aquatic exhibitions of various kinds. Most tastes, then, have been considered in this exhibition, for in addition to the attractions just briefly reviewed, a series of fortnightly flower shows have been arranged.

Mr. D. Morris.—We are glad to learn of the return of the assistant-director, Royal Gardens, Kew, from his sojourn in Teneriffe in restored health. Further, by the courtesy of Mr. Morris, we hope to be able to publish some of his observations on the vegetation of the island, and its relations to the climate.

The "Raout," Ghent.—The dominant principle that was to have regulated this meeting of horticulturists from all countries may be expressed in the following aphorism—"Le libre-échange est la force de l'industrie horticole." This sentiment was further illustrated by the presence on the previous day of the eminent free-trader, M. Léon Say. Whether or no at the raout in question the cause of free trade was advanced we cannot say, but we can safely assert that there were no restrictions on talk on the occasion.

"Report of Observations on Injurious Insects, 1892."—The sixteenth annual report by Miss Ormerod, published by Simpkin, Marshall & Co., is a valuable illustrated record of the insects which made themselves specially objectionable in 1892. Note is also made of the slime-fungus producing the disease known as finger-and-toe in Cabbages, and of the eel-worms of Tomatos.

"Iconography of Candolleaceous Plants."—Baron Sir Ferdinand Von Mueller has issued through the Victorian Government the first part of an illustrated Monograph of Candolleaceous Plants (formerly Stylidiaceæ)—plants remarkable for the movements of their style, and many of which are in cultivation as ornamental greenhouse plants. We shall revert on another occasion to this interesting publication.

The Gardeners' Orphan Fund.—The supporters of this very excellent charity dined together in considerable numbers on Wednesday evening last, at St. James's Hall, Regent Street, Baron Ferdinand de Rothschild in the chair. The chairman well urged on his hearers the claims of the children of gardeners on the bounty of the members of the craft in all its branches in particular, and that of the public in general. Speeches were made by Sir Trevor Lawrence, Bart., M.P., H. J. Veitch, Esq., N. Sherwood, Esq., Professor Walker, and others. The sum of money collected or subscribed on this occasion amounted to £550, including £100 from Messrs. Hurst & Son, £50 from Baron Ferdinand de Rothschild, Messrs. Rothschild, £25; Sir. T. Lawrence, Bart., M.P., £10 10*s*. Flowers were sent by Messrs. Wills & Segar, Sander & Co., Williams, Laing, J. Smith of Mentmore, Walker of Ham, &c.

The Hortus Lodge of Freemasons.—On Thursday evening a considerable number of horticultural members of the Masonic fraternity from various parts of the country assembled at Freemason's Hall, Great Queen Street, W.C., to take part in the consecration of the Hortus Lodge, for the establishment of which H.R.H. the Prince of Wales, M.W. Grand Master, has been pleased to grant a warrant of constitution to a small but influential body of metropolitan horticulturists. We understand that membership of the new lodge is to be restricted as closely as possible to members of the horticultural community.

"Report on Insects and Fungi Injurious to Crops, 1892."—We note the publication by the Board of Agriculture of this report with great pleasure. We have so often called attention to our lamentable deficiencies as compared with the energy shown in the United States and some European countries, that it is a great pleasure to welcome a report on the insects which have been noted as specially injurious during the year to our farm and garden crops. The insects are described, their life-history given, and excellent coloured illustrations afforded. Among them our old acquaintance the red-spider finds a place. An article, also illustrated, on the club in Cabbages follows. In each case the appropriate means of prevention, palliation, or cure are given. The work may be had from Messrs. Eyre & Spottiswoode for two shillings.

Cumberland Magistracy.—The name of Mr. James Watt (Little & Ballantyne), nurseryman, Carlisle, appears on the list of new county magistrates for Cumberland. Mr. Watt has for several years taken an active part in the administration of justice on the Carlisle bench of magistrates, and has recently been elected chairman of the Conservative party in the northern parliamentary division of the county.

Presentation to a Midlothian Horticulturist.—A presentation was made on the 13th inst. (*vide Evening Dispatch*), at the Royal British Hotel, Edinburgh, to Mr. M'Hattie, gardener to the Marquis of Lothian, at Newbattle, on his departure to assume the charge of the gardens of the Duke of Wellington, at Strathfieldsaye. There was a large attendance of members of the Scottish Horticultural Association and other friends, including several ladies. The Rev. J. Carrick, Newbattle, presided. Mr. Malcolm Dunn made the presentation, which consisted of a gold watch with appendages, and a purse of sovereigns, while at the same time Mrs. M'Hattie was presented with a beautiful ring. Mr. M'Hattie made an appropriate reply.

Conference on Technical Education at Cambridge.—The Cambridge University Extension Syndicate arranged a conference of representatives of County Councils, of other universities, and of other persons interested in technical education, at Cambridge on April 20 and 21 next, to discuss the relations of the universities to the County Councils in respect to technical education. Cam bridge has, during the past year, provided courses of lectures on various scientific subjects coming within the scope of the technical instruction acts for eleven County Councils, as well as for the technical education committees of other local authorities. A large part of the work done has consisted of simple scientific teaching in villages and small towns, and the attempt thus made to bring the universities into closer relation with rural districts has naturally led to results of considerable interest and novelty. The results of such work, and the most effective way of making progress in the future, were among the subjects discussed at the conference. Another item was the scheme for systematic instruction in agricultural science at the university, devised by Professor Liveing and others, in co-operation with several of the County Councils.

Winchester and District Gardeners Mutual Improvement Association.— The committee of the above, we are requested to inform our readers by Mr. F. Broomer, hon. sec., have arranged for a practical test of the value of the reputed preventatives of Potato disease during the present season. The application of the remedies to be made before all members who care to attend.

Mr. Dodwell writes from Stanley Road, Oxford:—"Will you allow me in your columns, on behalf of my wife and myself, to return our most grateful thanks to our many friends for their congratulations and sympathy on the occasion of our Golden Wedding. Very devoutly we thank them, and thank God, for this pleasant sunlight of our evening days, and we hope we shall be permitted to have the joy of personally tendering our thanks to a large company on August 1, the day appointed for our annual Carnation Feast."

"Natural Science."—The April number of this publication, issued by Messrs. Macmillan, now in its second year, contains several articles likely to interest our readers. In one the writer urges those who watch the early opening of flowers to ascertain also whether these precocious flowers produce fertile seed more freely or less freely than later produced flowers. No one, it appears, has observed whether the dead Nettles which flower more or less all the winter produce seed from those flowers. An interesting article on the life and work of Christian Konrad Sprengel, should encourage members of field clubs and amateurs by showing what great results may follow from the careful observation of phenomena unnoticed in the first instance by professed naturalists. The subject of the relation of ornithology to horticulture and agriculture is discussed in relation to the volume of essays on the subject edited by Mr. Watson. The value to the farmer of birds of prey, such as owls and hawks is noted; starlings are marked as among the best of his friends, and sparrows as the worst of his enemies.

Cattleya Trianæi.—M. Duchartre, in the *Journal de la Société Nationale d'Horticulture de France*, calls attention to the very general error committed in omitting the final *i* in this name. The plant was named in honour of the well-known Colombian botanist, Triana, and not in that of his wife.

Botanist to the U. S. Department of Agriculture.—Mr. Frederick Vernon Coville, one of the staff of the botanical section of the Department of Agriculture of the United States, and recently associated, says *Garden and Forest*, with Mr. E. Hart Merriam's Death Valley Expedition, has been appointed chief of the botanical division of the department, in place of the late Dr. George Vasey.

Publications Received.—*Report of the Natal Botanic Gardens for* 1892, by J. Medley Wood, A.L.S.—*La Belgique Horticole et Agricole.*—*The Russian Thistle* (*Salsola Kali var. Tragus*).—*United States Department of Agriculture.*—*Etude sur la Culture et la Végétation de l'Azalea indica*, par M. Georges Truffant Fils.—*Report on Insects and Fungi injurious to Crops*, 1892.—*The Australian Fruit Culturist*, Part I., D. Crichton, Market Street, Melbourne.—*Cornell University Agric. Experiment Station, Bulletin No.* 49.—*The Opening of the Buds of some Woody Plants* (a study of vernation), by A. S. Hitchcock.—*The Woody Plants of Manhattan in their Woody Condition*, by A. S. Hitchcock, *An Analytical Table, showing the differences observable in Deciduous Trees during the Winter.*—*Twenty-fourth Annual Report of the Fruit Growers' Association of Ontario*, 1892.—*Plants of the Bahamas, Jamaica, and Grand Cayman*, by A. S. Hitchcock.—*Practical Gardening*, a series of essays delivered at the Devon and Exeter Gardeners' Mutual Improvement Association (Exeter: Besley & Son).—*Contributions to the Queensland Flora*, by F. M. Bailey.—*Colonial Botanist* (*Fresh Water Algæ of Queensland*), with numerous figures.—Johnson's *Gardeners' Dictionary*, Part II.—*Eighth Annual Report of the Carnation and Picotee Union, List of Members, &c.*—*The Twenty-fourth Annual Reports of the Fruit Growers' Association, and Entomological Society of Ontario*, 1892.—*A Manual of Orchidaceous Plants, Cultivated in Great Britain.* Part IX. (J. Veitch & Sons, Royal Exotic Nursery, Chelsea, S.W.)

Book Notice.

Manual of Orchidaceous Plants.* Part IX.

The last part of this useful and exhaustive work on Orchids is the largest and, in consequence of the number of genera dealt with, probably the most difficult to produce of any of the series. The principal genera treated of are Cymbidium, Zygopetalum, Lycaste, Acineta, Anguloa, Bifrenaria, Cochlioda, Comparettia, Cycnoches, Grammatophyllum, Galeandra, Maxillaria, Mormodes, Rodriguezia, Stanhopea, and Trichopilia, and under these genera are brought many others which are known under genera erroneously created or have been wrongly placed. For example, Zygopetalum in Messrs. Veitch's work embraces Pescatorea, Bollea, Batemania (except the type species), Huntleya, Warscewiczella, Warrea (in part), Kefersteinia, and Promenæa. This has been deemed, for a long time, the correct scientific classification, and steadily but slowly the proper names are getting into use in gardens, but it is surprising what a hold an erroneous name has on the cultivators of plants if it be the name under which they first received it, and which seemed to be backed by a proper authority. For this adherence to a name once recognised, the gardener is not to blame, unless he persistently refuses to avail himself of the means to arrive at the correct nomenclature conveyed so continuously in the horticultural papers, and in such clever and reliable works as that at present under notice, which, with the next issue—a general review of the Orchidaceæ will complete the best work on cultivated Orchids ever issued, whether as a reference to the history, culture, or science of the Orchid family. Part IX. extends over 194 pages, and, like its predecessors, is profusely and beautifully illustrated throughout. Under each of the genera in which hybrids have been obtained, descriptions of them are given, together with much useful information, and in some instances illustrations. At p. 67 is a very interesting illustration of Zygocolax Veitchii ×, and its progenitors, Colax jugosus and Zygopetalum Mackayi crinitum (by a slip of the pen erroneously lettered Maxillaria M. crinitum), and their pollinia, giving a singular example of the effect of crossing plants distinct from each other in the form of their flowers, exhibited in the progeny.

* *A Manual of Orchidaceous Plants Cultivated under Glass in Great Britain.* (James Veitch & Sons, Chelsea, London, S.W.)

Paris.

Jardin des Plantes.

It is never possible to visit this fine old historical garden without finding something of great interest and beauty in flower. There are many plants worthy of note at this moment, and as Pæonies are now coming on, it may be mentioned that there is a fine specimen in bloom of the true and excessively rare Pæonia Russi. No one could ever mistake this species; it has hairy leaves, with distinct leaflets, and large red flowers, making a fine ornamental plant, about 2 feet high. The new P. lutea is coming into flower. Among shrubs, Syringa pubescens is a charming novelty, with smallish panicles of pale lilac flowers; its habit is slender, and the leaves are not unlike those of S. persica, to which perhaps, it is most nearly related. The original tree of Paulownia imperialis, introduced in 1834, is producing quantities of bloom, though it is not so ornamental as might be expected from the character of the flowers. At any rate, it is a very fine specimen, with trunk not much less than 2 feet in diameter, and a spreading head of 35 or 40 feet through, and about the same in height.

In the houses we are compelled to remark the exceptional number of new and rare plants, received from the correspondents of the establishment; they comprise numerous kinds of economic interest, as well as others apparently of much ornamental value; but for the present, to note examples of the plants of special interest in flower, we may turn to Roxburghia viridiflora and Ungnadia speciosa; the former is, perhaps, of botanical rather than general interest, but at the same time the flowers are attractive. As the name indicates, they are green; the segments are acuminate, forming a campanulate flower, that broadly suggests Trillium, and these curious flowers are borne by a plant with much the habit of Smilax. To be correct, we must now call this plant Stemona gloriosoides, a name that is not inapt in its descriptive portion, but the segments are four, in two series. This used to be our only representative of the Roxburghiaceæ, but the plant was lost to Britain, while now more recently Stemona Curtisii has been introduced to Kew (*Bot. Mag.*, 1892, t. 7854).

We were delighted to see the above-mentioned Ungnadia speciosa, and in flower too. It is decidedly rare, and as certainly ornamental as might be expected of any reasonable relation of the Horse-Chestnut. The flowers are rosy-pink, not large, but numerous, occurring in corymbose fascicles on apparently the old as well as the young stems. Unfortunately it is not hardy, and was here growing in the greenhouse. Its relationship is easily detected, but it presents the interesting aspect of a distinct and charming type. Friends in Texas might send home seeds, taking the precaution of packing in soil, just suspiciously damp, since on various occasions they have arrived quite dead. *R. I. Lynch.*

Round Ghent.

Bruges.—When *en route* for the recent exhibition at Ghent, we were constrained to alight at the fine old city of Bruges, and drive out to Scheepsdaele to see the wonderful cultivation of Odontoglossums and other Orchids pursued by M. Vincke-Dujardin in the vast and peculiarly-constructed set of houses arranged by him for these plants. We say peculiarly constructed, for although each block contains eleven large and long houses in the one block, and sixteen similar structures on the other side of the walk, the blocks of houses measuring some 200 yards in breadth, in each case there is really no party wall, and it is possible to pass from one side to the other of each block, so that practically, so far as that portion beneath the staging goes, and in which the piping is arranged, each block of houses is but one vast, well-heated, well-ventilated structure, of low elevation, and of a number of spans corresponding to the number of houses in the block. This arrangement is said to greatly simplify the culture of showy Orchids, which are grown in quantities, and certain it is that by its aid, and by the knowledge gained by the continuous study of the habits of the plants by M. Vincke, the Orchids cultivated at Scheepsdaele will compare favourably with any in Europe. The cultivation of none but showy Orchids is essayed, and preference given to those which fetch a good price as cut flowers, and especially such as come into bloom in the winter. Of such are the varieties of Lælia anceps, of which there is a splendid houseful, and from them the cut flowers at Christmas averaged for a short time 1000 blooms per day. Odontoglossums—principally O. crispum, O. Pescatorei and O. triumphans—occupy the greater part of the space. Some idea of the quantity may be gained when we state that there are twenty large houses entirely filled with Odontoglossums, ranging from those last acquired, which fill some eight or ten houses, and which have not yet bloomed, through all stages up to the houses of specimen plants. Their bulbs are very large, and exhibit in every instance the rapid increase in size which has taken place each year. One thought suggests itself, viz., that the annual increase in the size of the bulbs cannot go on for ever, or even in a few more years, they would be as large as one's head. What happens? Deponent knoweth not! Probably Nature will assert herself; rest, or retrogression for two years, next ensue, and the plant commences its onward march anew. So fat and sleek were the bulbs of the Odontoglossums, so broad, green and luxuriant the foliage, that we ventured to put the question as to whether there was any truth in the report that continental growers used manures to them. The reply was unhesitating. "You, who know so well the structure of an Orchid root, and the nature of the plants, will readily believe me when I tell you that, speaking for myself, I am not insane enough to attempt such a thing. A feeding air and our good rain-water is all we require." The spikes of the Odontoglossums showed them to be as good in flower as in growth, and in the various houses the Cattleyas, Lælias, Lycastes and other Orchids were in an equally fine and healthy condition. Of Cattleya Mendelii there was a grand lot in bloom, also a good show of C. Lawrenceana and C. Mossiæ. Of Cypripediums there was a grand show both of species and hybrids, C. villosum albo-marginatum and C. v. aureum magnificum being specially distinct. Cattleya Schroderæ and Lælia purpurata showed up well, the house of Miltonia vexillaria was thickly set with stout spikes in bud, the scores of plants of Maxillaria Sanderiana were about to flower, the largest specimens being 3 feet through; Odontoglossum Edwardii and O. Harryana were well in bloom, Cymbidium Lowianum in many fine specimens, and the hybrid Odontoglossums many and varied.

Palms are also well cultivated, and Dracæna australis, D. lineata, &c., have been in the open air over a month. Thousands of Bay trees in tubs of all sizes and ages are cultivated as a specialty, the greater part of the stock being standards and pyramids of great age. One pair was pointed to with pride as having been in the family for 125 years.

(To be continued.)

Home Correspondence.

Packing Grapes.—Some thirty-two years ago, when I was working as an under-gardener at Holly Bush Hall, in Staffordshire, a system of packing Grapes was there practised which I have never since seen mentioned in the many discussions thereon in the horticultural press. The gardener was a Mr. Buck, who at that day was well known in the locality as a thorough gardener, more especially in fruit culture and kitchen gardening. I may also mention, he was a great admirer of and supporter to the *Gardeners' Chronicle*—he has long been dead. Personally, I owe to him much useful information on general practical horticulture. His plan of Grape-packing was as follows:—Stout boxes were procured, similar to what are in use now, and in size according to the quantity of Grapes to be packed. The packing material was simply Strawberry leaves, cut with a small sickle the day previous to packing. They were spread thinly on the capacious flue that ran along the back of the well-cropped lean-to vineries, so as to get wilted. In cutting the leaves, care was taken to keep them clean. The required quantity of Grapes being cut and laid in a flat basket, a layer of the soft Strawberry leaves was pressed firmly on the bottom of the box, then a layer of bunches of Grapes; then more leaves, and a second layer of Grapes, the whole being filled with more leaves in quantity sufficient to tightly fill the box when the lid was nailed down. I was assured by Mr. Buck that these Grapes invariably travelled well, and with less loss of bloom than when packed with paper and other materials, he having tried other methods, and compared results. I well remember that several parcels were sent into Wales at that time, when travelling was not so expeditious as now. Of course, I am well aware that the plan is not applicable to packers of large quantities of Grapes, but for those who have occasionally to send a box away during the summer months, I am persuaded the system merits a trial. It may seem a barbarous practice to cut off Strawberry leaves for such a purpose. When possible, they were procured from a portion of the plot that was to be done away with, and after the fruit was picked. At that time it was often a custom to cut off the leaves, say in August, even from the plants to be left, and especially so with such varieties as Grove End Scarlet and other free-growing kinds, cultivated in beds to supply quantities of fruit for preserving purposes. The soil at Holly Bush was what is termed a Strawberry soil, it being a rich red marly loam, if I rightly recollect; at any rate, Oaks and Hollies flourished grandly thereabouts, it being

but a short distance from the famous forest of Needwood. Leaves from Sycamore, Beech, Hazel, or any other non-resinous tree, would answer as well as Strawberry leaves. The main points are to have them clean, and get them "wilted," by cutting the day previous to using. Perhaps if any of your readers have tried the plan they will chronicle the results. *H. J. C., Grimston.*

THE VIOLET PLUM OF EAST ANGLIA.—It is astonishing how little is known of this valuable Plum. As an ordinary market fruit, it has scarcely an equal, when all points are considered. It comes perfectly true from suckers, when the tree is on its own roots, and bears well in a young state; as a rule, it is very hardy and prolific. The fruit is in shape oval, dark violet in colour, and covered with a dense bloom. It is alike good for dessert or cooking. Your correspondent at p. 421 may well say there is considerable mystery hanging over these Violet Plums. I have been in different parts of the kingdom, and seen several so-called "Violets," but never the true one of East Anglia, and, like "An Anxious Inquirer," I should be pleased to hear more about it. I once asked a noted eastern counties gardener if he could tell me the correct name, but he could not, and said that the only name he had ever heard them called was Violet Plums. I hope a sample may be sent to the Fruit Committee of the Royal Horticultural Society this year, so that its true name may be ascertained. I incline to think it is a local variety, and is not known in commerce. *J. Easter, Nostell Priory Gardens, Wakefield.*

THE SOWING OF BROCCOLI SEED.—The season of seed-sowing having again come round, I should like to name some half-dozen varieties of Broccoli which, after trying many kinds through a number of years, I have selected as being worthy of cultivation. The names are placed in their order of succession, viz.:—Winter Mammoth, White Sprouting, Vanguard, Standwell, Bouquet, Late Queen. The last two may be taken as coming in together, so some may not care to grow more than one of them. I like to have both, the small heads of the Bouquet always making a nice-looking dish. *H., Mid-Sussex.*

STRAWBERRY JOHN RUSKIN.—Having grown fifty plants of this new variety with the same number of President and Paxton for trial, I find it a fortnight earlier than either of the two older varieties; quite healthy, a free setter, good cropper, and of fine colour. *E. Dyke, Topsham.*

—— I was so pleased with the above Strawberry outside last season that I determined to try it for early forcing, but it proved a failure, being covered with mildew. Growing in the same house were Sir J. Paxton, Laxton's Noble, and Auguste Nicaise perfectly clean, with plenty of fruit on them. *F. J. T., Sunningdale Park.* [Enough has now been said about this variety, and it seems from the correspondence we have published in these columns that in some localities it is subject under glass to mildew, and in others it is free from this parasite, just as are some other varieties. Where it is not found to do well, it is prudent not to force it. Ed.]

POPPIES.—A correspondent, I observe, advises the sowing seed of Papaver umbrosum in small pots under glass early in the spring, for planting out. No doubt for spring-sown plants this is the best course, because all these Poppies transplant badly, unless well established singly first. But the umbrosum and Shirley Poppies are of the hardiest, and if seed be sown in the open ground the first week in September and later, the seedlings well thinned, so that the plants may be very dwarf and stocky, they will transplant, if needed, with good balls of soil attached, early in the spring, and in that way not only develop into flowering plants double the size of those raised from seed in the spring, but will flower much earlier and far more profusely, indeed we rarely see these Poppies at their best unless thus treated as biennials. The Iceland Poppies do best treated in the same way. As to P. orientale and P. bracteatum, seed of these sown now will give very good flowering plants for next year, and they will continue to increase in size and blooming power indefinitely. If the former varieties are the best for cutting purposes, and few flowers are lovelier for vase or ordinary domestic decoration, these latter perennial forms are amongst the most effective of border plants. The foliage alone is often of the noblest and handsomest, but when the plants are blooming, they are then grand objects. The French Poppies are very beautiful too, and very varied in character and colouring, but are all too fugitive. No one cares for their somewhat strong perfume, or to use them for domestic decoration. For this purpose none excel the Iceland and Shirley forms. *A. D.*

PETROLEUM AND INSECTS.—In reply to S. H. Trott and others, I feel they will be relieved of much trouble in destroying insects infesting plants, and also plant-mildew on subjects, however tender, by making use of the following prescription, which has no equal, and, moreover, is cheap and always ready to hand. I have no hesitation in here stating that paraffin (petroleum) can never be used with safety on any plants until it is prepared, and made to mix easily with water, and paraffin (petroleum) soap is safe in use and efficient as a means of killing all kinds of insects, as years of experience has convinced me. I make the soap as follows:—Take 7 lb. of soft-soap, 2 quarts of petroleum, 2 oz. of sulphate of copper dissolved in half-a-pint of hot water, allowed to stand till quite dissolved, then put in an iron bucket or pot, and boiled till all is well mixed together, keeping it meanwhile stirred. It is then fit for use, and if put into tin boxes or earthenware pots, it will keep good for years if the air be kept from it. For use on stove, greenhouse, and tender plants put 1 oz. of the soap in 3 gallons of water, small plants may be immersed in, and large ones syringed with it. For Roses, Peaches and Cherries put 2 oz. into 3 galls. of water to destroy the black and green aphis. I hope S. H. Trott will give us his opinion on the results of his trials in these pages. If agreeable to Editor I will give one of the prescriptions for winter-dressing Vines and Peach trees. *W. S.* [Please to do so. Ed.]

PEARS ON THORN STOCKS.—How seldom is the Thorn used as a stock by the gardener for the Pears, yet it possesses plenty of fibrous roots, and the Pears make good fruitful wood. I have a Pear tree growing on this stock, which has lived quite three-quarters of a century, is still covered with bloom, and looking a picture of health and productiveness. Medlars also grow and fruit remarkably well on this stock. *R. E. Brain.* [The Thorn is not to be recommended as a stock for the Pear, its growth being too slow; for the Medlar it answers well enough. Ed.]

CALLA PENTLANDII.—On December 14, 1893, at Messrs. Protheroe & Morris' Sale Rooms, Cheapside, some tubers were sold of a new Calla, provisionally named Pride of the Congo. We have a plant in flower from the same, which proves to be Calla Pentlandii, yellow spathe, with dark patch of colour at the base. *C. J. Salter, Woodhatch Lodge Gardens, Reigate.*

WEATHER IN WARWICKSHIRE.—I enclose spray of Hawthorn blossom picked off a hedge in my Nursery. Is it not unusually early? I do not remember seeing any open before in April. The temperature has been unusually high lately, as the following figures will show. Thermometer in the shade at 3 feet from the ground, maximum each day, April 18, 68°; 19th, 74°; 20th, 82°; 21st, 78°; 22nd, 70°; 23rd, 76°; 24th, 75°; 25th, 81°. We have almost unbroken sunshine; the rainfall very slight, viz., ·41 of inch in March, and on April 16 and 17, ·32. Naturally, farmers and gardeners want rain badly. Our Apple trees are a picture, being literally covered with bloom. *Thos. Woodford.*

ERYTHRONIUM HARTWEGI.—I have sent specimens of Erythronium grandiflorum, and also the new E. Hartwegi, which I have been the first to introduce to European gardens. It has been described by Sereno Watson in vol. xiv. of *Proc. American Acad. of Sciences*, and I think highly of it, as it is really a very beautiful plant. The specimen sent is one of the latest of the lot, as the E. Hartwegi precedes the E. grandiflorum by fourteen to twenty days. As the flowers are all sessile, the bed presented a very beautiful, even sight; the spike of E. grandiflorum is very much higher, and is branched. I hope the flowers will reach in fair condition. *C. J. Van Tubergen, Jun.*

SPRING GARDENING AT WILTON HOUSE, SALISBURY.

A visit to Wilton House Gardens is at all times interesting and instructive to horticulturists, but especially so when the visit is made in the early part of the leafy month of June, as was the case in this instance; because, in addition to the pleasure which a peep at the luxuriant and variously-tinted foliage of the noble trees in the beautiful and well-kept grounds and park surrounding Lord Pembroke's charming Wiltshire seat afford, there are then a variety of seasonable work and cultural plans being carried out, and early crops indoors and out are about at their best, while general crops and work are sufficiently advanced to admit of the critical observer arriving at a pretty correct opinion as to what kind of results the treatment being followed will lead, and thereby including or omitting in his own practice as he may see fit, the cultural treatment which lead up to the achievement of those results. These latter remarks are equally applicable to the benefit which a horticulturist generally derives from a visit to any leading gardening establishment at the same time of year.

Now, for the spring bedding. Mr. Challis, who has ably presided over Wilton House Gardens for, we believe, over thirty years, with credit to himself and satisfaction to his employers, goes in largely for bedding Pansies in the arrangement of the beds for spring effect, and with excellent result. The beds occupied with Pansies of various shades of colour were everything that could be desired, being well filled with healthy and profusely-flowered plants—plants which it seemed a pity to remove to make way for the proper summer occupants of the beds. Among the varieties grown, in addition to Viola Golden Gem and V. Blue Bell, may be mentioned Blue King, cobalt-blue, with a purple blotch; Cliveden Purple, purple; Imperial Blue, blue; Cliveden White, white, very floriferous; Cliveden Yellow, yellow, dark centre; and Countess of Kintore, deep blue-purple, edged white, distinct and very showy. The beds of Aubrietia, Forget-me-nots, and Wallflowers were over at the time of our visit, and were being replaced by other subjects, but several well-flowered plants of herbaceous Pæonies in the side borders were very telling, there being several new varieties amongst them, including a beautiful silvery-flesh-coloured one, apparently Astræa. In addition to the above-mentioned subjects, various bulbous and other plants are employed in making the beds gay with a variety of pleasing colours during February and three following months.

Any remarks on spring gardening at this fine baronial residence would be incomplete without reference being made to the reserve garden, which is in close juxtaposition to, but out of sight of, the flower-garden; it being enclosed by a high and well-kept Yew (I believe) hedge. This enclosure covers an area of about half an acre, and is tastefully laid out in beds about 4 feet wide, each being edged with Box, and having a gravel space of 3 or 4 feet wide between. The whole being scrupulously clean and tidy, and several of the beds devoted respectively to the several varieties of Pansies, &c., were well worth a visit to see. In this way the varieties are kept quite true to name, the plants being propagated by cuttings, or division of the roots, and a good stock is always at hand wherewith to make good any blanks that may occur in the flower-beds during the interval from October to the end of spring. *H. W. W.*

MARKET GARDENING UNDER GLASS.

(Continued from p. 416.)

Mr. J. Emerson, Hextable.—Adjoining the nursery of Messrs. Pitcher & Manda is the establishment belonging to Mr. Emerson. Many of the houses are erected upon such an extreme slope that at a distance they appear as if they might actually fall. These are well-built houses, most of them new, and are 180 feet long by 17 feet wide. All of them are intended for the accommodation of Strawberries and Vines, with an after-crop of Tomatos, &c. There are about 17,000 Strawberries in pots, and all Sir Joseph Paxton. They are grown without any heat whatever. A similar treatment is destined for the Vines, which fill one or two of such houses. This is at present an experiment, for the Vines are young, and have not yet been cropped, excepting a bunch

r two last year, which Mr. Emerson says coloured nd ripened well. The varieties planted are Hambro nd Alicante, and Mr. Emerson seems quite sanguine hat they will succeed under these conditions. The wonderful slope of the houses will perhaps ender this probable. Nearer the foot of the slope re a number of Cucumber-houses. Cucumbers are rown in quantity, and it is expected that for six nonths of the present season there will be an output veekly of twenty to thirty dozen fruits. They are ot quite so early as we have noticed elsewhere, but hey are looking remarkably well and promising. Tomatos are in about the same proportion. Chrysanthemums are grown to the extent of 17,000, nany of which are planted out in the open, and afterwards lifted to the houses. Perhaps the greatest feature of the winter, however, is the large stock of Callas which has produced as many as eighty to 100 dozen blooms in a week. Mr. Emerson said that these paid him as well as anything, and as regards supply and demand, it was very rarely his experience to be unable to clear his stuff. There was always a market for good produce, though at times the prices depreciated to some extent. Another small place on the other side of Hextable has been purchased, and is being rapidly brought into good condition. A lot of Pelargoniums and such general market plants are contained in the remainder of the buildings.

(To be continued.)

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

April 11.—Present: Dr. M. T. Masters, F.R.S. (in the chair); Mr. Blandford, Professor Oliver, Mr. Michael, Mr. Wilson, Dr. Bonavia, Sir J. T. D. Llewelyn, Bart., Rev. W. Wilks, and Rev. G. Henslow, Hon. Sec.

Californian Oranges.—Dr. Bonavia showed samples of this newly-imported fruit. They are peculiar in having the rind open above, with a small Orange protruding from the apex. It appears to be an established variety of "carpellary multiplication," though incapable of propagation by seed, as these Oranges are seedless. It is of common occurrence in the variety called "Mellarose"—(*Teratology*, by Dr. M. T. Masters, p. 134).

Gentiana acaulis.—Mr. Wilson exhibited about a dozen flowers of this plant, showing variations in the colour, from lavender to the deepest blue. Mr. Michael remarked that he had noticed very many about 2000 feet above Innspruck, of the pale blue variety, the pink-coloured variety being rare. Mr. Wilson's were specimens cultivated at Weybridge and Wisley.

Oxlip, var.—Dr. Masters exhibited an umbel of the true Bardfield yellow Oxlip, P. elatior, which is rare in Britain; and a reddish-flowered variety, from a clump originally introduced into his garden two years ago, together with the former, which has hitherto borne only yellow flowers.

Grammatophyllum with spinescent Roots.—He also showed a specimen of the roots of this Orchid, remarkable for their erect or ascending, much-branching character, the longer roots being covered with short spinescent branches half an inch in length. The thicker roots penetrated into decayed vegetable matter, developing absorbent root-hairs, confirming the suggestion of Professor F. Oliver that the peculiar development was an adaptation to saprophytism. The secretary suggests that the short spiny lateral roots may be arrested conditions, in consequence of their not having been buried in any nourishing material.

Acacia Galls.—Remarkable specimens were received from Baron von Mueller from Australia. They were referred to Mr. Blandford for examination.

Richardia, Monstrous.—Mr. Sheppard, of The Toddington Orchard Company, sent a specimen, one leaf of which was white like a true spathe. In another case there was a small supplementary spathe and spadix springing from the axil of a second spathe. Dr. Masters observed that if this could be perpetuated, there might be a succession of bloom from the same stalk.

April 25.—On Tuesday last was the annual show of the Auricula Society, in connection with the meeting at the Drill Hall, James Street, Westminster. Full particulars of which will be found below. There was also a very good display of flowers in season, including some first-rate Roses, several exhibits of Narcissus, and the usual amount of Orchids. The Hall was well filled with exhibits, and the number of visitors was exceptional, but no new plants of any great importance were presented.

Floral Committee.

Present: G. Paul, Esq., in the chair; and Messrs. H. Correvon, H. Herbst, T. H. Fitt, H. May, G. Stevens, G. Gordon, J. Jennings, C. E. Pearson, W. Furze, C. E. Shea, J. W. Pawle, P. Barr, T. Baines, C. Noble, J. Walker, J. Fraser, and W. Watson.

A very fine group of pot Roses were sent by Messrs. Wm. Paul & Son, Waltham Cross, Herts. The blooms were very good for the date of season, and, indeed, the Roses from these and other exhibitors far surpassed any that we saw at the great Ghent show the week previous. Noticeable amongst those from Messrs. Wm. Paul & Son were Jeannie Dickson, Violette Bouyer, Duke of Albany, Duke of Teck, La France, Duke of Wellington, &c. Of the Polyantha section was the fine Claire Jacquier, which has a lovely bronze tint when in the bud, and the Moss group was represented by Zenobia (Silver-gilt Flora Medal).

Messrs. Paul & Son, Old Nurseries, Cheshunt, had also a nice group of pot Roses, including good specimens of Baron N. de Rothschild, Magna Charta, and Marie Van Houtte; also a pretty collection of alpines, amongst which the following were the most noticeable. Phlox nivalis frondosa, the delicately pretty P. canadensis, P. amœna, and P. Nelsonii, Iris nudicaulis, Adonis vernalis, Primula cortusoides, Ranunculus monspeliacus R. amplexicaulis, &c. (Silver Banksian Medal).

Another group of Roses came from Mr. Wm. Rumsey, Joyning's Nursery, Waltham Cross. These were also of very good quality, especially Earl of Dufferin, Suzanne-Marie Rodocanachi, Eclair, Baroness Rothschild, and the pretty Tea Souvenir d'un Ami, &c. Mr. Rumsey also staged a good number of excellent blooms of Niphetos, and a few other miscellaneous (Silver Flora Medal).

Mr. Frank Cant, Colchester, had another such exhibit of cut Roses as he staged at the last meeting, but of even better quality than those (Silver Banksian Medal).

Mr. J. Walker, nurseryman, Thame, Oxon, had some boxes of Daphne Cneorum major, and some nice plants of Fabiana imbricata in pots; also a good number of cut blooms of Maréchal Niel Rose, and some bright trusses of Zonal Pelargoniums (Silver Banksian Medal).

Messrs. B. S. Williams & Son, Upper Holloway, London, staged a very similar group to that they had on the last occasion, including some good Amaryllis, Anthuriums, &c., and two large plants of Rhododendron Aucklandii (Silver Banksian Medal).

A pretty group of miscellaneous plants was that from Messrs. E. D. Shuttleworth & Co., Ltd., and included Azaleas in flower, Dracænas, Caladiums, Palms, and a few Orchids, Ferns, Hydrangeas, &c.; also some seedling Auriculas (Silver Banksian Medal).

J. C. Tasker, Esq., Middleton Hall, Brentwood (gr., Mr. Perry), had a group of well-grown large specimen Cannas, the varieties were Edward André, Victor Hugo, Madame Crozy, Progression, Antoine Chaubin, Louis Thibaut, and Admiral Field (Silver Banksian Medal). Also a group of Roses in pots, nicely flowered (Bronze Banksian Medal).

Mr. Thos. S. Ware, Hale Farm Nurseries, Tottenham, staged a very attractive group of Primula Sieboldii in many varieties. Some of the more pleasing were Miss N. Barnard, rose-coloured, with fimbriated margin. Rosea striata, Ruby, Victor, a large rose-coloured variety; Novelty, exceeding pale lilac; Dora and Violacea maxima (Bronze Banksian Medal).

Messrs. John Peed & Sons, Norwood Road, had a group of Gloxinias and Ferns (Bronze Banksian Medal).

Messrs. Wm. Cutbush & Son, Highgate, London, N., had some Daphne Cneorum, some plants of Lunaria biennis variegata, Calla Little Gem, and Leschenaultia biloba major, for which they were accorded a Vote of Thanks.

Messrs. B. S. Williams & Son received an Award of Merit for Abutilon Souvenir de Bonii, a very graceful prettily variegated variety. They also staged Calla aurata, Amaryllis Mrs. Carter, and Azalea de Schyneriana, a double one, after the style of Prince Albert. A First-class Certificate was awarded to Strobilanthes Dyerianus, exhibited by Messrs. Jas. Veitch & Son, Chelsea. The plant was described on p. 442, in our issue for April 15.

Mr. James O'Brien, Harrow-on-the-Hill, sent blooms of Cyrtanthus carneus, of orange-scarlet. Mr. A. Smith, Prospect House, Downley, High Wycombe, received a Vote of Thanks for a large collection of cut Roses, and some blooms of Violas.

Mr. F. Bullen, Hither Green, Lewisham, Kent, staged a group of Callas to be named, some of which were Calla Little Gem. A very fine yellow form, believed to be the Calla Pentlandii, but upon which many doubts were expressed, was left unnamed. It differed from previously exhibited plants of C. Pentlandii in that it was of considerably dwarfer habit, and the colour of spathe a more decided yellow. Absence of heat, and better culture may, however, account for this difference.

A group of Calceolarias were from J. James & Son, Woodside, Farnham Royal, Slough. These were in the first-class form peculiar to the firm. The plants were dwarf, flowers large, and colours bright, spotted and mottled varieties were included, and others were of the purest and most decided colour (Silver Banksian Medal).

A large and very interesting collection of alpines were sent by the Guildford Hardy Plant Nursery Co., Mill Mead, Guildford. These were arranged in baskets, and included amongst many others, Cypripedium pubescens, Ramondia pyrenaica, Gentiana acaulis, Aubrietia tauricola, Phlox in several varieties, Iberis jucunda, Adonis pyrenaica, Dracocephalum grandiflorum, several Ranunculuses, Trollius napellifolius, &c. (Silver Banksian Medal).

Some cut blooms of Anemone Aldboroughensis were from Messrs. Jas. Veitch & Sons, and some blooms of Cinerarias from Mr. Henry Eckford, Wem, Salop.

Messrs. H. Lane & Son, Berkhamstead, showed several kinds of Ghent Azaleas, and varieties of Azalea mollis, Azalea Raphael de Smet, a beautiful pink flower, double, gained an Award of Merit; as did also a variety of Azalea mollis called Hilda, a pretty orange-scarlet flower. Many other varieties shown included some very beautiful shades of colour. C. E. Smith, Esq., Silvermere, Cobham (gr., Mr. J. Quartermann), had a lot of very well-flowered sprays and plants of Deutzia crenata fl.-pl.

A showy group of Tulips, Narcissus, &c., came from Messrs. P. Barr & Sons, King Street, W.C.; the former consisted of a few species and varieties, and the latter of cross-bred Narcissus chiefly, as N. Leedsi, N. Burbidgei, N. Barri, and N. incomparabilis varieties, very nice, pretty-looking, and fresh (Silver Banksian Medal).

Mr. G. H. Cammell, Heathersage, Sheffield, showed an interesting collection of varieties, somewhat similar to the first-named, and with as many new ones. Narcissus came likewise in some quantity from Messrs. E. D. Shuttleworth & Co., Peckham Rye, and in good quality, considering the heat. The group contained several Saxifrages in flower, Lithospermum prostratum, Creeping Phlox, Trillium, Gentian, &c. (Bronze Banksian Medal).

The showiest and choicest lot of Daffodils were those shown by Messrs. J. R. Pearson, The Nurseries, Chilwell, Notts. There were here forms of N. bicolor, N. incomparabilis, N. Burbidgei, N. Nelsoni, N. Leedsi, N. poeticus. We may mention N. poeticus major, N. Nelsoni major, N. incomparabilis Goliath, N. Leedsi Duchess of Brabant, N. poeticus grandiflorum, N. Backhousei Wolley Dod, N. Burbidgei Robin Hood, N. King of the Netherlands, and many another promising variety (Bronze Banksian Medal).

Orchid Committee.

There were present:—H. J. Veitch, Esq., in the chair; and Messrs. J. O'Brien (Sec.), S. Courtauld, T. B. Haywood, F. Sander, J. Jaques, E. Hill, W. H. White, A. H. Smee, R. Brooman-White, H. Ballantine, H. M. Pollett, James Douglas, and C. Pilcher.

Sir Trevor Lawrence, Bart., Burford, Dorking (grower, Mr. W. H. White), staged an effective group of charmingly fresh-looking and well-grown Orchids, to which a Silver Flora Medal was awarded. The specimens consisted of a handsome plant of the crimson-flowered Masdevallia Arminii, with over seventy blooms; an equally handsome M. Gelengiana×, with yellowish rose-tinted flowers; M. caudata Shuttleworthii, and its light variety, xanthocorys, Cattleya Schroderæ, with thirteen flowers; a grand C. Mendelii with fifteen flowers; the pretty and extremely rare Bulbophyllum Sillemianum, B. Lobbii var. siamense, Dendrobium revolutum, a fine D. thyrsiflorum, a large Cypripedium Schroderæ ×,

C. villosum aureum, and a fine plant of Epidendrum atro-purpureum album.

Messrs. F. Sander & Co., St. Albans, exhibited a group of rare and showy Orchids, which secured a Silver Banksian Medal. Noteworthy features in it were the new supposed natural hybrid Odontoglossum Roebelinianum, with wax-like, creamy-white flowers, handsomely spotted with reddish-purple; O. Selwoodense, of the O. mulus class; a fine plant of a very handsome form of Maxillaria Sanderiana, with a clear yellow labellum, and named M. Sanderiana xanthoglossa; the handsome Cattleya Burberryana ×, Lælia Digbyana, Zygopetalum Klabochorum, Cattleya Skinneri alba, Cypripedium Rothschildianum, the large yellow Oncidium roraimense, fine plants of Dendrobium densiflorum, D. chrysotoxum, and plants of their grand strain of Odontoglossum crispum.

Messrs. Jas. Veitch & Sons, Royal Exotic Nursery, King's Road, Chelsea, exhibited a striking novelty in hybrid Orchids in Lælio-Cattleya Ascania × (C. Trianæ ♀, L. xanthina ♂), with flowers of true C. labiata form, but rather smaller. The sepals were sulphur-yellow, the broad petals white tinged sulphur-yellow, the lip the same colour, with a rich crimson front lobe. Messrs. Veitch also exhibited their new Lælio-Latona × (cinnabarina ♀, purpurata ♂), which, like most fine hybrids, improves much when grown on. The flowers are rich Indian yellow, the lip marked with bright purple. It was awarded a First-class Certificate in May, 1892.

Thos. Statter, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson), showed a small plant of Dendrobium nobile, Statter's var., which bore a few very large flowers. The committee having thought that the plant would come in much better form, requested to see it again. Mr. Statter also showed Cypripedium Measuresianum aureum ×, almost entirely yellow, and C. Boxallii superbum, very well flowered.

C. De B. Crawshay, Esq., Rosefield, Sevenoaks (gr., Mr. S. Cook), showed five of the finest forms of Odontoglossum crispum we have as yet observed together, the large clear white and the rose-tinted ones being especially good. One very richly spotted rose-tinted variety was only just opening its blooms, and will probably be shown again.

C. Winn, Esq., The Uplands, Selly Hill, Birmingham, showed Dendrobium Nestor × (superbum var. ♀, Parishii ♂), with pretty purplish rose flowers.

W. W. Mann, Esq., Ravenswood, Bexley, exhibited a fine plant of Cycnoches pentadactylon, with a spike of male flowers and one female. Both forms of flowers have been illustrated in the *Gardeners' Chronicle*.

Mr. Wm. Whiteley, Whiteley's Nursery, Hillingdon, near Uxbridge (manager, Mr. G. Bethell), showed Odontoglossum excellens, Whiteley's var., a fine clear yellow form, with large reddish chestnut-coloured blotches, and a very ample and well-formed labellum.

Messrs. Hugh Low & Co., The Nurseries, Clapton, staged a group of Orchids, in which the fine new Stanhopea Amesiana was a remarkable feature. It belongs to the S. ecornuta and S. Lowii class, and has large wax-like, clear white, fragrant flowers; the lip is very thick and fleshy, and is destitute of the horns seen in most of the Stanhopeas. Cypripedium Mastersianum was another distinct plant in this group, and the other Cypripediums, Dendrobiums, Phalænopsis, &c., were excellent.

Messrs. W. L. Lewis & Co., Southgate, had a group of showy Orchids, comprising Lælia Boothiana, Odontoglossum triumphans pallens, some Cattleya Mendelii and other Cattleyas, several Oncidium ampliatum majus, Odontoglossoms, Cypripediums, &c.

Messrs. Seeger & Tropp, Lordship Lane, East Dulwich, showed the curious hairy-lipped Lycaste lasioglossa. E. G. Wrigley, Esq., Victoria House, Dunkinfield, Cheshire (gr., Mr. C. Harris), showed Dendrobium nobile albiflorum, D. n. Victoriense, which was like a larger form of the D. n. albiflorum, Sophronitis grandiflora, and Cattleya citrina. C. E. Goodheart, Esq., Langley Park, Beckenham (gr., Mr. R. Padbury), showed Cypripedium caudatum Wallisii. Messrs. Condor & Raphael, Hazlewood, Kings Langley (grower, Mr. E. Day), sent Dendrobium amœnum, and three plants of Cypripedium niveum. J. G. Luytwych, Esq., Oakfield, Beckenham, sent Cattleya Luddemanniana.

Earl Cowper, Panshanger House, Hertford (gr., Mr. J. Fitt), showed a curious Odontoglossum, probably a form of O. mulus, and some varieties of Cypripedium barbatum.

F. W. Moore, Esq., curator, Royal Botanic Gardens, Glasnevin, Dublin, sent a spike of the curious coppery-yellow Saccolabium cerinum. Reginald Young, Esq., Fringilla, Sefton Park, Liverpool, showed cut flowers of two fine and dissimilar forms of Maxillaria Sanderiana, the almost white Vanda teres Auroræ, and other Orchids; and Walter C. Clark, Esq., Orleans House, Aigburth Drive, Sefton Park, Liverpool, flowers of Phaius Cooksonii ×.

Orchid Committee Awards.

First-class Certificates.

To Masdevallia Gelengiana ×, from Sir Trevor Lawrence.

To Masdevallia Arminii, from Sir Trevor Lawrence.

To Lælio-Cattleya Ascania ×, from Messrs. Jas. Veitch & Sons.

Awards of Merit.

To Odontoglossum Roebelinianum, from Messrs. F. Sander & Co.

To Maxillaria Sanderiana xanthoglossa, from Messrs. F. Sander & Co.

To Epidendrum atro-purpureum album, from Sir Trevor Lawrence.

To Stanhopea Amesiana, from Messrs. Hugh Low & Co.

Botanical Certificates.

To Saccolabium cerinum, from Mr. F. W. Moore, Glasnevin, Dublin.

To Bulbophyllum Lobbii siamense, from Sir Trevor Lawrence.

Medals.

Silver Flora.

To Sir Trevor Lawrence, for a group of Orchids.

Silver Banksian.

To Messrs. F. Sander & Co., for a group of Orchids.

Vote of Thanks.

To Messrs. W. L. Lewis & Co., for a group of Orchids.

To Messrs. Hugh Low & Co., for a group of Orchids.

Fruit Committee.

Present: Philip Crowley, Esq., in the chair; and Messrs. Harrison Weir, H. J. Pearson, P. C. M. Veitch, J. Cheal, G. W. Cummings, W. Wilks, G. T. Miles, G. Taber, T. J. Saltmarsh, J. Wright, A. Dean, J. Willard, G. H. Sage, G. Wythes, J. Hudson, H. Balderson, J. Smith, F. Q. Lane, and A. Moss.

Mr. Geo. Wythes, gr. to the Duke of Northumberland, Syon House, Brentford, exhibited twenty Peaches—Amsden June, which was awarded an Award of Merit in May of last year. On this occasion they were shown for Certificate, but the committee do not grant this to any clingstone variety. The tree from which these fruits were gathered was planted on November 26, 1890, and in May last year it yielded seven dozen fruits, whilst this year it has given nine dozen. The first fruits were gathered on April 12, and it is said to be much earlier than Hale's Early. The same exhibitor obtained an Award of Merit for Potato Sharpe's Victory, a roundish kidney, smooth, small eyed, and said to be a first-rate early cropping variety. Also two bundles of Asparagus Connover's Colossal.

Mr. Owen Thomas, The Royal Gardens, Windsor, sent six seedling Melons, obtained from Countess × Royal Ascot. Also a box of fine Strawberries La Grosse Sucrée, and Tomatos Brown's Invincible. Strawberries were also exhibited by Messrs. Jas. Veitch & Sons, Chelsea, Empress of India, Lord Suffield, and Gunton Park. This latter was very large, but the flavour was not extra good.

Mr. J. Miller, gr. to Lord Foley, Ruxley Lodge, Esher, sent Strawberries Bicton Pine and Keen's Seedling. W. A. Wykeham-Musgrave, Esq., Thame Park, Thame (gr., C. C. Munday), sent a seedling Strawberry Early Prolific. The flavour was medium, but it did not obtain an award.

A seedling Melon Hamilton Defiance was from W. R. Inglis, Esq., Craigendowie, Reigate Hill (gr., Mr. Geo. Smith). This likewise was unsuccessful.

A collection of Apples was staged by Mr. J. G. Dear, Titsey Park Garden, Limpsfield, Surrey, to show their late-keeping qualities. Those appearing in best condition were Scarlet Nonpareil, Boston Russet, Cox's Orange Pippin, Sturmer Pippin, Kentish Fillbasket, Annie Elizabeth, Cornish Aromatica, Northern Spy, and Northern Greening (Vote of Thanks).

Lecture on Alpine Plants.

In the afternoon a lecture on "Alpine Plants," by M. Henri Correvon, of the Jardin d'Acclimatation, Geneva, was read by the secretary. The lecturer commenced by describing the distinct character of the plants inhabiting the Alps and other high altitudes, referring to the gradual diminution in the size of plants, until at an altitude of 6000 feet, the whole of the plants become dwarf and stubby. Even the genera which are represented in the lowlands by large trees and shrubs, are reduced to the same dwarf character upon these heights. Most of them are perennials, and a great proportion are stoloniferous. The colours of the flowers are vivid, and owing to the amount of sunshine and air, there is an absence of all fungi. The leaves are differently constructed also from those of plants in the plains, through the action of the sun; the leaves become thick and of strong texture, and consequently the better able to withstand the drying effects of the summer. They are often pubescent also, and almost all of them have coriaceous leaves, and these act in the same manner. From the different character of the cells in the leaves also, which are small and admit of little water to be retained, the plants are enabled to bear the constant freezing and thawing to which they are subjected. The frost also has influence in rendering the plants dwarf, which is explained by the knowledge that elongation mostly takes place in plants during the night, and the frost which obtains during that time upon the heights, prevents the internodes from becoming lengthened. This also explains the fact that these same plants when brought to the plains become more elongated. M. Correvon said that in Geneva they could not produce such large and vigorous alpine plants as could be seen in England, but the colours were more vivid, and the stems were more dwarf. Thus, in Geneva the plants preserved their original character more than was the case in England. Through the lack of humidity in the atmosphere in Geneva, it was impossible to succeed with a large number of the species. The lecturer then went on to speak as to the conditions which alpine plants enjoyed naturally, referring to the small amount of heat which was necessary to start them into growth, and to the intense rays of the sun, which reach them in summer, rendered more searching through the less dense character of the atmosphere at such an altitude. As soon as the snow disappears, the plants are at once subjected to intense sunlight, and experiencing no spring, they enter at once into summer. Another condition of growth that the lecturer laid great emphasis upon was, the presence of vapour in the atmosphere and around the plants. It was the presence of this vapour in abundance at high altitudes which constituted one of the protections the plants had from burning by the sun; but there was not so much humidity in the atmosphere towards autumn when the seeds were ripening, and this was of importance in the maturation of the seed. Just before the winter sets in, the plants make a last effort of growth, and the earlier spring-flowering ones formed their buds for the following spring. The humidity is explained by the rocks becoming saturated with moisture during the season of snow, and this is given off as the dryness of the atmosphere compels it, and towards the end of the season most of this has been given off, consequently the air becomes dryer. M. Correvon then described the best means he had found for supplying an equivalent to the aqueous condition under which they grow naturally. This was by growing the more difficult ones in sphagnum, a method which the lecturer has already recommended in these columns.

The manner of increasing alpine plants was next treated upon, and for general purposes, M. Correvon strongly advised that they be increased by seed, and gave useful particulars relating thereto; also directions for propagating by division, and other methods, some few which it was found impracticable to raise from seed. The lecturer forcibly deprecated the removal of plants from the Alps and other habitats in order to increase them, or to plant them again in the lowlands, giving several instances in which the flora of particular places had been damaged, and individual species entirely taken therefrom. All plant collectors should, instead of rooting up the specimens they wish to cultivate from their native habitats, increase them by seed, cuttings, or division. After the lecture several questions were asked the lecturer by members, and these were courteously answered.

NATIONAL AURICULA AND PRIMULA SOCIETY.

April 25.—The annual exhibition of this Society was held in connection with the meeting of the Royal Horticultural Society on the above date, and though a goodly number of Auriculas of all types were staged, there were traces in most cases of the unusual warmth and dryness of the month. Even those from northern growers showed these effects. Notwithstanding these drawbacks, five collections of twelve dissimilar show Auriculas were staged. The Rev. F. D. Horner, Low Fells, Burton-in-Lonsdale, taking the 1st prize with green edge, Achilles, Shirley Hibberd, a very fine dark green edge, black body colour, excellent paste and golden tube, the

zones of colour being well contrasted; Monarch, in fairly good character, but weak in the tube as shown; and Chloe, bright green edge, dark body colour, good tube, but paste somewhat thin and narrow. Grey edges, George Lightbody, very good, and Alexander Meiklejohn, with eight fine pips; white edges, Magpie and Heatherbell; selfs, Doris, shaded plum colour, the shading being occasioned apparently by the heat, good tube, but somewhat narrow paste, rather scolloped, apparently a seedling from Mrs. Potts; Dusk, a very dark self, good tube, but with the usual narrow paste; and Charmer, a bright red self, fine shape, and promising.

There were five stands of six Auriculas, and the Rev. D. Horner was again 1st, with green edge, The Rev. F. D. Horner; grey edge, Grayling, a large flower, good tube, narrow dense paste, slight dark body colour, and broad edge; and Alexander Meiklejohn, in good character; white edges, Magpie, with six charming pips, and Rachel; self, Mrs. Potts.

Three collections of four Auriculas were staged, W. Smith, Esq., The Links, Bishops Stortford, was 1st, with green edge, The Rev. F. D. Horner; grey edge, George Lightbody; white edge, Mrs. Dodwell, and self, Mrs. Potts.

There were four stands of two Auriculas. Mr. L. Brown was 1st, with white edges, Rachael and Mrs. Dodwell.

In the classes for specimens, the best green edge were:—1st, The Rev. F. D. Horner, shown by Mr. Horner.

Of grey edges, the best was George Lightbody, shown by the Rev. D. F. Horner.

The best white edge was Magpie, from the Rev.F.D. Horner.

The best self was Black Bess, Mr. W. Smith being placed 1st and 2nd with this variety.

There were five exhibitors of fifty Auriculas, but with the exception of the 1st, which was rich in good alpines, the others were of poor quality. Mr. C. Turner, Royal Nurseries, Slough, was placed 1st with such show varieties as Lancashire Hero, Alexander Mecklejohn, Sir J. Moore, and William Brockbank among greys; Mrs. Dodwell, white edge, and Mrs. Potts, self; and of alpines, Grace Darling, C. Phillips, Mrs. H. Turner, Winnifred, International, Edith Wynne, Mabel, Jeannette, &c., with unnamed seedlings.

Alpine Auriculas.—The alpine Auriculas, like the others, lacked brightness. Mr. C. Turner, for twelve plants, had an easy victory with a very good lot of plants, having, of golden centres, F. Knighton, Dash, Charles Turner (very bright), and Hotspur; of cream and white centres, Mrs. H. Turner, Roland, Winnifred (a charming variety), Patience (very good), Countess, Hubert, and Seedling. Mr. C. Phillips was 1st for six plants, having all named seedlings of his own of good quality, viz., Saturn, Mrs. Martin, Mrs. F. J. Blandy, Baroness Burdett Coutts, Mr. G. W. Palmer, and Mr. F. Barrett.

For specimen Alpines, the best gold centre was H. M. Pollett, from Mr. C. Turner, a flower of promise; centre, 1st, Mr. C. Turner, with Lady Laura Hampton, the marginal colours being dark shading to bluish-purple.

Polyanthus, gold-laced.—These, as might have been expected, were sparingly shown. Mr. J. Weston, Ravensholme, Balham, was 1st, with George IV., Napoleon, John Bright, Lancashire Hero, Cheshire Favourite, and Lancer; well grown and flowered, but lacking in quality.

With three plants, Mr. A. J. Sanders was 1st, having Napoleon, John Bright, and William IV.

The best specimen was George IV., from Mr. Patterson; and Mr. A. J. Sanders was 2nd, with Napoleon.

Fancy Polyanthus.—These were not up to their usual mark, owing to the weather. The best twelve specimens came from Mr. J. Douglas.

Primroses.—Mr. Douglas also took the 1st prize with twelve bright-looking plants; Mr. R. Dean was 2nd. Mr. Douglas was also 1st with a basket of Primroses, though all plants staged were fancy Polyanthus. This was a departure from the custom which has hitherto prevailed, Primroses in the schedule being differentiated from Polyanthus. Probably the judges, whoever they were, did not understand the difference between the two.

Fancy Auriculas.—As it is extremely difficult to define what is a Fancy Auricula, except by stating the broad ground that it is a variety which cannot be classified in any known section, it is simply necessary to record that Mr. J. Douglas was 1st with twelve plants. Some of Mr. Douglas's varieties were curious and distinct.

Species of Primulas.—Owing to the heat, these were not shown so largely or so well as in previous years. The only twelve specimens staged came from the Hardy Plant Nursery Co., Guildford, who had somewhat sorry specimens of Poissoni, japonica alba farinosa, Balbisii (?), floribunda, sibirica, Bellunensis intermedia, Murettiana, rosea, ciliata, and Auricula marginata. The only collection of six came from Mr. J. Douglas, who had as usual finely grown and well-flowered examples of Sieboldi laciniata, Japonica, luteola, verticillata, intermedia, and obconica.

Premier Auricula.—The variety selected for this distinction was green edge Shirley Hibberd, shown by the Rev. F. D. Horner in his first prize collection of twelve plants, and it was also awarded the special prize offered by Mr. W. Smith, for the best seedling green edge showing an improvement upon existing varieties.

Seedling Auriculas.—Prizes were offered for seedlings of each of the sections; but no green edge or grey-edged flowers were staged. One white edge, Desdemona was staged by the Rev. F. D. Horner, but no award was made. A 1st prize was awarded to Engineer, a dark self, raised and shown by Mr. A. J. Sanders—in the way of Black Bess, but with a broader paste. Of gold-centred Alpines, Mr. C. Turner staged two, and was awarded a 1st prize for F. Knighton, black shading to deep salmon, very fine. With white-centred flowers, Mr. C. Turner was placed 1st, having Winnifred, the dark ground shading to bright lilac-mauve, very pretty.

ROYAL BOTANIC.

April 26.—The second spring show of this Society was held, under the most favourable conditions, in the houses at Regent's Park, on Wednesday last. Upon the whole, the exhibits were quite up to the average, and, thanks to the miscellaneous groups contributed by the various nurserymen, there was a bright and interesting display. In the competitive classes, however, there were but few entries, and in so important a class as a collection of hardy herbaceous plants, and some others, only one exhibit had been entered; the work of the judges, therefore, was extremely light. We have but little space, and can only refer to some of the more important exhibits.

For a collection of alpines in flower, grown in pots, there were two competitors, the 1st prize going to Messrs. Paul & Son, The Old Nurseries, Cheshunt, who had a good collection of the better-known kinds.

For six Imantophyllums, Mr. R. Scott, gr. to Miss Foster, The Holmes, Regent's Park, was 1st, and he was the only exhibitor of twelve plants of Dielytra spectabilis.

For plants of Amaryllis, Mr. J. Douglas, gr. to Mrs. Whitbourne, Great Gearies, Ilford, was the only exhibitor.

Mr. Thos. S. Ware, Hale Farm Nurseries, Tottenham, showed twelve plants of Begonias of very good merit, especially for the early season. The same exhibitor was 1st for twelve Primula Sieboldi. They were in small pots, plunged in pans, and were shown in good condition. Ware's White is a very pretty variety.

Mr. Jas. Douglas was the only exhibitor of nine Cinerarias. The plants carried plenty of flower, but lacked a dwarf and neat habit.

Messrs. Paul & Sons, Old Nurseries, Cheshunt, were 1st for six Roses in pots. All the plants were in large pots, and were some 4 feet or more through.

The six greenhouse Azaleas that obtained 1st prize for Mr. Scott, were of medium size, and well-flowered; and those of Mr. A. Eason, gr. to B. Noakes, Esq., Hope Cottage, Highgate, were larger, but not so well-flowered.

What should have been an interesting class, a collection of hardy herbaceous plants, was only entered by one exhibitor, Mr. Thos. S. Ware, of Tottenham; but the exceptional character of the weather has made it difficult for growers of these plants to get a collection together. The group was of good merit, under the circumstances, and included some interesting specimens.

The 1st prize for twelve alpine Auriculas was secured by Mr. Chas. Turner, Slough.

Mr. James Douglas was 1st for twelve distinct Auriculas.

The Mignonette was not extra good, the 1st prize going to Mr. W. Morle, 162, Fenchurch Street, E.C.

Miscellaneous groups were numerous, and added very considerably to the appearance of the whole. It was a very fine group of Begonias that Mr. T. S. Ware staged, along with some Ferns, Palms, &c., and which gained a Silver Medal. One very bright little scarlet double variety called Miss Jennie Fell was given a Floral Certificate, also Lord Byron, a single flower with white centre, and margins of deep rose.

Messrs. Wm. Paul & Son, Waltham Cross, Herts, had a very large and meritorious collection of Roses in pots, one of the chief attractions of the show, and was awarded a Large Silver Medal.

Another good group of Roses was from Messrs. Paul & Son, Old Nurseries, Cheshunt (Small Silver Medal).

Mr. P. Perry, gr. to J. C. Tasker, Esq., Middleton Hall, Brentwood, had also a group of pot Roses, and the Cannas that were noticed at the Drill Hall on the previous day.

Messrs. J. Peed & Son, for a group of miscellaneous plants similar to that put up by them at the Drill Hall were awarded a Silver Medal.

Another fine group of plants was staged by Messrs. Jno. Laing & Son, Forest Hill. Caladium Louis A. van Houtte, a dull red broad-leaved variety, was granted a Certificate.

Messrs. James & Son, Farnham Royal, had an excellent group of Calceolarias (Small Silver Medal).

Messrs. Wm. Cutbush & Son staged the Calla Little Gem, Abutilon, and Leschenaultia, &c., that were noticed at the Drill Hall.

Messrs. Jas. Veitch & Son, Chelsea, had a magnificent group of plants, containing fine specimens of Spiræa astilboides, S. confusa, Lilium longiflorum, the dwarf Rhododendron rosæflora, Vitis heterophylla variegata, the pretty Azalea Anthony Koster, and many other interesting plants (Large Silver Medal). They were also awarded a Botanical Certificate for Lælia Latona and Lælio-Cattleya Ascania, and a Floral Certificate for Rhododendron Lord Wolseley. Strobilanthes Dyerianus and Vriesia Morrenii also obtained Botanical Certificates. Notice of most of these plants was made in the report of the Royal Horticultural Society on Tuesday last.

A very gay group of hard-wooded plants in flower was staged by Messrs. Hugh Low & Co., Clapton and Enfield.

Messrs. H. Lane & Son, Berkhamsted, showed the same Azaleas that were exhibited at the Drill Hall, and a Floral Certificate was awarded to A. pontica, Raphael de Smet (Bronze Medal).

For a group of Tree Pæonies, Mr. Thos. S. Ware was awarded a Silver Medal; and Mr. Charles Turner, Slough, a large Bronze Medal for a group of Show and Alpine Auriculas.

Carnation Uriah Pike, a good deep scarlet Clove, shown by Mr. J. Pike, 66, Park Road, South Acton, obtained a Floral Certificate.

Several very pretty groups of Primulaceous plants were shown by Mr. Jas. Douglas, who was recommended a small Silver Medal.

Messrs. Barr & Sons, Covent Garden, had a large group of Narcissus and other hardy cut flowers (large Bronze Medal); also another Bronze Medal for a pretty collection of mixed Tulips and for a collection of herbaceous and alpine plants. Mr. John Walker, Thame, Oxon, showed a number of cut blooms of Maréchal Niel, and some Zonale Pelargoniums (Bronze Medal). A group of pot Roses and a number of good cut blossoms of Niphetos and a few others were put up by Mr. Wm. Rumsey, Joyning's Nurseries, Waltham Cross (Silver Medal). Mr. Arthur Knowles, Horsell Birch Nursery, Woking Station, showed a quantity of Daphne Cneorum major in pots in good condition (Bronze Medal).

EDINBURGH ROYAL BOTANICAL.

April 13.—The Society met in the rooms at No. 5, St. Andrew Square, Dr. David Christison, President, in the chair.

The Curator exhibited from the Royal Botanic Garden, flowering plants of Cassiope fastigiata and Xerophyllum asphodeloides in pots. Mr. Campbell sent cut twigs of Erica carnea, Escallonia macrantha, &c., from plants growing in the open air in his garden at Ledaig, Argyllshire. Professor Somerville, of Newcastle, exhibited a specimen of Cordyceps militaris, a fungus which attacks insect larvæ, the present example having been found in Northumber-

land. Professor Bayley Balfour exhibited a number of Tulip bulbs infected with Sclerotium Tulasnii from Kew.

The President exhibited a drawing of the Ash tree at the Boat-of-Logierait, Perthshire. This tree is referred to in the Scottish Statistical Account as being 50 to 60 feet high, and having a girth of 30 feet at 5 feet from the ground. It has, however, suffered severely from the ravages of the weather, and is now not more than 20 feet high, while half of the bole has disappeared; but the part which remains has a diameter of 9 feet at 6 feet from the ground, and of 7 feet 9 inches at a height of 11 feet.

Mr. Forgan exhibited a large swelling on a root of Cupressus Lawsoniana, the formation of which was probably due to the plant having been grown in a pot.

Professor Bayley Balfour read a communication on the genus Latania and some other genera of Mascarene Palms, six of which are peculiar to the Seychelles, and are quite distinct, though often referred by gardeners and others to the old genus Areca, and in various ways confused with other Palms. Professor Bayley Balfour mentioned that many of these Palms are when still young covered with long sharp spines, but become quite smooth as they increase in size. The paper was illustrated by a number of specimens of the Palms mentioned from the Royal Botanic Garden, as well as by lime-light views of them in their native haunts.

Mr. T. D. Sadler read a paper dealing with the morphology and internal anatomy of the Butterwort, Pinguicula vulgaris, one of our common insectivorous plants.

Professor Bayley Balfour communicated a short note on the development of the Pomegranate, the subject being illustrated by means of the optical lantern.

The Curator read the following report on the temperature and vegetation at the Royal Botanic Garden during March:—The thermometer was at or below the freezing point on fifteen mornings. The total amount of frost registered for the month was 64°, as against 156° for the corresponding month last year. The lowest temperatures were indicated on the mornings of the 17th, 27°; 18th, 23°; 19th, 21°; 21st, 26°; 22nd, 26°. The day temperatures were high, the lowest being 40° on the 1st, and the highest 69° on the 25th. Slight rain fell on four days only, and snow on three days. There was a large amount of bright sunshine, and on the whole, the month was a most favourable one. Vegetation generally has made good progress. The leaf-buds of deciduous trees and shrubs are well forward, and only require some genial showers to enable them to expand. The different varieties of flowering Currant are in full blossom. Rhododendron Nobleanum was flowering most profusely till injured by frost on the 19th. Of the forty spring-flowering plants whose dates of flowering are annually recorded, the following twenty came into flower during March, viz., Orobus vernus on the 2nd; Sisyrinchium grandiflorum, 2nd; Arabis albida, 3rd; Iris reticulata, 3rd; Sisyrinchium grandiflorum album, 5th; Scilla bifolia, 6th; S. bifolia alba, 7th; S. taurica, 7th; Narcissus pumilus, 10th; Erythronium dens-canis, 13th; Adonis vernalis, 13th; Draba aizoides, 13th; Omphalodes verna, 15th; Ribes sanguineum, 17th; Hyoscyamus Scopolia, 18th; Aubrietia grandiflora, 20th; Narcissus Pseudo-Narcissus, 23rd; Corydalis solida, 24th; Symphytum caucasicum, 24th; Mandragora officinalis, 26th. Fritillaria imperialis came into flower on April 3, which completes the list much earlier than usual. On the rock garden eighty-one species and varieties came into flower.

NEWCASTLE-ON-TYNE BOTANICAL AND HORTICULTURAL.

April 19 and 20.—The lower part of the Town Hall was filled with collections of spring-flowering plants, well grown and effectively arranged. The Hyacinths, Tulips, and Narcissus, considering the warm character of the weather, were in very fair condition. Mr. W. J. Watson, of Town Hall Buildings, won the 1st prize, in a good competition, for twenty-four plants; but he was beaten in the class for twelve plants by Messrs. John Hood & Co., 109, Elswick Road, also of Newcastle.

In the gardeners' class for Hyacinths, Mr. Geo. McDougal, gr. to Howard Pease, Esq., Arcot Hall, Dudley, R. S. O., showed the best plants; the yellow-flowered varieties were very good, and some spikes of Vurbaak were remarkable for their length and high finish. La Grandesse and Mont Blanc were the best white varieties, King of the Blues, Czar Peter, and Lord Derby the best blues, and Koh-i-Noor, Macaulay, and Von Schiller the best red-coloured varieties.

The date of the exhibition exactly suited the Auriculas, and it is doubtful if these lovely spring flowers were ever better shown at Newcastle. The leading exhibitor was Mr. Robert Paterson, gr. to Mrs. Backhouse, Ashburne Gardens, Sunderland, who exhibited in the eight classes set apart for show Auriculas, and won 1st prizes in each. Nearly all the best varieties were represented, and such late-flowering sorts as Mrs. Potts, George Lightbody, Richard Headley, &c., were fully in flower. The gold-laced Polyanthuses were in capital condition, but not much progress seems to be made in the raising of new varieties; the same old sorts are exhibited year after year, viz., George IV., William IV., Cheshire Favourite, Kingfisher, but two very uncommon sorts, Nicholson's King and Pearson's Alexander were staged this year.

Mr. Joseph Ellison, 26, Shankhouse, Cramlington, won all the 1st prizes, including that for the best seedling. Remarkably fine Lily of the Valley was exhibited, and Mr. W. J. Watson had this year to give place to Mr. W. R. Armstrong, of Benwell, the 1st prize plants being truly handsome.

Stove and greenhouse plants are generally well shown at these spring exhibitions. The spring-flowering Rhododendrons of the Countess of Haddington type were present in large well-flowered specimens. In the 1st prize collection from Mr. Neil Black, gr. to the Misses Pease, Southend, Darlington, was a very handsome specimen of this Rhododendron, and a large well-bloomed Vanda suavis. Prizes are also offered for three Orchids, and the 1st prize group contained very well-bloomed plants of Cymbidium Lowianum, Dendrobiums Dalhousianum and densiflorum. It was sent by Mr. Jas. Wood, gr. to Colonel Angus, Fenham Hall, Newcastle. The stands of Roses comprised some splendid blooms of Maréchal Niel. The best were from Mr. Alexander J. Badenoch, Ponteland, Newcastle. There were no fewer than eighty-one classes, and fifty-eight exhibitors; one gardener showing in no less than twenty-six classes, another in twenty-four, which gives some idea of the extent of the exhibition; the classes being well filled, and the competition in some classes very close. Mr. J. McIntyre, gr. to Mrs. J. Pease, Woodside, Darlington, had the best Azaleas. Mr. J. Smith, gr. to Thos. Lange, Esq., Gateshead, had the best Palm. Mr. McIntyre the best Dielytra spectabilis, a graceful group.

Mr. Punton, gr. to T. Hodgkin, Esq., Benwell Dene, was to the fore with Deutzias; and Mr. J. Charlton, gr. to U. A. Ritson, Esq., 1, Jesmond Gardens, won the 1st prize in a good competition for Spiræas. Show Pansies were very good, but the Fancy type far surpassed them. Mr. J. Gardner, Newby Cottage, Whickham, had the best Fancies; and Mr. T. Oliphant was 1st with the show varieties.

A long table in the concert room upstairs was set apart for the cut flowers and table decorations. Messrs. Perkins & Sons of Coventry had the best bouquets. Mr. G. Webster, florist, Sunderland, had the best epergne, Orchids and white Lilies being very deftly arranged.

Maréchal Niel Roses were very effective. The leading exhibits are enumerated above, but many good things have to be omitted for want of space.

FLORISTS' FLOWERS.

TREE CARNATION DUKE OF YORK.

Herewith I send you blooms of the above, which is a seedling raised at Mr. H. B. May's nurseries, Edmonton, and flowered last season. The plants having been stopped for cuttings, we have not had many blooms through the winter, but it flowered well last autumn, and we are now getting some good blooms. Hitherto good crimsons have been scarce among the Tree Carnations, and anything new in that way is very acceptable, it being a colour much in demand. Duke of York is a very vigorous grower, the large full flowers have a very bright shade, particularly when first opened, and have the perfume of the old Clove. *A. Hemsley.* [The flowers sent with the above note were of a beautiful shade of deep crimson, like the old Clove, compactly formed, double, sweet-scented, and the "grass" vigorous. Ed.]

The Pink.

The garden varieties are now throwing up their flowering stems, and these tender growths are so very attractive to the small birds that I find it necessary to protect them by straining thread a few inches above the plants, but owing to the dry weather this year this method is not found sufficient to keep them off altogether. It has been capital weather the last few weeks to get beds of Pinks, Pansies, Carnations, &c., hoed and raked, and made neat. The forcing Pinks are useful at this season to furnish supplies of choice flowers, and they are easily forced, although to get the flowers in good condition the plants should be placed close to the roof of the forcing-house, and the temperature not allowed to exceed 55° at night. When the plants reach the flowering stage, pipings can be taken, which strike readily in a gentle bottom-heat in a frame or a forcing-house. If they are in a heated house it is necessary to place them in a frame or hand-light, but they must be daily examined, and inside of the top of the frames, &c., wiped dry. The pipings are apt to damp off if the frame be kept too close. *J. Douglas.*

CULTURAL MEMORANDA.

STREPTOSOLEN JAMESONII

This greenhouse evergreen shrub should be more commonly grown, its flowers being freely produced at the ends of the shoots in large clusters, which are of a beautiful cinnamon-red. With regard to training, possibly the better way is to fix the branches loosely to a wall, trellis, or pillar. It is a plant which can be made to grow into a fine specimen in a pot and trained to balloon-shaped or other kinds of trellis, for use in the conservatory or greenhouse. Nice decorative plants may be grown in 32's, provided the ends of the shoots are pinched in whilst growing. A suitable soil at first is sandy light loam, mixed with leaf-mould, coarse sand and a small quantity of dry cow-manure; but as the plants get older, richer soil may be afforded. Cuttings taken with a heel and put in pots of sandy soil and plunged under a handlight in a good bottom-heat root freely. The cuttings should be shaded from bright sunshine, and not want for water; many failures have been noticed when the cuttings have been placed (as they should be), close to the sides of the pots, and allowed to get dry and shrivelled. *H. Markham, Mereworth Castle.*

THE APIARY.

THE WELLS' SYSTEM.

The interest generally aroused among bee-keepers, in this the latest system of beekeeping, whereby two queens exist in one hive, continues quite unabated. Judging by results to date, it seems more than ever probable that a new era has dawned in modern beekeeping, and that the busy bee can in the future be prevailed upon to yield more surplus honey than she has ever done in the past. The bees in a double-queened hive in the possession of the writer, appear to have considerably more than twice the go and energy of the single queen stocks. The amount of pollen being carried in is very large, and the bees are well at work storing honey in the surplus chamber, which contains standard frames for extracting. Two comparatively weak stocks were put into this hive late this spring, and there is no doubt that had a fair start been made by getting the hive ready and the bees established in it the previous autumn, so as to have wintered together, they would now be in a more forward condition. Surplus honey from fruit blossom is so rarely obtained by ordinary beekeepers, that it is a distinct gain to be able to count on honey from this source, and there is no doubt that it may be readily obtained in quantity from double-queened hives should the weather be favourable. The perforated division-board that Mr. Wells uses, for keeping the two queens separate, it appears is moveable, and not a fixture as many supposed. It is kept in position by small staples driven in on each side, these projecting

one-sixteenth of an inch from the side of the hive. It is made of yellow pine planed down to one-eighth of an inch thick, and by selecting well-seasoned wood, and by reason of the perforations in it, no trouble is occasioned by warping. *Expert.*

FORESTRY.

SEASONABLE NOTES.

The exceptional dry weather experienced of late in most parts of these islands has been beneficial in promoting a loose friable surface to the soil, which will prove very beneficial to sowings of tree seeds. The seeds of Conifers as a general rule prefer a soil that is dry and sandy, therefore the soil of the beds should be well worked so as to render it soft and pliable. The beds may be formed of a width of 4 feet, and of any desired length. Previous to sowing Larch seed, the land should be soaked with water and turned several times a day for a few days before sowing. One pound of good Larch seed of home growth should be allowed for sowing about 5 lineal yards of a bed of the above width; but where foreign seed is sown, it may be sown rather thinner, the vegetative power being greater than that of home-grown seed. In sowing the seed it should be evenly distributed broadcast, and pressed into the earth with a light roller, covering it with quarter of an inch layer of fine soil. The time for sowing is towards the end of this month, and as late as the first week in May. In some parts of the country it is necessary to stick a few evergreen twigs here and there into the seed-beds to act as a screen from late frosts, and the beds should always be protected from birds and vermin until such time as the plants are strong enough to take care of themselves.

Scotch Fir Seed may be sown at the same time and manner, with this difference, that 1 lb. of Scotch Fir seed should be allowed for about 12 lineal yards of a 4-foot bed, and the covering of mould should be about half an inch thick. The seeds of hardy exotic Conifers being very unequal in size, and not starting to grow at the year of sowing, the forester should bear this in mind, and regulate the depth of the covering, and the distance apart at which to sow them. Sow seeds of hardy trees and shrubs among rocks on elevated spots where the soil is thin and poor, rather than set out plants.

Young Plantations.—No time should now be lost in making up gaps with transplanted stuff, which have stocky stems and stout fibrous roots; some extra care being taken to expose the roots for as short a time as possible to the air during the progress of the work. Trees planted on the notch plan on heather-covered land are apt to suffer in a time of drought by reason of the sods curling up at the edges and exposing the roots. Such plants ought to be set up, and the sods closed in on the roots by trampling them, and in most cases some soil may be added and made firm around the base of the stem.

Continue to transplant forest and ornamental trees and shrubs in the nursery as a preliminary step to planting them permanently next year. This is a point of considerable importance, and should always receive timely attention. Forest and ornamental trees may be now grafted, and those grafted some time ago should be looked to. *J. B. Webster, Fairview, Stangmore, Dungannon.*

FRUIT REGISTER.

APPLE REINETTE DU CANADA.

I have sent you a few Apples for your inspection of the above-named Apple, which has been kept in a fruit-room facing north in which the thermometer registered 4° to 5° of frost for several days together. As so many gardeners are writing of the qualities of Apples at this late part of the season, I think attention should be drawn to this one as being well worthy of more general cultivation. It is in use from December up to the present, and we shall have them well into next month. The fruits are usable either for table or culinary purposes. I may add that the tree is not a great cropper before it gets of good size, then it crops heavily and regularly. We gathered 18 bushels from one tree in the autumn of 1891, and 16 bushels from the same tree in the autumn of 1892. *A. Gooden, Shopwyke House, Chichester.* [The fruit sent was in good condition, of high colour, and with juicy pleasantly brisk flavour. Ed.]

LAW NOTES.

AN INTERESTING FLOWER SHOW DISPUTE.

At the Bristol County Court, held on Friday, the 14th inst., before his honour, Judge Austin, the case of Williams *v.* Keynsham Horticultural Society, was tried.—Mr. J. Nichols was for the plaintiff, James Williams, and Mr. J. C. Gilmore defended. The plaintiff claimed 17*s.* 6*d.*, the value of prizes awarded to him for certain exhibits at the Society's show in August last. The facts were admitted, but the Society declined to pay the prizes on the ground that by the rules plaintiff was not eligible to compete on account of the rental of his cottage and allotment being above £13 per annum. Plaintiff admitted that his payment in respect of the cottage was £13, and of the allotment 6*s.* 9*d.*, but said the £13 was subject to a deduction for rates, which brought the net payment to the landlord down to £11 3*s.* 5*d.* The defendants argued that the payment was 5*s.* per week, and that represented the rent as defined by the rules of the society. Rent, they said, meant the tenant's payment, and not the annual value of the property, which was often difficult to ascertain. It was the first time since the show was established, twelve years ago, that a question had arisen as to the meaning of the word rent in the rules. After hearing arguments, the Judge said, in his opinion, the defendants were entitled to judgment on the ground that the word rent in the rules meant rent in the ordinary sense of the term—what the tenant actually paid the landlord for the premises. *Bristol Mercury, April* 15.

THE WEATHER.

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees — a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.

Districts.	Temperature: Above (+) or below (—) the Mean for the week ending April 22.	Temperature: Accumulated: Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1893.	Below 42°, difference from Mean since January 1, 1893.	Rainfall: More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1893.	Total Fall since Jan. 1, 1893.	Bright Sun: Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1893.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	3 +	44	10	+ 125	— 19	3 —	75	14·4	26	24
1	3 +	42	8	+ 106	+ 1	1 —	59	6 8	24	31
2	3 +	43	3	+ 142	— 47	2 —	48	4 9	31	35
3	6 +	74	4	+ 193	— 15	3 —	52	5·2	57	40
4	8 +	88	0	+ 242	— 27	2 —	50	5·1	51	38
5	7 +	88	0	+ 177	— 34	4 —	49	6·0	58	40
6	4 +	56	0	+ 146	— 41	2 +	63	10·9	35	32
7	8 +	83	0	+ 200	— 76	0 aver	52	6·9	38	33
8	9 +	94	0	+ 205	— 61	3 —	50	9·1	48	42
9	7 +	78	0	+ 141	— 88	3 +	84	8·8	30	28
10	8 +	95	0	+ 160	— 90	1 +	56	9·6	28	33
*	7 +	97	0	+ 259	— 51	3 —	58	7·6	63	46

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.: 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; (* Channel Islands.)

THE PAST WEEK.

The following summary record of the weather for the week ending April 22, is furnished from the Meteorological Office:—

"The *weather* continued fine and dry over the eastern and southern parts of the United Kingdom, but was rather unsettled in the west and north, the amount of rainfall being upon the whole the largest recorded for several weeks past. Thunderstorms occurred in many parts of Great Britain on the 20th, and at some of our south-western stations on the 21st or 22nd.

"The *temperature* was above the mean in all districts, the excess being slight (3° to 4°) in Scotland, but very large (7° to 9°) over the greater part of England and Ireland. The highest readings were observed mostly on the 19th or 20th, but at some of the western stations they occurred later in the week; the thermometer exceeding 70° in all districts, excepting 'Scotland, N.,' and exceeding 80° over a considerable portion of England. At Cambridge the maximum on the 20th was as high as 84°. The lowest readings were registered mainly at the beginning of the period, when the thermometer fell below 40° in all districts, excepting 'Ireland, S.,' and below the freezing point in many parts of Great Britain; the lowest reading of all being 26° at Lairg and Cirencester. At the inland stations the diurnal range was again very large.

"The *rainfall* was less than the mean in all the Wheat-producing districts, as well as in 'England, S.W.,' and the 'Channel Islands.' In 'England, N.W.,' the average amount was just reached, while in Ireland and the west of Scotland there was a slight excess.

"The *bright sunshine* was upon the whole less prevalent than for some weeks past, the aggregate amount in Ireland and Scotland being below the average. In the eastern, central, and southern parts of England, however, there was again a large excess. The percentage of the possible duration ranged from 24 in 'Scotland, E.,' to 57 in 'England, E.,' and 58 in 'England, S.'"

MARKETS.

COVENT GARDEN, April 27.

[We cannot accept any editorial responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. Ed.]

Business keeps steady, with market well supplied, especially with Grapes and Strawberries. *James Webber, Wholesale Apple Market.*

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Arum, per doz. bl.	1 0	3 0	Myosotis, 12 bunches	2 0	3 0
Azalea, dozen sprays	0 6	0 9	Orchids:—		
Bouvardias, per bun.	0 6	1 0	Cattleya, 12 blms.	6 0	12 0
Carnations, 12 blms.	1 0	3 0	Odontoglossum crispum, 12 blms.	2 0	6 0
Cyclamen, doz. blms.	0 4	0 6	Pelargoniums, scarlet, p. 12 bun.	4 0	6 0
Daffodils, doz. bunches	1 6	4 0	12 sprays	0 9	1 0
— single do.	2 0	3 0	Polyanthus, 12 bun.	2 0	4 0
Eucharis, per dozen	4 0	6 0	Primroses, doz. bun.	0 6	1 0
Gardenias, per dozen	1 0	3 0	Primulas, dble., p. bun.	0 6	1 0
Heliotropes, per doz. sprays	0 6	0 9	Roses, Tea, per dozen	0 6	2 0
Lilac, Eng., 12 bun.	6 0	8 0	— coloured, dozen	2 0	4 0
— French, per bunch	3 6	5 0	— yellow (Maréchals), per doz.	1 6	6 0
Lilium Harrisii, doz.	2 0	4 0	— red, per dozen	1 6	3 0
Lily of the Valley, doz. bunches	6 0	9 0	— (French), p. doz.	0 9	1 6
Maiden Hair Fern, 12 bunches	4 0	6 0	Spiræa, 12 bunches	3 0	6 0
Marguerites, p. doz. bunches	2 6	4 0	Tuberoses, 12 blms.	0 6	1 0
Mignonette, 12 bun.	3 0	6 0	Tulips, per doz. bun.	4 0	6 0
Narcissus, various, French, doz. bun.	2 0	6 0	Violets, Parme French per bunch	3 6	4 0
			— small English, p. doz. bunches	1 0	1 6
			Wallflower, 12 bun.	2 0	3 0

Orchid-bloom in variety not in quantity.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Apples, p. half-sieve	2 0	3 6	Grapes, per lb.	3 0	5 0
— Nova Scotia, per barrel	10 0	17 6	Lemons, per case	12 0	20 0
— Tasmanian, per case	2 6	12 0	Pine-apples, St. Michael	2 0	5 0
Cobs, per lot lb.	...	...	Oranges, per case	20 0	30 0
			Strawberries, per lb.	1 6	5 0

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arums, dozen pots	9 0	18 0	Genista, per doz.	9 0	12 0
Azalea, per doz.	18 0	24 0	Lilium Harrisii	18 0	30 0
Adiantum, per doz.	6 0	12 0	Lily of the Valley, 12 pots	9 0	15
Aspidistra, per doz.	15 0	30 0	Marguerite, per doz.	6 0	12 0
— specimen, each	7 6	21 0	Mignonette, doz. pots	6 0	9 0
Cineraria, per doz.	6 0	9 0	Palms, various, each	2 0	10 0
Cyclamen, doz.	9 0	18 0	— specimens, each	10 6	84 0
Cyperus, per dozen	4 0	10 0	Pelargoniums, p. doz.	12 0	18 0
Dracæna, each	1 0	5 0	— scarlets, p. doz.	4 0	9 0
Erica, various, doz.	9 0	21 0	Primula sinensis, doz.	4 0	6 0
Ferns, various, doz.	4 0	9 0	Saxifrage, per doz.	12 0	18 0
Ferns, small, per 100	5 0	8 0	Spiræ per dozen	8 0	12 0
Ficus elastica, each	1 6	7 6			

VEGETABLES. — AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Beans, French, lb.	1 6	2 0	Mushrooms, punnet	2 0	
Beet, red, per dozen	2 0	3 0	Mustard and Cress, punnet	0 4	
Carrots, per bunch	0 4	0 6	Parsley per bunch	0 3	0 6
Cauliflowers, each	0 3	0 6	Seakale, per basket	2 0	2 6
Cucumbers, each	0 4	0 8	Shallots, per lb.	0 6	
Endive, per dozen	2 0	3 0	Tomatos, per lb.	1 0	2 0
Herbs, per bunch	0 9	1 0	Turnips, per bunch	0 4	0 6
Lettuces, per doz.	1 6	2 0			

POTATOS.

Trade for old Potatos still continues very bad, except for a few good samples, which maintain fair prices.

NEW POTATOS.—Malta and Teneriffe are arriving in large quantities, and selling freely. Rounds, Malta, 11*s.* to 14*s.*; Kidneys, 16*s.* to 20*s.*; Teneriffe Rounds, 9*s.* to 11*s.*; Kidneys, 12*s.* to 18*s.* per cwt. *J. B. Thomas.*

SEEDS.

LONDON: *April* 26.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write, that to-day's market, as might have been expected, was thinly attended, with no change in the situation worth noting. This remarkable drought is now getting serious and is cruelly postponing sowing operations. Meantime, available stocks are quite small and prices generally unaltered. Vegetables having naturally become scarce, there is marked improvement in the trade for Blue Peas. Haricot Beans keep steady. For Scarlet Runners there is more inquiry. Canary seed now exhibits a considerable drop from recent top prices. Hemp seed slow. Mustard and Rape seed firm. Linseed quiet.

FRUITS AND VEGETABLES.

BOROUGH: *April* 25.—Quotations:—Spinach, 3*s.* to 4*s.*; Kale, 3*s.* to 5*s.* per bushel; Broccoli, 4*s.* to 5*s.* per bag; Greens, 5*s.* to 6*s.*; Parsley, 3*s.*; Carrots, 1*s.* to 2*s.*; Turnips, 2*s.* to 2*s.* 6*d.* per dozen bunches; English Onions, 12*s.* to 15*s.* per cwt.; Horseradish, 2*s.* to 3*s.* 6*d.* per bundle; Apples, 4*s.* 6*d.* to 6*s.* per bushel.

SPITALFIELDS: *April* 25.—Quotations:—Cauliflowers, 5*s.* to 10*s.*; Cabbages, 4*s.* to 5*s.* per tally; Curly Kale, 1*s.* 6*d.* to 2*s.*; Spinach, 2*s.* to 3*s.* per bushel; Sprouting Broccoli, 3*s.* to 4*s.* per sack; Greens, 3*s.* to 4*s.* per dozen bunches; natural Rhubarb, 1*s.* to 2*s.*; Mint, 3*s.* to 5*s.* per dozen bunches; Horseradish, 2*s.* to 3*s.* 6*d.* per bundle; Turnips, 3*s.* to 4*s.* per cwt.; Egyptian Onions, 11*s.* to 12*s.* 6*d.* per cwt.; frame Cucumbers, 3*s.* to 6*s.*; Cabbage Lettuces, 6*d.* to 9*d.* per dozen; Mustard and Cress, 2*s.* per dozen baskets; American Apples, 12*s.* to 18*s.* per barrel.

FARRINGDON: *April* 27.—Quotations:—Carrots, 3*s.* to 3*s.* 6*d.* per cwt.; English Onions, 13*s.* to 15*s.*; Beetroot, 1*s.* per bushel; long French Radishes, 9*d.* per dozen bundles; Lettuces, 9*d.* per dozen; Cucumbers, 2*s.* 6*d.* to 3*s.* per dozen; Apples, Tasmanian, 8*s.* 6*d.* to 9*s.* 6*d.* per box; do., American 12*s.* 6*d.* to 18*s.* (Nonpareils) per barrel.

STRATFORD: *April* 26.—There has been an excellent supply of all kinds of produce at this market during the past week, and a brisk trade has been done at the undermentioned prices:—Greens, 5*s.* to 7*s.* per bag; do., 4*s.* to 5*s.* per sieve; Cauliflowers, 1*s.* 6*d.* to 2*s.* per dozen; do., 6*s.* to 11*s.* per tally; Carrots, household, 40*s.* to 50*s.* per ton; do., cattle-feeding, 18*s.* to 34*s.* do.; Parsnips, 6*d.* to 9*d.* per score; Mangels, 16*s.* to 20*s.* per ton; Onions, English, 220*s.* to 240*s.* do.; do., Dutch, 8*s.* to 8*s.* 6*d.* per bag; Egyptian, 10*s.* 9*d.* to 11*s.* 6*d.* per case; Apples, English, 2*s.* to 6*s.* per bushel; do., American, 12*s.* to 20*s.* per barrel; Sprouting Broccoli, 3*s.* to 5*s.* per bag; Rhubarb, 1*s.* to 2*s.* per dozen; Cucumbers, 3*s.* to 4*s.* per dozen; spring Onions, 6*s.* to 7*s.* per dozen.

POTATOS.

BOROUGH: *April* 25.—Quotations:—English Magnums, 40*s.* to 60*s.* per ton. New, 18*s.* to 25*s.* per cwt.

SPITALFIELDS: *April* 25.—No alteration in prices to be recorded this week.

STRATFORD: *April* 26.—Quotations:—Magnums, 35*s.* to 60*s.*; Bruces, 40*s.* to 65*s.*; Imperators, 40*s.* to 60*s*; Scotch Magnums, 50*s.* to 65*s.*; do. Bruce's, 60*s.* to 75*s.*; Main Crop, 80*s.* to 90*s.* per ton.

FARRINGDON: *April* 27.—Quotations:—Main Crop, 80*s.* to 85*s.*; Imperators, 50*s.* to 70*s.*; Bruce's, 60*s* to 65*s*; Magnums, 60*s.* to 65*s.*; Parson's Magnums, 40*s.* to 45*s.* per ton.

LONDON AVERAGES: *April* 26.—Magnums, 40*s.* to 65*s.*; Hebrons, 50*s.* to 70*s.*; Imperators, 50*s.* to 60*s.*; Belgians, 40*s.* to 45*s.* per ton. New:—English, 3*d.* to 6*d.*; Jerseys, 3*d.* to 6*d.*; Guernsey Kidneys, 2*d.* to 4*d.* per pound.

CORN.

Averages.—Official statement of the average prices of British corn, imperial measure (quarter) for the week ending April 22, and for the corresponding period last year:—1893: Wheat, 25*s.* 5*d.*; Barley, 24*s.* 5*d.*; Oats, 18*s.* 8*d.* 1892: Wheat, 30*s.* 8*d.*; Barley, 25*s.* 11*d.*; Oats, 20*s.* 7*d.*

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 80*s.* to 115*s.*; do., inferior, 70*s.* to 75*s.*; hay, best, 85*s.* to 115*s.*; do., inferior, 65*s.* to 75*s.*; and straw, 33*s.* to 46*s.* per load.

Answers to Correspondents

ARISTOLOCHIA: *Neve Bros.* This word is usually pronounced Aristolō chia. It would be more correct, though pedantic, to say Aristolŏch-ia. Both o's in the Greek are short. Sipho is correct.

CATERPILLAR ON GOOSEBERRY AND CURRANT: *J. D.* What you mean is the Gooseberry saw-fly caterpillar (see fig. 77). It is almost too late to effect much this season. You might apply Pyrethrum or Hellebore powder, but refraining from making use of the fruit for a few weeks. Clear away all the soil under the bushes to a depth of 3 or 4 inches, and char it, replacing it with fresh. This is best done in November.

FIG. 77.—NEMATUS VENTRICOSUS: THE GOOSEBERRY SAW-FLY.

COTTAGE GARDENER: *B. and D. C. and P. S.* A man of small means, a workman, day labourer, or the like, who inhabits a cottage, and cultivates garden or allotment land.

EARLY SWARMING OF BEES: *T. T.* This always occurs in unusually warm springs.

INSECT: *W. A. S.* The flies are Scatophaga stercoraria; their grubs live in dung. *R. M. L.*

MOSS AND SEDGE FROM THE PENTLANDS: *A. S.* A bit of the box and your note came to hand, but no plants.

NAMES OF PLANTS: *Jas. Jno. H.* Acer japonicum, polymorphum atro-purpureum. The narrow leafed one is A. j. p. atro-purpureum dissectum.—*J. D.* Cerasus Padus, Bird Cherry.—*B. R.* 1, Magnolia conspicua; 2. M. Soulangeana; 3, M. hybrid; 4, Berberis stenophylla; 5, Ribes speciosum; 6, a Crab-apple.—*G. H.* sends twice as many as we undertake to name: 1, some Palm; 2, Cytisus spinosus; 3, one of the Crab-apples; 4, Helianthemum sp.; 5, Centranthus ruber; 6, Doronicum caucasicum; 7, Corydalis lutea; 8, Anemone nemorosa, double-fl. var.; 9. Crinum, send good blooms; 10, Begonia florabunda; 11, Begonia manicata.—*J. C. S.* You should send to a Tulip fancier.—*C. J. R.* Abutilons; send them to some nurseryman who grows them. We cannot undertake to name florists' flowers. — *Mrs. G.* Amygdalus nana, Dwarf Almond.—*J. G.* 1, Pyrus japonica; 2, Staphylea pinnata; Apples are too much decayed for identification.—*Neve Brothers.* Hedera Rœmeriana.—*J. R. H.* Helleborus fœtidus.—*W. Mallows.* Jasminum simplicifolium.—*S. & S.* Amelanchier vulgaris.—*W. Apted.* Thunia Marshallæ.—*S. Mortimer.* Pontederia crassipes.—*A. Z. X.* Epidendrum Stamfordianum.—*F. C. S., Coventry.* 1, Cymbidium aloifolium; 2, Bifrenaria Harrisonæ; 3, a Davallia, perhaps D. elegans.—*J. Ulicott.* Angræcum eburneum var. virens.—*W. H. Hillier.* Ribes aureum.—*C. M.* A form of Pyrus Aria. *E. W.* Galeandra Devoniana.—*H. W. Ward.* A fine variety of Odontoglossum Andersonianum.—*W. Daws.* Oncidium Marshallianum.—*J. M.* 1, Dentaria digitata; 2, Cytisus hirsutus; 3, Alyssum saxatile; 4, Euphorbia hibernica; 5, E. Characias.

PEAR: *T. K. & Co.* The leaves are injured by a mite, Phytoptus piri.

QUASSIA WATER: *A. G. B.* Boil 4 oz. of Quassia chips 10 minutes in 1 gall. of water, strain off the water, and add 4 oz. of soft-soap, which should be dissolved in it before it cools. A quarter of an hour after applying the Quassia-water, well syringe the tree with clean water. Good for green and black-fly on fruit trees, Roses, &c.

SEEDLING APPLE: *B. & Son.* Your Apple is certainly a first-rate keeper, and as you say it is a good cropper; these are two points in its favour. It is however, undersized, and the flavour, although agreeable, is not very good. The skin too, is rather tough. In respect to the Royal Horticultural Society, we can positively say that exhibits are judged entirely upon their merits, whether sent by members or non-members. According to your own word, when the Apples were last sent to that body, it was so much earlier in the season that their keeping qualities were not tested, and as its cropping habit has to be seen to be known, the Society would be unable to judge it as to the very qualities which you claim it possesses. There is room for some new varieties of first-rate late Apples, but we doubt whether the one in question is sufficiently good in size and flavour.

VINES: *P. C. H.* The roots have been dying for some years, and their death was due to the bad state into which the border had got in the twenty-six years that have elapsed since it was so badly made. Clear out everything, and make a new start.

WASPS: *W. S.* The wasp is a queen of Vespa sylvestris, which is very common in some places, but more local than the common wasp. The date is early, and to be accounted for by the weather. Queens of the common wasp are unusually abundant; it by no means follows from this that autumnal wasps will be abundant. *R. M. L.*

WOODLICE IN FERNERY: *G. McK.* Pour boiling water by day into all likely hiding-places, crevices, beneath stones, &c., and continue to do this daily. Do not pour the water on the roots of the plants. The wall covering of Ficus repens might be cleared of them by syringing it with Quassia-water.

COMMUNICATIONS RECEIVED.—J. W. McHattie.—E. S. D.—J. D.—Dobbie & Co.—L. L.—E. H. K., Haarlem.—E. P., Ghent.—T. L.—Board of Agriculture.—W. A.—Cassell & Co.—Merryweather & Sons.—W. Sowerby.—The Stott Co.—D. T. F.—F. C, E.—T. B.—N. E. B.—J. O'B.—J. G. B.—W. B. W.—M. T.—E. G.—B. W.—W. H.—H. M.

PHOTOGRAPHS RECEIVED.—T. B.—W. M.—R. M., Beaumontia. F. C. E., a fine house of Eucharis.—W. M.—M. C. C.—T. H. C.—T. B., Dendrobium thyrsiflorum, many thanks, previously figured.

SPECIMENS RECEIVED.—W. Horne, next week.

LARGELY INCREASED CIRCULATION of the "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

Increased to the extent of 75 per cent.

Advertisers are also reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN, AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS *at home, that it has a specially large* FOREIGN AND COLONIAL CIRCULATION, *and is preserved for reference in all the principal Libraries.*

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"Major FOSTER has much pleasure in stating that the vineries and forcing-houses which were erected by Mr. Helliwell in 1884, continue to give perfect satisfaction, both to himself and his gardener."

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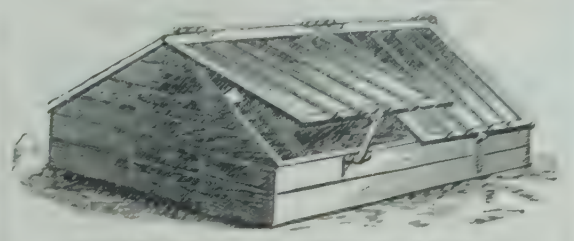

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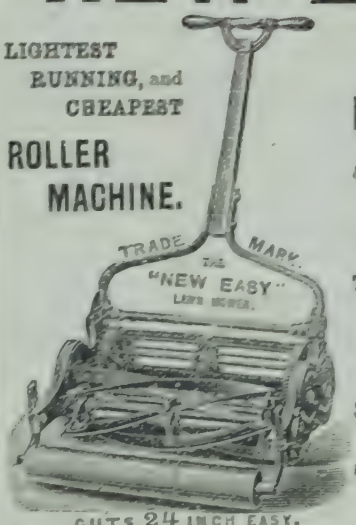

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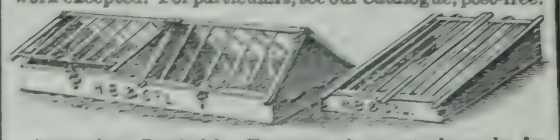

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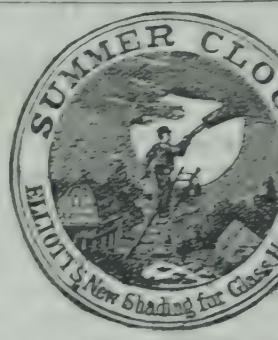

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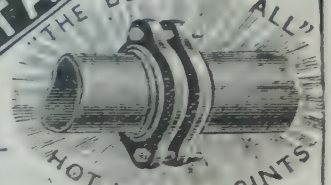

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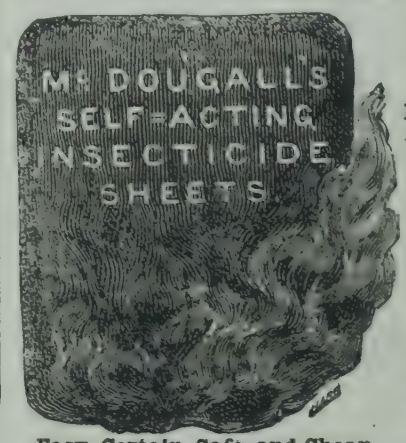
Six Gallons or more sent Carriage Paid to any part.

Full Invoice Price allowed on Empties, when returned in good condition carriage paid.

The reports from Customers who have used it during the past year (and tried it side by side with others), afford ample proof that it is the QUICKEST IN ACTION and the most PERMANENT WEED KILLER in the Market.

G. H. RICHARDS, Sole Manufacturer, Old Shot Tower Wharf, Lambeth, London. S.E.
Trade Supplied on Best Terms.



ARE IN GREAT DEMAND.

Exterminate all Insect Pests *without Injury to Foliage.*

NO HOT COKES.

Vastly Superior to Tobacco Paper,

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Sir Trevor Lawrence, Bt.; Baron Schroder; Rt. Hon. Jos. Chamberlain; Sir Leopold Rothschild, Bart.; Messrs. Veitch, Chelsea; Sutton Reading; Carters', Holborn.

Easy, Certain, Safe, and Cheap.

Sheets, 9d. (*for* 1000 *cubic feet in parcels of 1 dozen, also ¼, ½, and 1 gross.*) **9s. per Dozen,** *at 13 to Doz.*

McDougalls' Liquid Insecticide.—For *Use under Glass.*
„ Garden and Fruit Tree Wash.—For *Outdoor Use.*
„ Plant Food or Manure.—For Vines, Fruits, & Plants.
All Free from Poison. *Patentees and Sole Makers—*

McDOUGALL BROS.

London: 10, Mark Lane.
Manchester: 68, Port Street.
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FROM NURSERYMEN AND SEEDSMEN.

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AWARDED PRIZE MEDAL,
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International Horticultural Exhibition,
LONDON, 1892.

SOLE MANUFACTURER—

JOSEPH BENTLEY,

CHEMICAL WORKS,
BARROW-ON-HUMBER, HULL.

BEST QUALITY GARDEN NETTING, Waterproof, inch mesh, for Protecting Seed Beds, Fruit Trees, and Strawberry Beds, 100 yards by 2 yards wide, or 50 yards by 4 yards, 8*s.* each; second quality, 5*s.* 6*d.* each. Any size to order. Money returned if not satisfactory. Lawn-tennis Court Boundary Netting, 100 yards by 2 yards, 10*s.*; corded top and bottom, 18*s.* 6*d.*, carriage paid.
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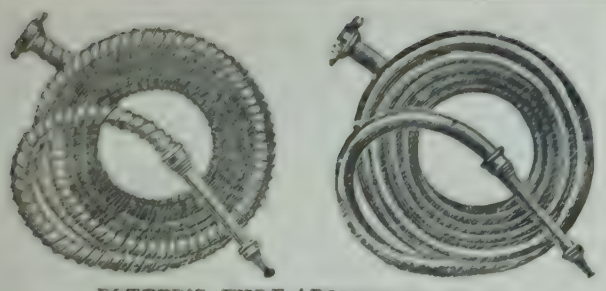
"THE NEW GUANO,"

FOR FLOWERS, FRUITS, and PLANTS.

For Testimonials and Particulars, apply to the Sole Manufacturers,

THOMAS FARMER & CO., LTD.,
Billiter Buildings, Billiter Street, E.C.
Sold by all Nurserymen and Seedsmen.



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ARMOURED. The Excelsior Wire-armoured Hose secures a PERFECT grip, will not uncoil when cut at any part, stands enormous pressure, and wears for years.		PLAIN. Unkinkable smooth surface Hose, will not crack, is made of pure rubber and canvas. Quality guaranteed.	
Diam.	PRICES. s. d.	Diam.	PRICES. s. d.
½-in. best quality	... 36 3	½-in. specially cheap	... 19 3
,, extra stout quality	43 7	,, best quality	... 21 5
,, best quality...	... 45 0	,, extra stout quality	27 5
,, extra stout quality	52 0	,, best quality	... 28 0
,, best quality...	... 52 0	,, extra stout quality	33 0
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Carriage paid, and dispatched same day as ordered. Awarded 10 Gold and Silver Medals. Oldest and most reliable house in the trade. Also maker of Hose for Delivery, Steam, Fire, Suction, Liquid Manures, &c. Over 3,000,000 feet in use. Catalogues of above and all kinds of Belting, Roofing Felts, &c., post-free from—A. POTTER, Melbourne Works, Wolverhampton. Maker to Her Majesty the Queen, and H.R.H. The Prince of Wales.

THE GARDENERS' HAND SEED-DRILL has an established reputation. 8 x Silver Medals awarded. Over 16,000 in use in all parts of the globe. Extensively used by the French and German peasantry. Sows in rows, Onions, Turnips, Carrots, Mangolds, Veitches, Parsnips, Barley, and Wheat. Simple and easily adjusted. Price, No. 1, 10s. 6d.; No. 2, large hopper (for field or garden), 12s. 6d. Send P.O.O. and name of station to J. LE BUTT AND CO., South Works, Bury St. Edmunds, Suffolk. Drill leaves same day, Invaluable for filling up blank places left by Horse Drill.

Beware of imitations.

GENUINE GARDEN REQUISITES.

As Supplied to Royal Gardens.

ORCHID PEAT, 8s. 6d. per sack; BROWN, do., 5s. per sack, 5 for 22s. 6d.; BLACK, do., 4s. 6d. per sack, 5 for 20s. SPHAGNUM, 7s. 6d. per sack. CHARCOAL, 8s. per sack. DISSOLVED BONE, KAINIT, NITRATE, SULPHATE AMMONIA, and other MANURES. BONES, ½-inch and 1-inch, 10s. 6d. per cwt.; DUST, Pure, 11s. per cwt. Genuine GUANO, 2½s. per cwt. LEAF-MOULD, PEAT-MOULD, and Yellow FIBROUS LOAM, each 3s. per sack. Coarse SILVER-SAND, 1s. 6d. per bushel, 14s. per ½ ton, 25s. per ton. BAMBOO CANES, from 3s. per 100; STICKS, 1 foot to 5 feet. LABELS, VIRGIN CORK, SHADINGS, TANNED NETTING, RUSSIA MATS, and all Sundries. SPECIALITÉ TOBACCO PAPER, 10d. per lb., 2½ lb. for 2½s. CLOTH, 1s. per lb., 28 lb. for 25s. These are most reliable, and the best articles in the Market. Sacks and bags, 2d. each. List free. Terms cash.

W. HERBERT AND CO.,

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"SLUGICIDE," REGISTERED.—Certain death to Slugs, fertiliser to soil, perfectly harmless to plants and domestic animals. The greatest boon to Gardeners yet invented. 1s. 6d. per box, of Seedsmen, or post paid of

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GISHURST COMPOUND, used since 1859 for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water, 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in lather from cake, for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 2s., and 10s. 6d.

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6d. and 1s. from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

EPPS'S Selected PEAT,

For ORCHIDS, STOVE PLANTS,

Hardwood do., Ferns, and Rhododendrons, by sack, yard, ton, or truckload. **SPECIAL ORCHID PEAT,** in sack only. Rich fibrous LOAM, superior LEAF-MOULD, Coarse, Crystal, and Fine SILVER SAND, CHARCOAL, C. N. FIBRE REFUSE, fresh SPHAGNUM, Patent MANURES, FERTILISERS, INSECTICIDES, and all other Garden Requisites. **Peat Moss Litter.**

The Original Peat Depot, RINGWOOD, HANTS.

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PREPARED, ready for use, all fibre, 10s. per sack; 5 for 47s. 6d.
SELECTED, in blocks, very fibrous, 8s. per sack; 5 for 37s. 6d. SECOND QUALITY, 5s. per sack; 5 for 22s. 6d.
BROWN FIBROUS PEAT, for Azaleas, Rhododendrons, and Ferns, 4s. per sack, 5 for 18s.; and 3s. per sack, 5 for 12s. 6d.
PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM, each 2s. 6d. per sack; 5 for 10s. PREPARED POTTING COMPOST, 4s. per sack; 5 for 18s. All sacks included.

Send Postal Order for Sample Sack.

Special terms to the Trade. For Price List apply to

THE FORESTER, **Joyden Wood, near Bexley, Kent.**

GARDEN REQUISITES.

COCOA-NUT FIBRE REFUSE,

4d. per bushel; 100 for 25s.; truck (loose, about 2 tons), 40s.; 4-bushel bags, 4d. each.

SPECIALLY SELECTED ORCHID PEAT.

LIGHT BROWN FIBROUS PEAT, 5s. 6d. per sack; 5 sacks, 25s.; sacks, 4d. each.
BLACK FIBROUS PEAT, 5s. per sack; 5 sacks, 22s.; sacks, 4d. each.
COARSE SILVER SAND, 1s. 9d. per bushel; 15s. per half ton; 26s. per ton, in 2-bushel bags, 4d. each.
YELLOW FIBROUS LOAM, PEAT-MOULD, and LEAF-MOULD, 1s. per bushel.
SPHAGNUM MOSS, 2s. 6d. per sack.
MANURES, GARDEN STICKS, VIRGIN CORK, TOBACCO CLOTH, RUSSIA MATS, &c. Write for Price LIST.—
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In Stock Sizes.

15-oz., per 100 ft., 8s. 6d. } 12×10, 18×12, 18×14, 24×14
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16×12, 16×14, 20×16, 24×18, &c.

Paints and Varnishes at Low Prices. Flooring, 5/9 per square; Matching, 4/9; 2×4, at ½d. per foot run; 2×7 at 1d.
Horticultural Work of all descriptions, Ironmongery, &c.
CATALOGUES Free.

THE CHEAP WOOD COMPANY,

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UNDER ROYAL PATRONAGE.

CONWAY G. WARNE (Ltd.),

ROYAL POTTERIES,

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LARGEST MANUFACTURERS OF

FLOWER POTS

IN THE WORLD.

Price Lists free on Application.

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COCOA NUT FIBRE REFUSE, newly made, the same as supplied to the Royal Horticultural Society, truck load of two tons, free on to the following Rails, G. W., G. N., L. & N. W., Midland, and S. W., 21s.; other rails, 28s.; 20 bags, 16s.; 40 bags, 30s.—J. STEVENS AND CO., Cocoa-nut Fibre Merchants, 306, York Road, Wandsworth.

THE FRUIT GARDEN of the UNIVERSE—THE AUSTRALIAN IRRIGATION COLONIES (Chaffey brothers), established and regulated by Government, OFFER an enjoyable Life and OCCUPATION, a sunny and salubrious Climate, and most highly remunerative returns to Cultivators with small or large Capital. Pamphlet free.

CHAFFEY BROTHERS, Limited, 35, Queen Victoria Street, London, E.C. J. E. M. Vincent, Chief Commissioner.

DICTIONARY of GARDENING (Nicholson's), cost £3, 7 parts quite new. Obliged to sell, will take first offer.

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Belgian.

BULLETIN d'ARBORICULTURE, de FLORICULTURE, et de CULTURE MARAICHÈRE. A monthly horticultural work, with superb Coloured Plates and Illustrations. Published since 1865, by F. BURVENICH, F. PAYNAERT, E. RODIGAS, and H. J. VAN HULLE, Professors at the Horticultural School of the Belgian Government at Ghent. Post-paid, 10s. per annum.

H. J. VANHULLE, Botanical Gardens, Ghent, Belgium.

TECHNICAL HORTICULTURE.

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PAXTON'S COTTAGERS' CALENDAR

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Will be useful to Lecturers and Students in the above subject.

Price 3d.; post-free, 3½d.

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ESTABLISHED 1851.

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HOW TO PURCHASE A HOUSE FOR TWO GUINEAS PER MONTH.

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HOW TO PURCHASE A PLOT OF GROUND FOR FIVE SHILLINGS PER MONTH.

The BIRKBECK ALMANACK, with full particulars, post-free.

FRANCIS RAVENSCROFT, Manager.

THE GARDENERS' CHRONICLE

PUBLISHER'S NOTICES.

GARDENERS' CHRONICLE TELEGRAMS.—*The Registered Address for Foreign and Inland Telegrams is "Gardchron, London."*

ADVERTISEMENTS.

Scale of Charges for Advertising.

Head Line charged as two.

4	Lines	..	£0	3	0	15	Lines	..	£0	8	6
5	,,	..	0	3	6	16	,,	..	0	9	0
6	,,	..	0	4	0	17	,,	..	0	9	6
7	,,	..	0	4	6	18	,,	..	0	10	0
8	,,	..	0	5	0	19	,,	..	0	10	6
9	,,	..	0	5	6	20	,,	..	0	11	0
10	,,	..	0	6	0	21	,,	..	0	11	6
11	,,	..	0	6	6	22	,,	..	0	12	0
12	,,	..	0	7	0	23	,,	..	0	12	6
13	,,	..	0	7	6	24	,,	..	0	13	0
14	,,	..	0	8	0	25	,,	..	0	13	6

AND SIXPENCE FOR EVERY ADDITIONAL LINE.

If set across two Columns, the lowest charge will be 20s.

If set across three Columns the lowest charge will be 30s.

Page, £8; Half Page, £4 10s.; Column, £3.

GARDENERS AND OTHERS WANTING SITUATIONS. *26 words, including name and address, 1s. 6d., and 6d. for every additional line (about nine words) or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, which are charged at the ordinary scale.*

Births, Deaths, and Marriages, 5s. each insertion.

NOTICE TO ADVERTISERS.—*In many instances Remittances in Payment of Repeat Advertisements are received without name, address, or anything beyond the postmark on envelope by which to identify the sender; this in all cases causes a very great deal of trouble, and frequently the sender cannot be identified at all.*

Advertisers are requested when Remitting to give their Names and Addresses, and also a Reference to the Advertisements which they wish repeated.

POSITION.—*Advertisers are specially requested to note, that under no circumstances whatever can any particular position be guaranteed for advertisements occupying less space than an entire column.*

POSTAL ORDERS.—*To Advertisers, Subscribers, and Others.—It is very important in remitting by Postal Order that it should be filled in payable at No. 42, DRURY LANE, to* A. G. MARTIN, *as, unless the number of a Postal Order is known, and it has been made payable at a particular office, and to a particular person, it is impossible to prevent any person into whose hands it may fall from negotiating it.*

N.B.—The best and safest means of Remitting is by POST-OFFICE MONEY ORDER.

Advertisements for the current week MUST *reach the Office not later than Thursday noon.*

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements,
41, WELLINGTON STREET, STRAND, W.C.

SUBSCRIPTIONS.

All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months. Post-office Orders to be made payable at the Post-office, 42, Drury Lane, W.C., to A. G. MARTIN.

Subscribers who experience any difficulty in obtaining their copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint).

BREAKFAST—SUPPER

EPPS'S

GRATEFUL—COMFORTING.

COCOA

BOILING WATER OR MILK.

GARDENING APPOINTMENTS.

Mr. J. Roberts, for the past two years Gardener at New Lodge, Burton-on-Trent, has been appointed Head Gardener to Sir Charles Cust, Leasowe Castle, Birkenhead.

Mr. Arthur Lee, for the last 15 years Head Gardener to the late Right Hon. Sir Walter Barttelot, M.P., Stopham, Pulborough, as Head Gardener to W. Cooper, Esq., Palace House, Beaulieu, Southampton.

Mr. H. W. Walters, late of Waddesdon Manor Gardens, has been appointed Head Gardener to the Right Hon. Lord Gerrard, Eastwell Park, Ashford, Kent.

Mr. John McClonnie, now with Messrs. Methven & Sons, Edinburgh, has been appointed Gardener to the British South Africa Company, under Mr. Consul Johnston, at Zomba.

Mr. H. A. Clarke, late Foreman in the Gardens of H.I.M. the ex-Empress Eugénie, at Farnboro Hill, as Gardener to H. Walmesley, Esq., Inglewood House, Hungerford, Berks.

Mr. Frederick Topper, Foreman at Rangemore, Burton-on-Trent, has been appointed Gardener to Lady Scott, Sundridge Park, near Bromley, Kent.

WANTED, a SUPERINTENDENT for a BOYS' HOME in the country. Knowledge of some trade required, Gardening preferred.—Apply, by letter only, stating full particulars, to K., Messrs. Street Bros., 5, Serle Street, Lincoln's Inn, W.C.

WANTED, a thoroughly good SINGLE-HANDED GARDENER, age about 30; assistance occasionally. Good wages.—Apply, Mr. TYNDALL, Orford Lodge, Twickenham.

WANTED, a GARDENER. Must be thoroughly experienced in the London West-End Shops. None other need apply. To one who is a good Boxer and Furnisher good wages will be given.—Apply to THE CRICHTON FLORAL CO., 37, Sloane Street, S.W.

WANTED, a WORKING GARDENER, where an Under-man is kept, and help given when required.—Apply by letter only, with full particulars.—B., Ellinboro' House, Roehampton, S.W.

WANTED, a SINGLE-HANDED GARDENER.—Must understand Vines. Young man preferred who has been Under-gardener. State age and wages.—Address, "V.," Deacon's Advertising Offices, 154, Leadenhall Street, E.C.

WANTED, a GARDENER. — MAN and WIFE, without children, on Gentleman's small estate; Man as single-handed Gardener (assistance given); Wife as thorough Laundress.—State wages required, and references, to the Hon. ARTHUR HUBBARD, The Grange, East Grinstead.

WANTED, an UNDER GARDENER, who thoroughly understands Plants and Fruit Culture; must have good references. Wages, £1 per week, and bothy, &c.—Apply to J. WAKEHAM, Danson Park, Welling, Kent.

WANTED, a few good JOBBING GARDENERS; regular work for good Hands. ALSO TWO good MEN used to filling Boxes.—G. STUDWICK, Florist, Bayswater Road, W.

WANTED, a good UNDER-GARDENER, principally for Pleasure-ground Work.—Address, T. REED, The Gardens, Earl's Barton, Northamptonshire.

WANTED, an experienced UNDER GARDENER, about 19. Church of England. Total Abstainer. To live in the house.—Mrs. ROE, Kendalls, Elstree, Herts.

WANTED AT ONCE, a thoroughly efficient FOREMAN, for Market Nursery. Must have excellent references. State wages required (with cottage), and experience. — H. MARSHALL, Nurseries, Barnham Junction, Bognor.

WANTED, a MAN, with thorough knowledge of Fruit and Mushroom growing for Market, Indoors and Out, with some experience of Soft-wooded Plants.—Apply, stating wages required, age, and references, to T. W. N. S., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, GRAPE THINNERS, good Hands.—State wages required, and where last employed.—A. BENNETT, Ashford Vineyard, Cobham, Surrey.

WANTED, IMMEDIATELY, a thoroughly respectable UNMARRIED MAN, age 30 to 40.—Must be strong, and competent. Personal character. Poultry. Wages 20s. a week.—Apply to Mr. J. E. M., Farncombe Place, Godalming.

ORCHIDS.—WANTED, a young MAN who thoroughly understands the Culture of Stove and Cool Orchids.—Apply to Mr. J. TAYLOR, The Gardens, Hardwicke Grange, Shrewsbury.

TO GRAPE THINNERS.—TEMPORARY EMPLOYMENT offered to quick hands. Good wages and overtime.— Particulars from STEPHEN CASTLE, F.R.H.S., Manager, Ashford Vineyard, Fordingbridge, Salisbury

WANTED, AT ONCE, a young MAN, Quick at Potting and Watering. Preference given to one who has been under a good Market Grower.—FOREMAN, Hewitt & Co., Harborne Road, Birmingham.

WANTED, a MAN, quick at Potting and Tying, with a general knowledge of Market Stuff. Wages, 20s.—Apply to LEWIS and WILLIAMS, The Ember Nurseries, Thames Ditton.

WANTED, a steady young MAN, well up in Growing Palms and Ferns, and General Nursery-work. Wages, 21s. per week.—L. M., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a young MAN, of first-class all-round experience, for High Class Florist's Shop, S.E. district.—W., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, as TRAVELLER, for a Leading House, an energetic Man, who has had large experience on the road, and is well up in Farm and Garden Requirements. Also must have a good knowledge of the Nursery Trade. Age not under 30. To a thoroughly respectable and competent representative a liberal salary will be given.—Address, with full particulars of previous engagements, age, &c., X., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

Seed Trade.

WANTED, a HEAD SHOPMAN, by a leading Retail Firm.—Must be active, and of good address, and have a thorough experience in all branches of the Business.—All particulars to SEEDS, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a COWMAN, and to help in Garden, one from country preferred. Wages, 18s.—Apply, with full particulars, to C. HUGHES, Gardener, Greenford Hall, Greenford, Middlesex.

WANTED, a young LADY, for first-class Florist's, S.E. district; must be well up in Bouquet and Button-hole Work. West End reference.—A. L. B., 33, Essex Street, Strand, W.C.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. *on Wednesday will, in all probability, be held over to the next week.*

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

F. SANDER and CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character, and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—
F. SANDER and CO., St. Albans.

THOMAS BUTCHER can recommend several HEAD and UNDER GARDENERS of first-rate character and proved ability. Gentlemen seeking such may have particulars free.—Apply to THOMAS BUTCHER, Seed Merchant and Nurseryman, Croydon.

RICHARD SMITH and CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

GARDENER (Head); age 31, married, one child.—W. Elkin, Gardener to Mrs. Agnew, Fairhope, Eccles, is desirous of recommending his Foreman, E. Belcher, who has been with him nearly five years, to any Lady or Gentleman requiring a thoroughly competent Man. He has a good knowledge of the different branches of Gardening, is well acquainted with the Cultivation of Fruit, Flowers, and Vegetables, is also a good hand at House and Table Decorations.

GARDENER (Head).—Age 31; sixteen years' experience in high-class Gardening, having served in some of the principal gardens, of England, Ireland, and Wales. Lately Foreman at Mentmore, the Earl of Rosebery's, for three years under Mr. J. Smith, by whom I can be well recommended. Also highest references from former places.—A. KEMBER, 144, Lewes Road, Brighton.

GARDENER (Head).—W. Fisher, Gardener to the Earl of Cawdor, would be pleased to recommend his Foreman, Charles Davis, to any Lady or Gentleman who is in want of a first-class man.

GARDENER (Head), where two or more are kept.—Age 31, single at present. Well up in all branches, Early and Late Forcing. Two years' good character from present employer.—A. GARDENER, Hambledon, Godalming, Surrey.

GARDENER (Head); age 35.—The Right Hon. The Earl of Yarborough, Brocklesby Park, Lincolnshire, will be pleased to recommend his Head Gardener (Thomas Hobday) to anyone requiring the services of a first-class man, especially strong in Fruit Growing.

GARDENER (Head).—Fourteen years with the late Mr. Bristowe, M.P. Very successful with Early and Late Fruit, Vegetables, and Flowers, including Orchids. Good personal character. Married, no incumbrance.— GREEN, Dulwich Hill House, Denmark Hill, S.E.

GARDENER (Head), where three or four are kept.—Age 30, single, but married when suited; ten years' experience. Good testimonials. Total abstainer; fifteen months in present situation as Foreman.—H. TARGETT, Down Park, Crawley Down, Sussex.

GARDENER (Head), where another is kept, or good Single-handed.—Age 27, married when suited; nine years' good character. Twelve years' experience in all branches.—KING, 11, Orchard Cottages, Caterham Valley, Surrey.

GARDENER (Head); age 31.—William Howell, Gardener to G. H. Morrell, Esq., Headington Hill Hall, Oxford, would be pleased to recommend his Foreman (Thomas Porter), who has been with him four years, to any Lady or Gentleman requiring a good practical man.

GARDENER (Head Working).—Age 27, married when suited. Thoroughly experienced in all branches of Gardening. Excellent character.—GARDENER, Home Farm Cottage, Langley, Slough, Bucks.

GARDENER (Head Working), where five or six hands are kept.—Age 33, married, two children. Earl Stanhope wishes to strongly recommend a thoroughly practical man; five years his Foreman. — Mr. SUTTON, Chevening, Sevenoaks.

GARDENER (Head Working); age 40, married, small family; five years good character; practical experience in requirements of good establishment, Forcing Hardy Fruits, also Mushrooms, Tomatos, &c.—HORN, The Lodge, Ceader Lawn, Hampstead Heath, N.W.

GARDENER (Head Working), where three or more are kept.—Experienced in Vines and Fruit.—X., Mr. Browne, 26, Mill Street, Bedford.

GARDENER (Head Working); age 32.—A Gentleman would thoroughly recommend; well up in all branches. Sixteen years' experience.—BOTTING, Rydal Mount, Champion Hill, Camberwell, S.E.

GARDENER (Single-handed, or where help is given).—Age 26; thirteen years practical experience Inside and Out. Three and a half years in last situation.—R. C., Undermount Gardens, Bonchurch, I.O.W.

GARDENER (Single-handed).—Age 33, married; two years' good character.—G. C., 19, Milkwood Road, Herne Hill, S.E.

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GARDENER (Single-handed).—Age 24, single; good experience in Glass, Flower and Kitchen Gardens. Excellent references.—W. A. BUTCHER, Amport, near Andover, Hants.

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GARDENER (Single-handed, or otherwise).—Age 25, single; eleven years' practical experience Inside and Out. Well recommended.—W. HUNT, High Trees, Redhill, Surrey.

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GARDENER.—Age 25; twelve years experience Inside and Out; well up in Orchids.—DRIVER, Longfords, Minchinhampton, Gloucester.

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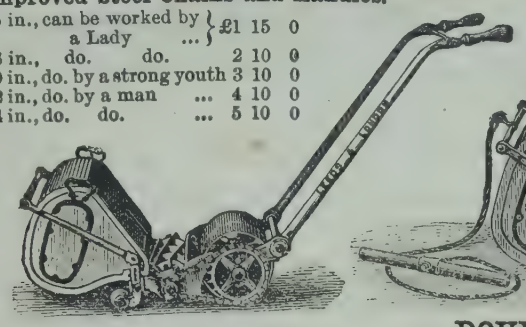

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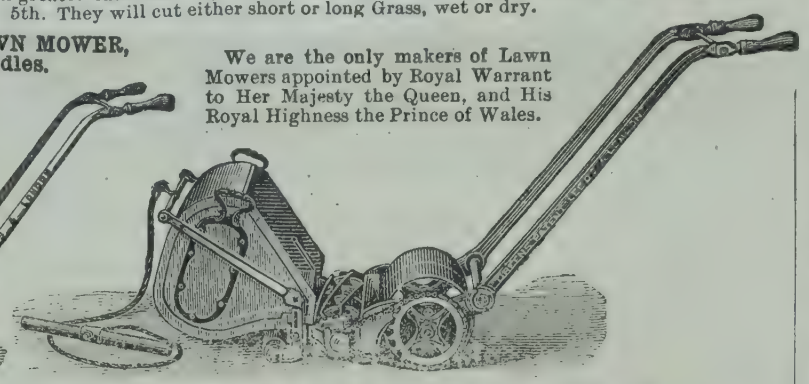

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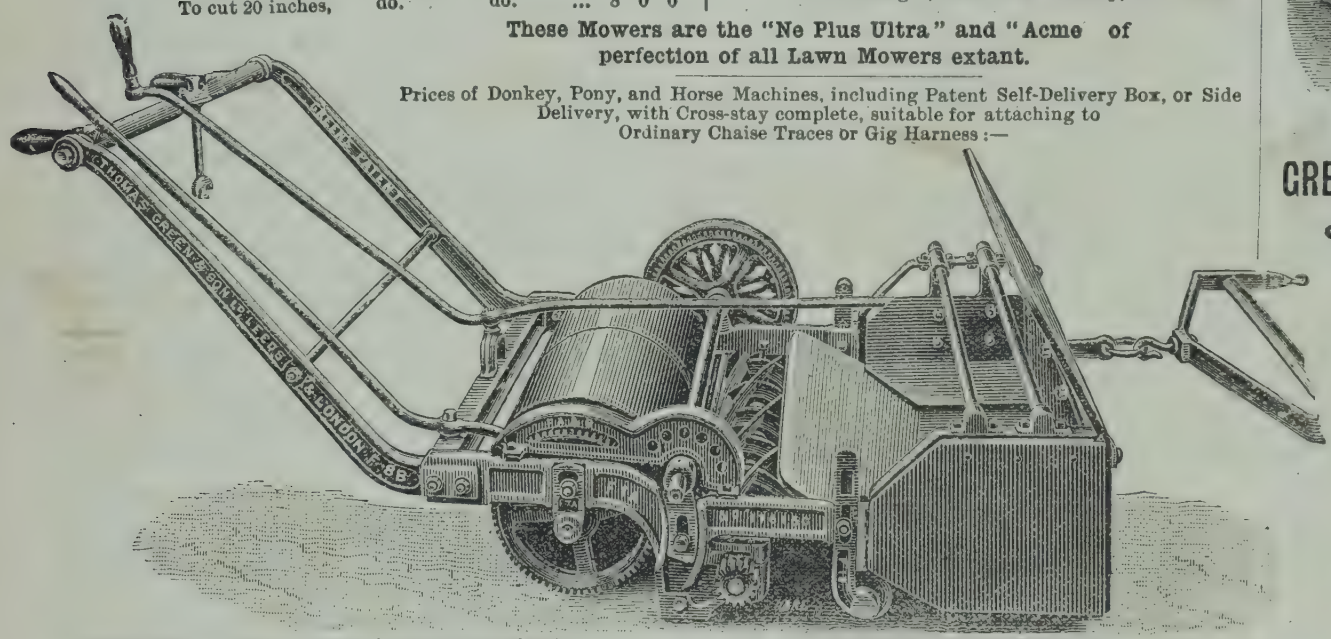

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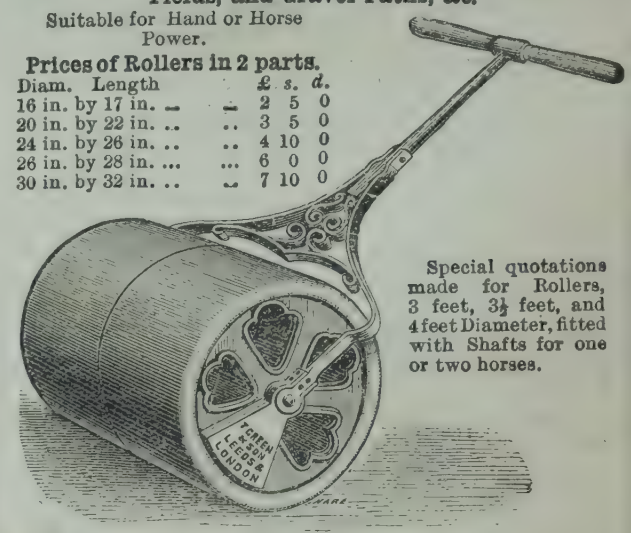

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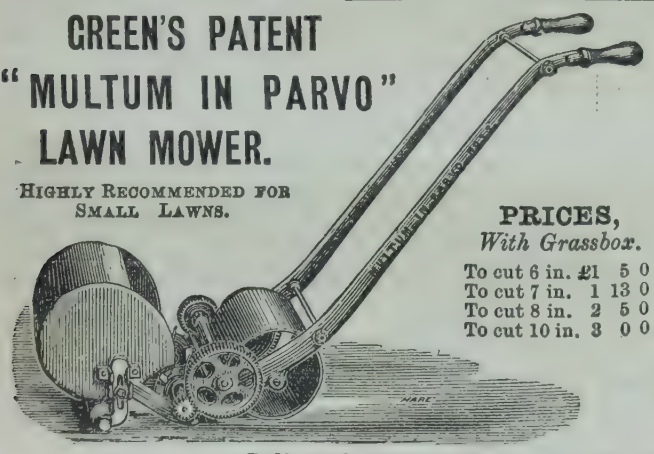

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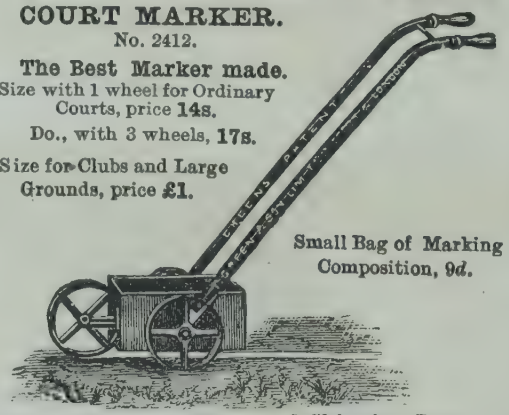

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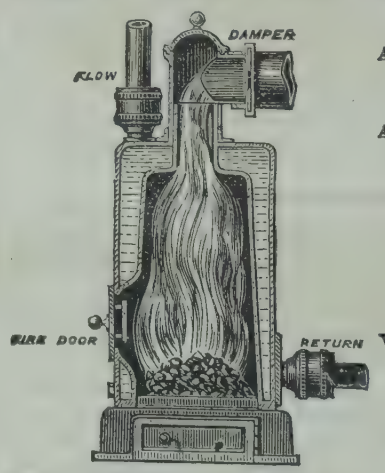

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CONTENTS.

Apple-tree pests in France 540
Beaumontea grandiflora . 547
Birmingham Botanical Gardens 553
Books, notice of—
The Wild Rabbit ... 544
Botanical Magazine ... 546
Cabbage, Ellam's Early... 552
Cliveden 541
Coccidæ, or scale insects on Orchids 548
Currant crops in Greece . 546
Fire-engines for watering purposes... 545
Fruit prospects 548
Gentiana acaulis... ... 552
Ghent, round 547
Gooseberry sawfly, remedy for 551
Graft hybrid, a 544
Horticultural Club ... 546
Hyde Park, spring bedding in 552
Keir House Gardens ... 537
Lastrea, an aposporous... 549
Lemon growing at Santa Paula 539
Market gardening under glass 542
Obituary—
Sanderson, Edwin ... 553
Orchids at Burford Lodge 540
Oxford Botanic Garden . 547
Palms, and their culture 549
Peach buds, dropping of 551
Plant portraits 547
Plum and Walnut crops in France 542
Plants, new or noteworthy—
Azalea Vaseyi 539
Eucharis Lowii ... 538
Fritillaria citrina ... 538
Tulipa concinna ... 538
Plum of East Anglia, the violet 551
Potato, an old variety of 546
Potato, wild Mexican ... 544
Rose show fixtures ... 546
Russian Thistle, the ... 544
Societies—
Birmingham Botanical and Horticultural ... 552
National Auricula (northern section)... 552
Royal Horticultural ... 552
York Florists' spring show 552
Spinach, winter and summer... 547
Spraying 550
Stocks, East Lothian, in pots 553
Tecomas, culture of ... 551
Trees, large, transplantation of 545
Vegetables, hardy spring 551
Vine, on the growth of the 550
Week's work, the ... 542
Flower garden, the ... 543
Fruits under glass ... 543
Hardy fruit garden ... 543
Kitchen garden, the ... 543
Orchid-houses, the ... 542
Plants under glass ... 542

ILLUSTRATIONS.

Cliveden 541
Eucharis Lowii 539
Keir House and Terraces 545
Lastrea, an aposporous 549
Orchid scale insects 548

"GARDENERS' CHRONICLE."

LARGELY INCREASED CIRCULATION.

IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

Increased to the extent of 75 per cent.

Advertisers are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS *at home and abroad, and is preserved for reference in all the principal Libraries.*

TECHNICAL HORTICULTURE.

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To the Trade.

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Price of Seed, 2*s.* 6*d.* per packet, post-free. The seed germinates best when sown during the month of May. Nemesia strumosa Suttoni can only be obtained direct from—

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To the Trade.

IMPORTANT NOTICE.—When you are in London, it will be well worth your time to pay a visit to Albert Nurseries, Peckham Rye, S.E.; or Fleet, Hants. You can make your notes, and have a business look round, combined with an outing; you will NOT be worried to order.
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Oak Nursery, Forest Side, Chingford; late of Walthamstow.

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By Order of Messrs. WALTER KEMSLEY & Co.,
Extensive importations of

ORCHIDS FOR UNRESERVED SALE.

130 CYPRIPEDIUM CHAMBERLAINIANUM.
60 ,, EXUL SUPERBUM, extra fine masses.
100 ,, GODEFROY-E species, some of them fine masses.
510 ,, Species (New).
470 ,, ,, sent over as Tonsum.
430 DENDROBIUM FORMOSUM GIGANTEUM.
80 ,, THRYSIFLORUM.
Also eight cases of imported ORCHIDS, containing—
100 VANDA TERES.
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100 ,, PELLATULUM.
850 ,, EXUL species, very fine.

And two cases containg some very fine pieces of DENDROBIUM ALBUM, and D. AUREUM (another property).

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, May 9, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Wednesday Next.

GREAT SALE OF 196,340 PALM SEEDS,

just received from Brazil, comprising:—

28,000 Seeds of COCOS WEDDELIANA.
37,000 ,, ,, ARECA LUTESCENS.
71,000 ,, ,, GEONOMA GRACILIS.
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4,000 ,, ,, ,, LATIFOLIA.
15,000 ,, ,, ,, SCHOTTIANA.
9,000 ,, ,, ,, INTERMEDIA.
21,000 ,, ,, ARECA RUBRA.
100 ,, ,, COOKI ANISSETTI (rare).
140 ,, ,, CYCAS VILLOSA.
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350 ,, ,, COCOS CAMPESTRIS.
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Also 2400 GLADIOLUS GANDAVENSIS HYBRIDS, 20 packets of seeds of the beautiful Lemon-coloured Alpine ANEMONE; 20 fine TODEA SUPERBA (Filmy Ferns), 50 lots of choice STOVE and GREENHOUSE FERNS, TEA ROSES, &c., TUBEROSES, TIGRIDIAS, Double and Single BEGONIAS, DAHLIAS, BAMBOO LADDERS and Canes, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, May 10, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Thursday and Friday Next.

THE BRIDGEN PLACE COLLECTION OF ESTABLISHED ORCHIDS.

By order of the Executors of the late Mrs. Arbuthnot, of Bridgen Place, Bexley. Absolutely without reserve.

IMPORTANT SALE of this VALUABLE COLLECTION, the whole of the plants being in perfect health.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY and FRIDAY NEXT, May 11 and 12, at half-past 12 o'Clock precisely each day, the above COLLECTION of unusually well-grown ESTABLISHED ORCHIDS, the whole being in perfect health.

Amongst the principal plants may be mentioned:—

Anguloa Ruckeri
Cattleya gigas imperialis, very fine plants
,, ,, Sanderiana, very fine plants
,, Mendelii, especially fine plants
,, Trianæ
,, Gaskelliana
,, speciosissima
,, Mossiæ
,, Bowringiana
,, Dowiana
Cœlogyne Dayana
,, cristata, large plants
Cymbidium Lowianum, fine plants
Cypripedium insigne
,, Schroderæ
,, Druryii
,, Rothschildiana
,, caudatum
,, Stonei
,, Morganiæ
,, Arthuriana
Epidendrum vitellinum majus
Lælia purpurata, extra fine varieties, 30 plants
Lælia purpurata Brysiana
,, anceps stella
,, ,, Sanderiana
,, ,, alba
,, elegans
Lycaste Skinneri
Dendrobium nobile nobilius
,, ,, Cooksonii
,, nobile
Odontoglossum Alexandræ, 500 plants, including many specially fine varieties
,, vexillarium, 100 plants, in grand condition, and many exceptionally fine varieties
,, Pescatorei
Oncidium macranthum
Phalænopsis Sanderiana, 30 plants
,, amabilis, 30 plants
,, Schilleriana
Sobralia macrantha, 4 plants, Wooley's variety
Vanda tricolor
,, suavis
,, cœrulea
,, Sanderiana

The whole of the Collection is in the highest state of cultivation, and many grand varieties will be found amongst the Cattleyas and Lælias. The Odontoglossum vexillarium are in superb condition, and full of flower-buds; also the Odontoglossum Alexandræ contain many specially fine varieties.

Catalogues will be ready in a few days, and may be had of the Auctioneers, 67 and 68, Cheapside, London, E.C.

N.B. — The Valuable BUILDING, or RESIDENTIAL ESTATE, charmingly situated in a delightfully picturesque district, is for Sale as a whole, or in Lots. Particulars on application.

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A fine importation of our famous type of

DENDROBIUM NOBILE,

from the Lang-tang Mountains, rich in pure white and delicate forms.

The lovely D. n. Ballianum and D. n. Amesianum, and other beautiful forms, came from the same district.

A fine Importation of the unrivalled
CYPRIPEDIUM INSIGNE MONTANUM.
DENDROBIUM FINDLEYANUM, in very fine condition.

A splendid lot of the new and free-flowering GRAMMATOPHYLLUM MICHOLITZIANUM, CALANTHE species from Cambodia, 20 plants of the charming HABENARIA CARNEA, and many other valuable ORCHIDS.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY, May 19, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Wanstead, E.

40,000 BEDDING and GREENHOUSE PLANTS, also several very fine PALMS and FERNS.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, on the Premises, the Woodbine Nursery, Wanstead, near Snaresbrook Station, on SATURDAY, May 13, at 2 o'Clock, by order of Mr. Richards.

May be Viewed. Catalogues had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, E.C., and Leytonstone.

Roehampton, S.W., close to Barnes Station.

By Order of the Executors of the late H. L. Holland, Esq.
UNRESERVED SALE.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, Templeton Gardens, Priory Lane, Roehampton, on MONDAY, May 15, at 1 o'Clock, 2000 GERANIUMS of the best-named sorts, AZALEAS, CROTONS, CALADIUMS, EUCHARIS, a small Collection of ESTABLISHED ORCHIDS, a capital assortment of well-furnished Specimen PALMS and DECORATIVE PLANTS, several fine examples of KENTIAS and LATANIAS, DRACÆNAS, LAPAGERIAS, 300 STRAWBERRIES in pots, and numbers of other plants.

May be viewed the Friday and Saturday prior to the Sale. Catalogues may be had of Mr. J. P. KENDALL, the Head Gardener, on the Premises; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

The Langton House Collection of

ESTABLISHED ORCHIDS.

IMPORTANT UNRESERVED SALE of this Extensive and VALUABLE COLLECTION of ESTABLISHED ORCHIDS, which is especially rich in grand and rare forms of CATTLEYAS. By order of G. R. Le Doux, Esq. Absolutely without reserve.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION at their Central Sale Rooms, on TUESDAY, May 16, and TWO FOLLOWING DAYS, at half-past 12 o'Clock each day, the above highly-important and extensive collection of ESTABLISHED ORCHIDS, comprising about 4000 plants, the whole being particularly well-grown and in splendid condition. A list of the principal plants appeared in the *Gardeners' Chronicle* for April 22.

Catalogues are now ready, and may be had in due course of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Gogmagog Hills, Cambridgeshire.

2 Miles from Shelford Station on the G.E.R. Main Line.

MR. CHEFFINS will SELL by AUCTION, on FRIDAY, May 12, 1893, by direction of His Grace the Duke of Leeds, a fine Collection of STOVE, GREENHOUSE, and BEDDING PLANTS, comprising Azalea indica, Ghent Azaleas, Calla æthiopica, Cactus, Aloes, Streptocarpus, Primula obconica, Herbaceous Calceolarias, Deutzia gracilis, Spiræa japonica, Libonia floribunda, Cyclamen, Staphylea colchica, Auriculas, Lemon-scented Verbenas, White Marguerites, Fuchsias, Phlox Drummondi, very choice Double and Single Begonias, Poinsettia pulcherrima, Coleus, choice Gloxinia, Achimenes, Lydeas, Orange Trees, Camellias, Caladiums, and various other Stove Plants. Also a large quantity of Bedding Plants, including Geraniums, Heliotrope, Iresine, Echeveria metallica, Verbenas, Petunias, Begonia Worthiana, Lobelias, choice named Dahlias, Alternanthera, &c.

Catalogues may be obtained of Mr. G. ROWBOTTOM, The Gardens, Gogmagog, Cambridge; at Mr. NOCKOLDS' Offices, 2, Parson's Court, Cambridge, and Saffron Walden; and of Mr. CHEFFINS, Saffron Walden, Essex.

Grosvenor College Lodge Gardens, Grosvenor, Bath.

MESSRS. POWELL AND POWELL have received instructions from Mr. J. Litton, Florist and Nurseryman, to SELL by AUCTION, upon the above Premises, on TUESDAY, May 16, commencing punctually at 12 o'Clock, 240 dozen of well-grown BEDDING PLANTS, comprising about 80 dozen Golden Gem Calceolarias, 100 dozen Geraniums, including Henri Jacoby, West Brighton Gem, Vesuvius, Queen of the Belgians, Mrs. Pollock, Bronzes, Tricolors, and other well-known varieties; 12 dozen large white Marguerites, 10 dozen Lobelias. Ten grand Specimen Plants of EUCHARIS AMAZONICA, in 16-inch pots, and 45 others in smaller pots; 200 MAIDENHAIR FERNS, in large pots; about 200 SOUVENIR MALMAISON CARNATIONS, and various other Specimens, the whole being strong and healthy plants.

On view the morning of Sale, when Catalogues may be had at the place of Sale; or of the AUCTIONEERS, City Auction Mart, Bath.

MR. THOMAS B. JAMES will SELL by AUCTION, Without Reserve, at his Rooms, 12, Bull Ring, Birmingham, on TUESDAY NEXT, a large number of ORCHIDS, chiefly in Flower and Bud. Also Imported DENDROBIUM WARDIANUM, D. DEVONIANUM, D. THYRSIFLORUM, PILUMNA NOBILIS, and a consignment of ODONTOGLOSSUM CRISPUM, the large flowered Pacho type, collected under the supervision of Mr. Carder. Plants selected and in splendid order.

Catalogues post-free, and Commissions carefully executed.

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FLORIST'S BUSINESS, old-established, in full working order, situated in main thoroughfare, with good connection, six-roomed House, Stable, &c.; seven Greenhouses, all heated, well stocked with useful and valuable Stuff. A bargain, if sold at once. Rent moderate, or Freehold would be Sold.—WILSON, 149, Markhouse Road, Walthamstow.

TO BE SOLD, as a Going Concern, the LEASE of a NURSERY, SEED, and FLORIST BUSINESS. Established seventeen years. Situated in the best part of Cardiff. Contains a fine Show-house and Seed Shop, good Dwelling-house, sixteen Glasshouses, heated with seven Boilers and pipes. Well stocked. Company's water laid on. Every convenience. Excellent Wreath, Cut Flower, Plant, and Jobbing Trade. Apply to—
A. ELLIS, Florist, Cardiff.

To Lovers of Forestry and Gardening.

THE LEASE of a charmingly-placed HIGH CLASS RESIDENCE, in 40 acres of luxuriantly-timbered Grounds, for SALE, eight or nine miles from the City and West-End. A Gentleman's Residence in every respect.

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To Capitalists and Others.

TO BE SOLD, the BUSINESS of a NURSERYMAN, SEEDSMAN, FLORIST, and LANDSCAPE GARDENER, situated in one of the best parts of London, and 7 miles from Covent Garden, doing a highly lucrative, large, and increasing business, and having an immense and valuable Stock. This would suit two or more persons, and offers an opportunity rarely met with of acquiring a thoroughly genuine concern. Every investigation can be made.

Apply, in first instance, to HORTUS, 41, Wellington Street, Strand, W.C.

ORCHIDS FOR PRIVATE SALE.—A Gentleman near London, who is giving up his establishment, has a Collection of about 4000 Orchids, comprising very numerous species for Hot and Cool Cultivation, which he desires to Dispose of, either as a Whole, or in Selected Lots of not less than fifty. The Plants are healthy, and in a good state of cultivation. They will be Sold at very Moderate Prices. For particulars and cards to view, address—
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Fifty Nurseries, Market Gardens, Florist and Seed BUSINESSES to be DISPOSED OF.

MESSRS. PROTHEROE AND MORRIS HORTICULTURAL REGISTER contains full particulars of the above, and can be obtained, gratis, at 67 and 68, Cheapside, London, E.C.

WILLIAM POTTENS' CATALOGUE of BEDDING PLANTS is now ready, and will be forwarded, post-free, on application. His Stock is very large and healthy this season.—Camden Nurseries, Cranbrook, Kent.

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VEGETABLE SEEDS.—The best sorts only. Much valuable information. CATALOGUE FREE ON APPLICATION.
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BULBS.—Gladioli, Lilies, Anemones, Ranunculus, Hyacinthus candicans, Tigridias, &c., for Spring Planting. LISTS ON APPLICATION.
PLANTS.—Michaelmas Daisies, Perennial Sunflowers, Double and Single Pæonies, Irises, Oriental Hellebores, Carnations, &c. LISTS FREE ON APPLICATION.
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EXHIBITIONS.

ROYAL BOTANIC SOCIETY OF MANCHESTER.
THE GREAT ORCHID EXHIBITION and ARTISTIC GROUPS will OPEN at the SOCIETY'S GARDENS, Old Trafford, on FRIDAY, May 19, 1893, at 2 P.M. For Schedules and all information apply to the undersigned—
Manchester. BRUCE FINDLAY,

NATIONAL CHRYSANTHEMUM SOCIETY.
EXHIBITIONS at the Royal Aquarium, in 1893, SEPTEMBER 6, 7 and 8, OCTOBER 11, 12 and 13, NOVEMBER 7, 8 and 9, DECEMBER 5, 6 and 7. Schedules of Prizes have been forwarded to Members, and copies can be had on application to
Ranelagh Road, Ealing. RICHARD DEAN, Hon. Sec.

Under the Protectorate of His Majesty King Albert of Saxony,

INTERNATIONAL HORTICULTURAL EXHIBITION At LEIPZIG.

From August 25 to September 5, 1893.

All Nurserymen are Invited to Compete. For details, apply to—

OTTO MOHRMANN, Leipzig-Lindenau.

FOWLER'S MEALY BUG DESTROYER effectually and instantly destroys this most troublesome pest without stain or injury to the foliage. In bottles, 1s., 2s. 6d., 5s., and 10s. each. Sold by all Seedsmen.—CORRY AND CO., Limited, 13, 15, and 16, Finsbury St., London, E.C.

ORCHIDS.—New and rare species, a special feature. Catalogue forwarded post-free on application. SEEGER AND TROPP, Ltd., Orchid Nursery, East Dulwich, London, S.E.

PELARGONIUMS.

In best Market varieties, fine Plants, in Bloom and Bud, in 48's, per dozen, 7s.; per 100, 50s. In 60-pots, fine for Growing-on, 23s. per 100. Apply to—
N. LAWRENCE AND SON, Nurserymen and Florists, Chatteris, Cambs.

BEGONIAS A SPECIALTY. — Awarded Four Gold Medals, Gold Cup, and only Gold Medals for Begonias at the International Horticultural Exhibition.
Seed saved from Prize Plants. Choicest mixed, single or double varieties, 1s., 2s. 6d., and 5s. per packet. Collections (Seed), single, twelve named varieties, separate, 5s. 6d.; six ditto, 3s. Tubers, named singles, from 18s. to 42s. per dozen. Choicest Seedlings, 4s. to 21s. per dozen; bedding, choicest, 4s., 5s., 6s., and 9s. per dozen; choicest named doubles, from 24s. per dozen; choicest seedlings, 12s. to 30s. per dozen; choicest mixed, for bedding, 9s. and 12s. per dozen. Catalogues gratis.
JOHN LAING AND SONS, Begonia Growers, &c., Forest Hill.

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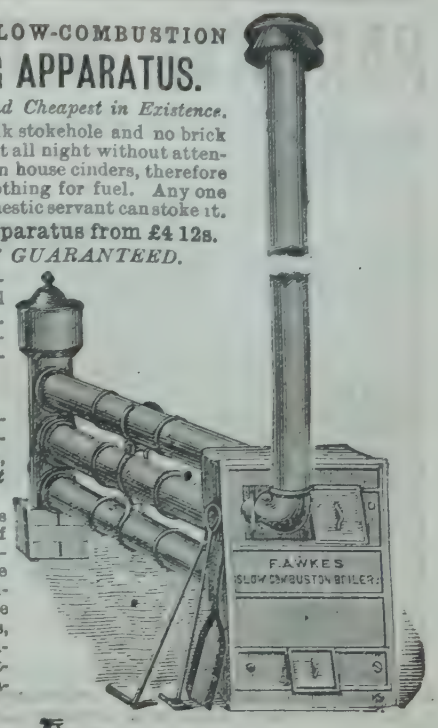

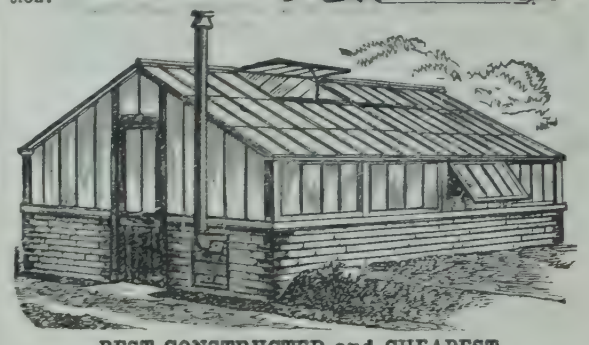

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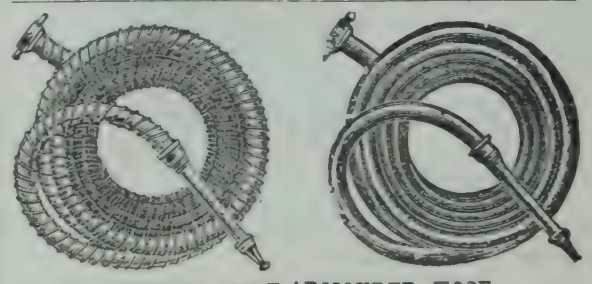

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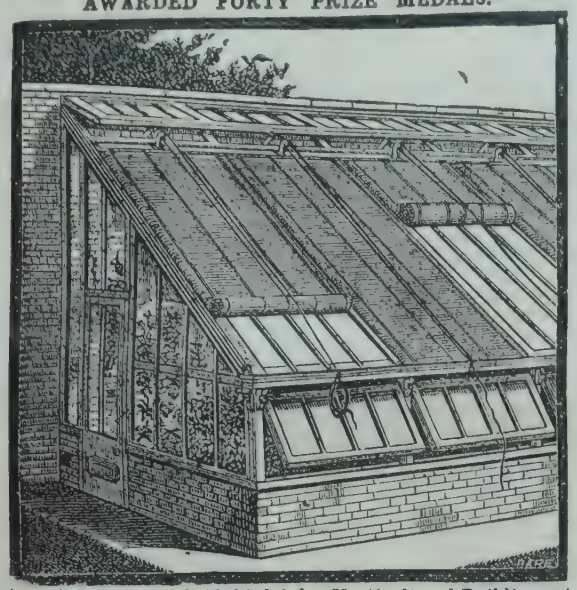

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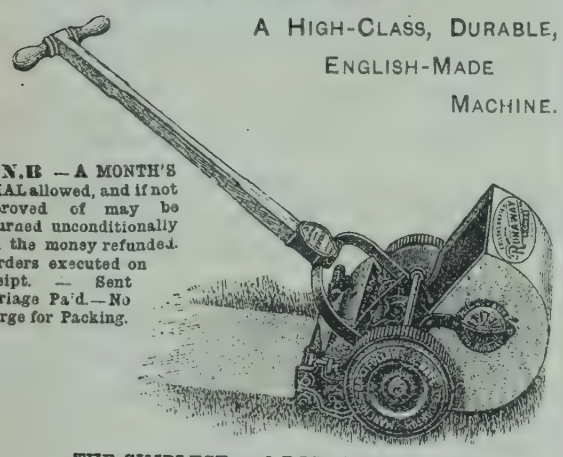

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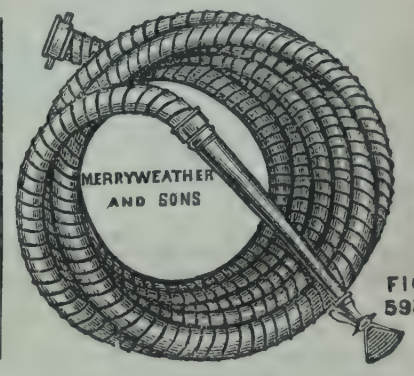

FIG 595.

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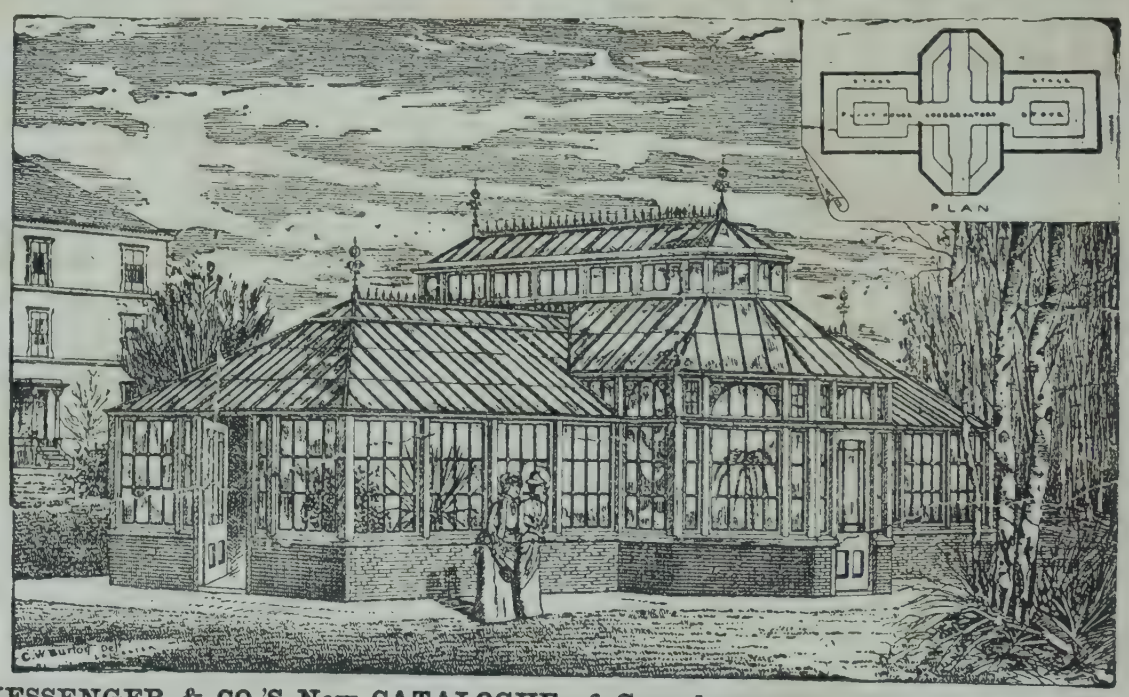

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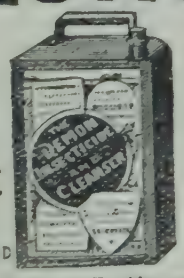

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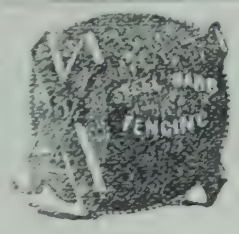

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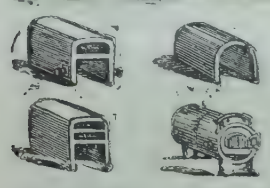

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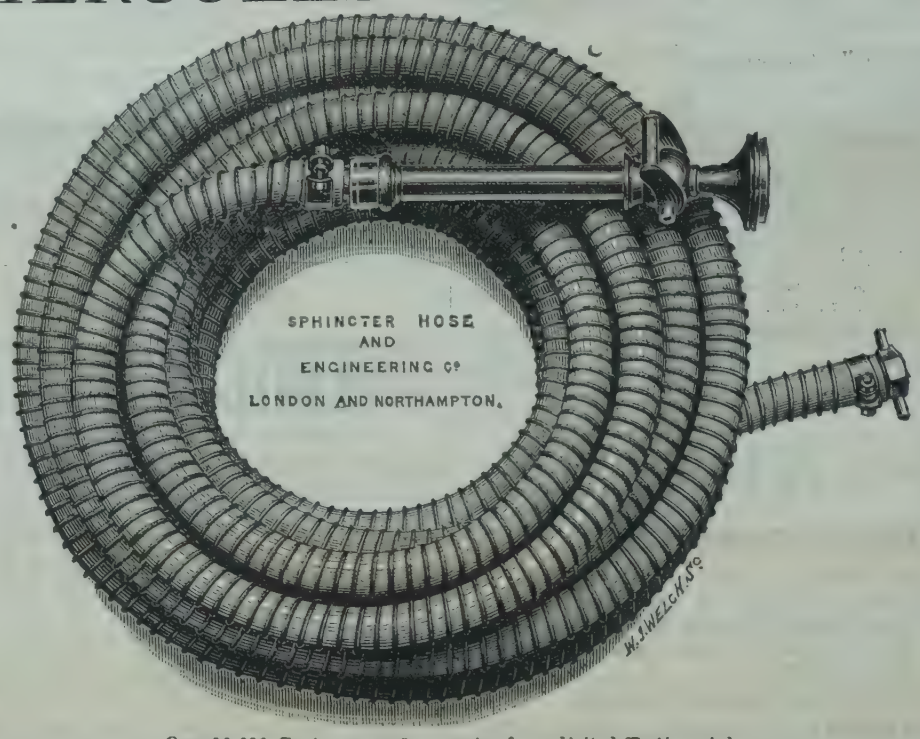

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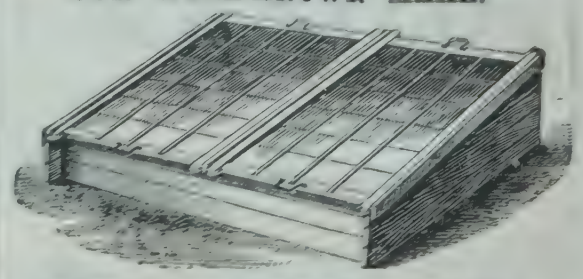

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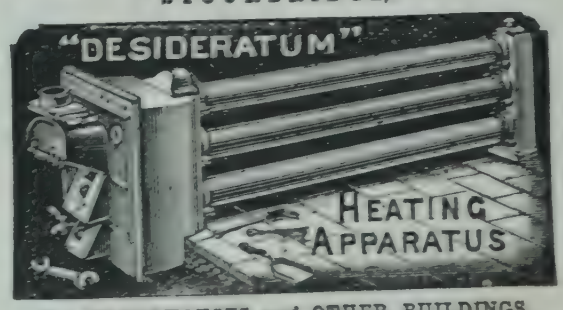

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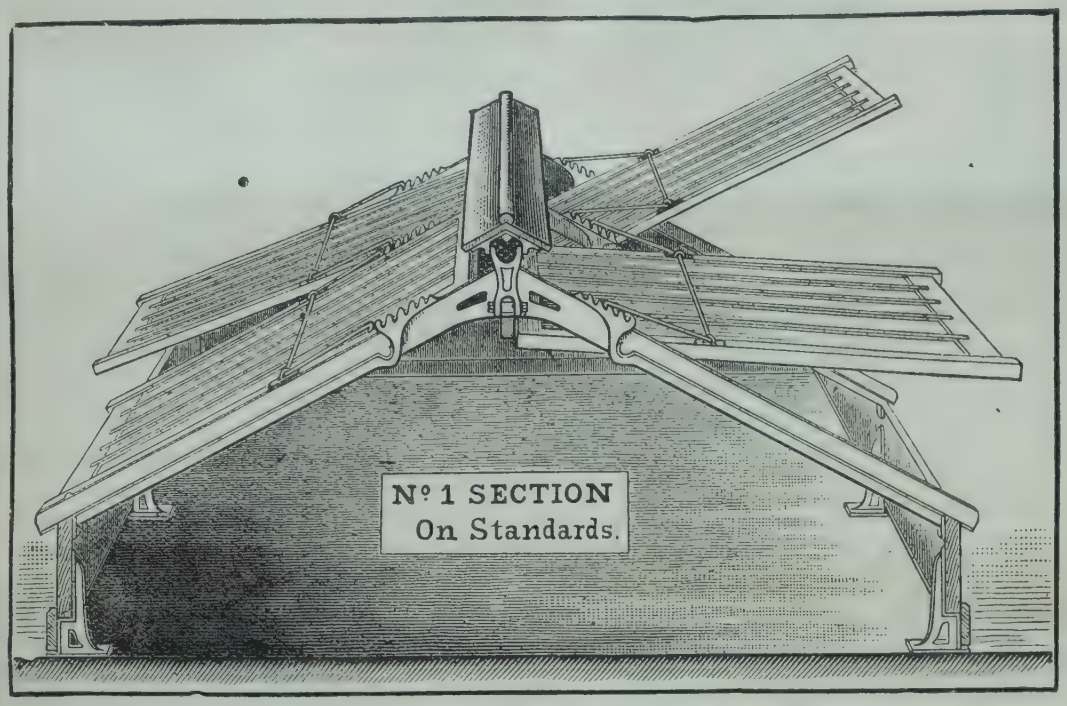

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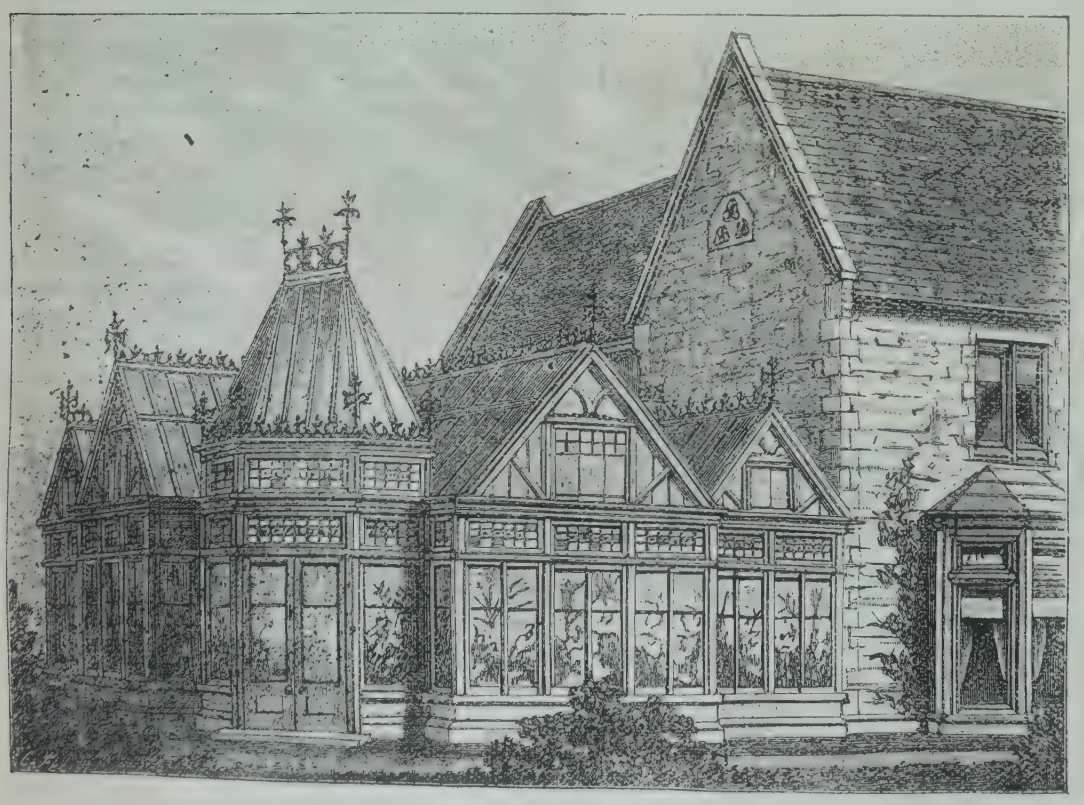

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THE

Gardeners' Chronicle.

SATURDAY, MAY 6, 1893.

KEIR HOUSE, DUNBLANE.

(SEE FIG. 80, P. 545.)

OF the many beautiful demesnes of Perthshire, none is better known to Scotchmen than the subject of these remarks, and whose pleasure grounds and beautiful surrounding scenery are justly noted. The records of this ancient seat carry one far back in point of time, and show a number of distinguished owners. The present proprietor, Archibald Stirling Maxwell, Esq., has become a popular man in the district, and is very greatly respected. He is the second son of the late well-remembered Sir William Stirling Maxwell of Keir and Pollock, and Lady Anna, whose names were intimately associated with the fine arts, which are so visible in a tangible form at Keir. Sir William was an ardent horticulturist, a good forester, and a very sagacious agriculturist, who left proofs of his love for these pursuits, and lasting memories of a refined taste, as may be seen in the extensive grounds, park, and estates.

In the spacious mansion, sculpture, paintings, carving, and other objects of art are to be seen; in the grounds there is much that shows the art of the skilful gardener, and great expenditure of money also. It is very pleasing to note that the present youthful proprietor is credited with inheriting the excellent and refined good taste which characterised his forbears. Now that Keir is getting famed for high-class gardening under the management of Mr. Lunt, we hear much more of its productions; and also at horticultural shows, many of those for which Keir is favourably known are to be noted. At Glasgow, Edinburgh, and Stirling, these exhibits for years have created some anxiety among a few of the older hands who have long competed in friendly contests. Mr. Lunt's Royal George Peaches have been examples of great merit, while the Black Hamburgh, Muscat of Alexandria, and Mrs. Pince Grapes have taken many of the best prizes; and his Cyclamens and stove plants are among the specialties which have been observed in fine condition at the leading autumn shows of recent years. Mr. Lunt is the son of the well-known veteran horticulturist who has so successfully managed, for nearly forty years, the gardens of Sir Michael Shaw Stewart at Ardgowan; and it will not be a matter for surprise if the young man does not "rive his father's bonnet" when further experienced.

Many gardeners have gone far out of their way to inspect the gardens at Keir; and towards the end of the month of last November I also took advantage of circumstances which enabled me to see much that was pleasing and instructive even at that season. The splendid display of Calanthe vestita and of Cyclamens were of themselves attractions enough for a gardener. The place is entered by massive gates from the Bridge of Allan side of the park, then a grand avenue of Limes is passed, affording a glance over the bridge which spans a rapid burn, by the side of

*

which some beautifully romantic scenery may be noticed. Ere long, the hand of the improver will be busy in this portion of the grounds, and then the entrance in this direction will have still greater charms. Passing on through the park, Mr. Lunt, who came with me, pointed out the various fine trees and beautiful views as these came in sight—the "ancient towers of stately Keir," as Scott describes them in his "Lady of the Lake;" and to a certain clearing away of numerous trees, thus opening up a fine view towards the mansion and some objects of interest or beauty in the grounds.

Turning to the forcing garden, a long range of vineries and peacheries was entered, 400 feet long, lofty but narrow, and said to be close on 100 years old, their wonderful preservation indicating the employment of good materials, and first-class workmanship, besides much care since their erection, a lesson in economy which might well be copied in these times of all-round retrenchment. Entering by the eastern door, I found Royal George and Late Admirable Peach trees, two varieties which are still in great request in many parts of Scotland; Nectarines, Pine-apple, Elruge and Violette Hative, which here do remarkably well, the fruits attaining a good size and very high skin tints. In a late vinery, bunches of Mrs. Pince Muscat were thickly hanging, the bunches weighing from 3 to 6lb. each. It is a Grape that is much favoured here, and it is certainly a well-flavoured one. The 1st prize in a class was awarded, and justly too, at Edinburgh in September last, to an exhibit cut from these Vines. The Cyclamens noted in one of the houses in this range were robust in growth and splendidly flowered. Some of these had been taken to Stirling and Edinburgh shows, where they were awarded, in each case, 1st prizes. Some Vines which were observed, are said to have been planted some ninety-eight years ago, and certainly looked their age. Much work carefully done, has been carried out to help these old Vines. An old stone building in the centre of the range, having a glass front, though partly dark, was filled at the time with fine specimens of Cyathea medularis, some Palms, Ferns, &c. Another house of Vines was noted, from which the heaviest bunch, 5 lb. 12 oz., was cut and shown at Glasgow last autumn. The others, though not so large, were very perfect in form, with large berries of fine colour. Among the Peach trees, I saw on this occasion, were two fine ones, that had produced 480 fine fruits last season; also fine Nectarine trees were passed, and a space which was covered with Gloire de Dijon Rose, which does good service in producing early blooms. When out in the kitchen garden, one could not help wondering why such a range of glass as this, should have been placed at the bottom of the garden, while above, at a considerable altitude, there is ground with a wall, sheltered from the north, and finely exposed to the sun, and with perfect drainage. The erection of a new range of glasshouses is in contemplation, and this should be the place for it, but leaving the old houses standing till the trees, &c., in the new one were well established and in full bearing.

The crops in the kitchen garden were mostly excellent, Brussels Sprouts being especially good, which could not be said of this crop generally in the North; lines of espalier Pears were remarked of greater height than I ever saw them anywhere else, and probably they were as old as the garden itself. Much work has already been accomplished in the matter of renovations and improvements, a commodious gardener's house having been built, and the walks put in good order.

Camellias and Chrysanthemums, Cyatheas and Lapageria rosea, Cytisus in flower, and Palms were observed in a large span-roofed house; and in another, also span-roofed, were numbers of Arecas and Kentias in capital form; numerous fine healthy specimens of Adiantum, with fronds fit for cutting; and besides these some Gymnogrammas. Passing by many attractive objects, the object of my visit was reached, the Calanthes. The flower-spikes numbered more than 200, but they were more remarkable for the fine sturdy habit of the plants and the high colour of the flowers than for great length of growth. Some C. Veitchii were from 3½ to over 4 feet tall, and in the best condition. It was observed that air and light were liberally afforded, which has the effect of strengthening the flowers; and those nearest to the front of the house were the finest in colour. One could scarcely tire of looking on these gems, which were backed up by specimen foliage plants, consisting of Anthuriums, Nepenthes—one of N. Rafflesiana had one hundred pitchers. In this range, a three-quarter span, were some remarkably fine Crotons, large specimens, beautifully coloured; and an Alocasia metallica, over 6 feet through, is one of the finest specimens extant. A plant of Allamanda Hendersonii was a mass of flowers, covering all the rafters of the house. There were also collections of Ixoras, which are now scarcely found in Scotch gardens; Clerodendrons, Dieffenbachias, Strelitzia Reginæ, Pancratiums, and numerous other useful decorative plants, filled this house. In others there were Dracænas for room decoration, and Eucharis amazonia in fine health. There are houses set apart for Azaleas, Epacris, Rhododendrons, and Heaths, which complete three sides of a square. Besides all these, there are numerous pits for the hundred-and-one plants now grown, viz., Poinsettias and Callas. Carnation Keir Prince, a capital variety for winter work, was present in large numbers in full flower; the colour is a glowing scarlet. Many other objects arrested attention, but I had still to see the pleasure-grounds of 50 acres in area and so could not take notes of them. Much of it is wild gardening, and this method of gardening is encouraged by Mr. Stirling Maxwell. A Japanese garden is mooted, and a herbaceous garden is already planted.

There are many features in the garden which space forbids anything more than a bare mention of here. A bowling green enclosed by a golden Holly hedge; golden Yews grafted on the sombre English Yew are arranged sentinel-like, which shows off the bright yellow; and innumerable fine specimens of Conifers, and avenues and lines of Pines and Cupressus. More than a hundred vases for flowers or shrubs, and much ornamental masonry are in close proximity to the house. The garden is at the west front of the house. In the front of a Yew temple is to be seen one of the finest Larches in the North, which, at 5 feet from the ground, is 12 feet 8 inches in girth of bole. A Spanish Chestnut by the mansion, on the terrace, is 24 feet in girth at 4 feet from the ground. A Cupressus macrocarpa, near the house, is about 50 feet high; Abies grandis is 50 feet high; the largest tree of Cryptomeria japonica in Britain; an Abies Douglasii 10 feet in girth, 5 feet from the ground; A. morinda 45 feet high; A. Menziesi, 65 feet high; Pinus insignis, 55 feet; Abies nobilis, 78 feet; another Cryptomeria japonica, 75 feet, and 24 feet through the branches, which are feathered to the ground; and Juniperus recurva, 30 feet through at 3 feet high. *M. Temple.*

NEW OR NOTEWORTHY PLANTS.

EUCHARIS LOWII, *Baker, n. sp.**

This very fine Eucharis was imported by Messrs. Hugh Low & Co. from New Granada amongst a quantity of E. Sanderi. The flower is pure white, and, as will be seen from the dimensions given in the description, is quite as large as in the finest forms of E. grandiflora. From that it differs by having the tube of united bases of the filaments entirely adnate to the tube of the perianth, with only the six broad emarginate lobes free above its throat. It comes in between E. grandiflora and Sanderi, and may perhaps prove to be a hybrid between these two species, but at anyrate, it is a plant of great horticultural merit. It was exhibited at the Drill Hall show of the Royal Horticultural Society on April 11.

Bulb like that of E. grandiflora, but the neck rather thicker; petiole about 1 foot long; blade ovate-oblong, subcordate, 8 to 9 inches long at the flowering time, abruptly acuminate; peduncle nearly 2 feet long; umbel two-flowered; pedicels very short; spathe-valves linear-oblong, 1½ inch long; ovary oblong, ½ inch long; perianth with a curved tube nearly 3 inches long, nearly 1 inch in diameter at the throat; expanded limb 4 inches in diameter; segments oblong, spreading, 2 inches long, above 1 inch broad; tube of the united filaments entirely adnate to the throat of the perianth, with six vertical green stripes below the filaments, and six erect broad emarginate lobes not more than ⅛ inch long; free part of filament ½ inch long; anthers small, linear; stigma overtopping the anthers. (See fig. 78, p. 539.) *J. G. Baker, Herbarium, Kew.*

TULIPA CONCINNA, *Baker, n. sp.*†

This is another of the new plants recently discovered by Mr. Whittall's collectors in the western Taurus. For the specimens from which my description is taken I am indebted to Messrs. Barr & Sons, with whom it has flowered at Long Ditton early in April. It is allied to T. undulatifolia, ciliata and T. Dammanni, Regel, *Gartenflora*, t. 1300, fig. 2.

Bulb ovoid, under an inch in diameter; tunics brown, membranous, not at all woolly inside; stem a span long, with four glaucous leaves, with obscurely-ciliated undulated edges, aggregated near its base, the lowest 5 to six inches long, under an inch broad; peduncle glabrous, 2 to 3 inches long; perianth campanulate, crimson, 1¼ inch long; segments, uniform, ovate, obtuse, with a minute mucro, with an obscure purple-black blotch at the base, without any yellow border; stamens half as long as the perianth; filaments as long as the anther, purple-black, with a yellow tip, glabrous at the base; ovary shorter than the stamens; stigmas small. *J. G. Baker.*

FRITILLARIA (AMBLIRION) CITRINA, *Baker, n. sp.*‡

For the specimens of this very distinct new species of Fritillaria, I am indebted to Messrs. Dammann of Naples. Mr. Sprenger tells me they have received it both from the Taurus and from Greece, that the specimen sent to me came from the Taurus, whence they have imported it in quantity, and that the Greek plant only differs by flowering

* *Eucharis Lowii*, Baker, n. sp.—Bulbo globoso, foliis ovato-oblongis subcordatis longe petiolatis; umbellis bifloris, pedicellis brevissimis; perianthio tubo arcuato tripollicari fauce late infundibulari; segmentis oblongis patulis imbricatis, filamentorum tubo omnino adnato striis 6 viridibus percurso; segmentis liberis brevibus latis emarginatis erectis; filamentis liberis brevibus.

† *Tulipa concinna*, Baker, n. sp.— Bulbo parvo ovideo tunicis intus haud lanatis; caule spithaemæo unifloris, foliis 4 confertis glaucescentibus margine subundulatis inferioribus lanceolatis; perianthio campanulato coccineo; segmentis ovatis obtusis conformibus minute mucronatis basi intus obscure nigro maculatis; staminibus perianthii duplo brevioribus; filamentis glabris; ovario cylindrico, stigmatibus parvis.

‡ *Fritillaria* (*Amblirion*) *citrina*, Baker, n. sp.—Caule gracili elongato tricephalo; foliis pluribus linearibus parvis alternis; perianthio oblongo pallide luteo; segmentis oblanceolato-oblongis, interioribus basi foveolis 2 obscuris brunneis pereditis, staminibus perianthio duplo brevioribus, stylo integro; ovario æquilongo.

a little earlier. The flowering takes place, at Naples, early in April. It belongs to the small group of Fritillarias characterised by an entire, not trifid style, and in this group it is marked by its numerous alternate linear leaves and oblong yellow flowers, which show no trace of tesselation, either inside or outside.

Bulb not seen; stem nearly a foot long, erect, slender, three-headed; leaves, about 20, linear, alternate all down the stem, slightly glaucous, with a

AZALEA VASEYI.

This is one of the latest and most promising additions made to the deciduous section of Azaleas, but it is, as yet, scarcely known outside nurseries and botanic gardens. That it will prove a valuable adjunct to the early-flowering group of hardy Azaleas is evident from several small plants now in bloom in the Azalea garden at Kew. These were raised from seeds two or three years ago, and although no more than 1 foot high, are already flowering very freely, well adapted for grouping in beds. A soil consisting of two parts rather light loam to one of peat, evidently meets its requirements. *W. J. B.*

FOREIGN CORRESPONDENCE.

LEMON-GROWING AT SANTA PAULA.

WE extract the following paragraphs relating to Lemon-growing at Santa Paula from the letter of a private correspondent, as we think that they will be read with interest. Our informant, writing under date of January 21, says:—"We have been busy for the last three weeks picking Lemons, washing, wrapping in paper, and storing them away in the curing-house; we have been through the orchard three times, each time with a different sized ring. Three men work on a row of trees, taking one at a time, one man picks all round the bottom and centre, another does the middle on a step-ladder, and the third picks the top of the tree with a ladder about 15 feet high fastened on a frame with wheels; all

FIG. 78.—EUCHARIS LOWII: FLOWERS PURE WHITE. (SEE P. 538.)

channelled face, ascending, the largest 2 to 2½ inches long, ¼ inch broad; peduncles cernuous at the apex, 2 to 3 inches long, bearing a single leaf at the middle; perianth oblong, an inch long, yellow, quite untesselated; segments connivent, oblanceolate-oblong, obtuse, pale yellow, the outer ¼ inch broad, slightly tinged with green on the back, the inner rather brighter in colour, with two obscure brown spots at the base; stamens half as long as the perianth; filaments pubescent, rather longer than the

The species was first described by Asa Gray, and a figure of it appears in *Garden and Forest*, October 3, 1888. It is a native of North Carolina. The flowers are borne on leafless wood this year, but in some seasons the foliage and flowers expand together. The corolla is nearly 2 inches across, divided into five oblong segments of a clear pale rose colour. The leaves are 2 to 3 inches long, oblanceolate, and pointed. In a wild state this species is described as attaining a height of 15 to 18 feet, and must therefore form a beautiful object when in full bloom. The horti-

2¼ or 2⅛ inch in diameter as the case may be in one hand and a pair of clippers in the other, and none but those which will not pass through the ring are to be cut; bags are slung over our shoulders wherein to place the Lemons, and as soon as these are full we carefully empty them into boxes scattered over the orchard. I am the box-foreman, and have to see to the proper distribution of the boxes, also that they are not too full, otherwise they would get bruised and rot, for the Lemon is so delicate that if handled more severely than an egg the skin is liable to get abraded, the essential oil evaporates, and the Lemon will not cure. The chief drawback to the fruit is that the most important picking is in the winter and early spring, and the market is not, of course, open until the summer; in the meantime the Lemons must be preserved. The management of their curing in this country is at present very crude. The Lemons here are hauled up to the packing-house, then sorted into several grades, those 'smutty' or dirty in any way first being washed in tubs of tepid water; they are then roughly wrapped in tissue paper, placed in shallow wooden trays, and stacked one above the other in the curing-house. They are carefully examined every few weeks, and all showing a tendency to decay are thrown away. The Lemons are picked monthly throughout the year, but the present is the most important crop. The April-May bloom yields the true or normal Lemon, the February, March, June, and July the abnormal or 'bastard'; the first-named cures the best. More than 1000 dollars (according to present exchange £206 5*s*.), is made a year off this 11-acre orchard of 20-year old trees, mostly Eurekas and Lisbons which are considered the two best varieties here; 8 dollars (£1 13*s*.) per box of 300 Lemons is sometimes paid here in the mid-summer.

"The best stock for 'budding' on, is considered by most orchardists to be the 'Florida sour stock,' or wild Orange, as it makes a strong growth, and is less liable to 'gum,' and other diseases. The great enemies of the trees here are the black and barnacle scales, but these can be kept down by the caustic soda spray.

"The Lemons in this State are not, in my opinion, nearly so good as those raised in Sicily, but a good deal to do with that is the 'crudeness' of the soil, want of judgment in the selection of the stocks, and location of the orchard. The Lemon to be grown to perfection must be planted on a sunny slope, that looking towards the south is best, at an elevation of from 500 to 1000 feet, within 5 or 6 miles of the sea, in a situation free from wind and frost, on a well-drained sandy loamy soil, and last, but not least, plenty of water, for 'water is king' in California.

"From what I have read and heard, the 'Mesas' or table-lands of San Diego country embody to a near extent all these requirements; this country is in the extreme south of California, and the land must be nearly synonymous with the slopes of Mount Etna, where the finest Lemons in the world are raised. Most of the orchards here are protected by wind-breaks, as we frequently have high winds; three or four rows of Blue Gums (Eucalyptus), and one of Pepper Trees make the best protection; Cypresses are also good. I maintain that a Lemon-orchard is the best investment there is in California; it is a perpetual source of income. I have learnt a great deal about the fruit since I came here, and am still learning.

"We shall not commence picking the Oranges until May, as the fruit ripens here so much later than that of Florida. There are several Washington Marvel (an early variety) already ripe enough for eating, so I am sucking Oranges all day long. Mr. X. is going to build a new house, as his present one is very unpretentious, both as to architecture and accommodation. I graded and prepared a large lawn in front of the site of the new building soon after I came here. I have only had to sit up six nights it only went down to freezing point twice out of the six times, and even then not lasting long enough to necessitate lighting the pots of oil in the orchard. . . . . *H. W. C.*"

Orchid Notes and Gleanings.

ORCHIDS AT BURFORD LODGE.

The fine collection of Sir Trevor Lawrence, Bart., M.P., is one of the most complete in the world, replete in the showiest, as well as the more curious, species of botanical interest. Among the latter we may mention the Cirrhopetalums and Bulbophyllums, of which there is a fine collection. Of the first-named, C. Mastersianum, with flowers of a rich Indian red, is very showy; C. picturatum and C. setiferum, one of the stateliest as well as new; C. O'Brienianum; Bulbophyllum Sillemianum, a clear yellow flower; the large and singular-looking B. grandiflorum, and the curious B. barbigerum, whose feather-like labellum is capable of motion, causing a feeling of wonder in those who have no knowledge of the structure and uses of its flowers. Among other singular species in flower at Burford are Stauropsis (Trichoglottis) fasciata, with its singular pairs of flowers; Cleisostoma crassifolium, with a large head of bloom; two varieties of Vanda cristata, the one large and showy, the other much smaller, and so dissimilar as to offer some excuse for the name V. striata, which was given to one of these forms despite the want of structural difference. In every house there are novel and curious species, the Epidendrums being specially prominent. The last addition, the curious dwarf-growing E. organense, has reddish-orange-coloured flowers, which some persons would take to be disproportionately large for so small a plant. It will be interesting to some of our readers to be informed that a plant of Vanilla is showing bloom, and that it is hoped that the giant Renanthera coccinea will again flower. This is the oldest authenticated Orchid in cultivation, and this particular plant is vouched for as having been in cultivation in England nearly eighty years. The blooming of many of the showy Orchids is being retarded as far as possible in view of the coming Temple Show, but so early is the flowering season that many which might be reckoned on in other years will this year be past their best before that event, retard them how they may. The fine plants of Cattleya Lawrenceana are now fully in bloom, as also the varieties of C. Mendelii, except those which have already passed; the C. Schroderæ, Lælia purpurata, and some other Lælias are also in flower, and many of the showy Cypripediums are in bloom, but a still greater number are coming. Cypripedium Lawrenceanum still holds its own as a handsome flower, and the hybrids between it and C. concolor and C. bellatulum which have been raised here are very beautiful. The Masdevallias are in perfection, and the house is filled with plants whose numerous fresh-expanded flowers of the varieties of M. Harryana, M. ignea, M. Veitchii, &c., make a fine sight. Masdevallia Harryana luteo-oculata is a brilliant variety; M. ignea Boddaertii, a fine flat flower, of a cherry-red hue; a plant of M. Arminii had about seventy crimson flowers, and was a fine object. M. Gelengiana ×, M. Mundyana ×, M. Hincksiana ×, M. Estrada-xanthina ×, and other hybrids were fully in bloom. A very promising cross is M. Shuttleworthii × Harryana, raised at Burford.

In the house of Phalænopsis were a few Phalænopsis in flower, a grand show of flower-spikes on some Vanda teres were noted; a noble lot of Habenaria militaris, which here grow very freely; a grandly-flowered Cœlogyne asperata (Lowii); the curious Luisia volucris, with horn-like petals, and a lip which curiously clips the stem of the plant at the tip; and as the stem bears resemblance to the labellum of the flower in regard to its colour, an ascending insect would pass up the labellum of the flowers, and fertilise some of them in the ordinary course of its promenade, without making a search for food, the

In the cool Odontoglossum-house were some plants of O. crispum, O. excellens, O. ramosissimum, and other species, in flower; and here the charming scarlet Lælia monophylla and Cochloida Noezliana grow well.

Other species and varieties in bloom were Epidendrum O'Brienianum, which grows to large proportions at Burford, the largest plant there being over 8 feet in height, and bore large heads of Cherry-red flowers; E. evectum, the elegant white and very fragrant Dendrobium linguæforme, D. Devonianum candidulum, D. transparens, D. dixanthum, D. Jenkinsii, D. Lowii, D. fimbriatum oculatum; a number of Odontoglossum citrosmum, a fine specimen of Vanda Denisoniana, with six spikes of white flower; a rich ruby-red form of Aërides Savageanum; the beautiful hybrid Cypripedium Fraseri and C. Rothschildianum, of large size; Cattleya Skinnerii alba, the curious C. fimbriata ×, Stelis muscifera, and a number of fine Miltonia vexillaria in bud.

In the Anthurium-house was the most brilliant, varied, and novel lot of varieties of Anthurium we have ever seen, chiefly home raised, and with which Mr. W. Bain, the gardener at Burford, takes as much pains as Mr. W. H. White does with the Orchids.

APPLE-TREE PESTS IN FRANCE.

Reporting on the trade of Caen for 1892, the British Vice-Consul makes some comments on the diseases by which the Apple is frequently attacked, and remarks that the crop for 1892, which promised well, was much decreased by myriads of caterpillars and other insects that invaded the orchards, attacking all garden fruits, so that the trees were completely denuded of their leaves.

The cultivation of the Apple tree, it is stated, is one of the greatest importance in the department, and it becomes each year less productive, even the actual existence of the trees is imperilled by the inroads of parasitical insects, the most destructive of the pests being a weevil or small beetle with a long proboscis, a familar acquaintance with all farmers. The insect secretes itself in the fissures of the bark of the tree during the winter months, and may also be found buried in the dry leaves and grasses about the foot of the tree. In the spring-time the insect climbs the trunk, and commences operations, the female piercing the envelope of the button of the half-formed blossom, and therein deposits her eggs, in time producing a white grub that devours the interior organism of the flower, but respects the thin envelope, receiving it as a shelter. The insect disappears during the summer months from the orchards, and turns its attention to the farmers' cornfields; this insect is described as the Cheimatobia brumata, the winter moth. Another pest (Mytilaspes pomarum), an inveterate enemy to the orchard, is a green caterpillar, with a black head, and is a rapid mover. This destructive creature not only devours the blossom, but strips the tree of its leaves, and if not destroyed, soon kills the tree.

The preventive means adopted is said to be by spreading strong brown paper over with a mixture of bird-lime and red vaseline, bands of which are made to encircle the fruit trees about 2 yards from the ground; this forms a barrier to the female insects in their ascent of the tree at breeding-time. Another most destructive insect, and a new arrival in the department of Calvados, but which has already committed ravages in the canton of St. Pierre-sur-Dives, is a species of cochineal that attacks the newly-planted Apple tree. The insect attaches itself to the bark of the tree, and the female deposits its eggs beneath a small button? These eggs hatch in May into minute white insects, thirty or forty in number. They spread gradually over the branches, penetrating the bark, and in time, exhaust the vitality of the tree. The authorities direct each

are posted abroad. The observance of the order is the exception, not the rule. Notification is yearly given by the municipal authorities that all the proper precautions shall be taken by farmers and others, and that these destructive insects in their orchards shall be destroyed, and any information as to the agencies to be employed in this necessary work can always be obtained through observations that have been made as to the habits of the numerous species of insects.

bedding is still a strong feature at Cliveden, and a walk round the grounds will show that this department has not suffered in the hands of Mr. Nisbet, the present able gardener and estate manager. The bright weather of the past month brought on outdoor flowering plants of all kinds wonderfully fast, for although the nights were cold, the day warmth was almost summery, and the spring flower-garden consequently is unusually gay.

The prettiest piece of bedding now at Cliveden is that seen below the terrace, where a border, long and broad, of Vandyke collar-like shape, is backed by creepers on the wall. This border is raised 1 foot or more above the adjacent ground level, and faced with Ivy. At the front of it is a broad band of Aubrietias, a seedling of the A. Hendersoni type, furnishing a wealth of flowers; then a wide belt of Viola Yellow Prince Improved, with circles of V. Cliveden Purple dotted about it, and a backing of V. Skylark and lines of yellow and dark brown Wallflowers. The large beds away in the front of the mansion are gay with Tulips. Eight beds are filled with these, about 3000 bulbs being set out in each, on a groundwork of Violas and other plants to bloom later, and continue the display until after the Ascot week. A large circular bed is planted with many thousands of Silene pendula, which will give a mass of colour later when required. Violas are used in immense numbers, the favourite varieties being Skylark, Yellow Prince Improved, and Cliveden Purple. Large low vases stand on either side of a broad walk below the terrace, which are filled with dark brown Wallflowers, a narrow border which encircles each being planted with yellow Wallflowers, the whole having a very good effect.

On the terrace wall Clematis montana and the Lilac bushes close by are in full flower. In the herbaceous garden the Doronicums are very showy, especially the variety Harpur Crewe, and a large collection of Daffodils have yielded a mass of flowers, Sir Watkin, Princess Mary, Leedsii, and N. poeticus ornatus standing out conspicuously among others. In the glass department neatness and order are observable, and fruit and plants are well grown. Peaches and Nectarines in the earliest-house have stoned, and are now swelling freely a heavy crop. A house about 40 feet in length is furnished by one tree of Royal George Peach, a fine specimen loaded with fruit, many of which will yet be removed. Another, a smaller house, is filled by a tree of the Dymond Peach variety, excellent for forcing or outdoor culture. A tree of Sea Eagle, formerly occupied the place filled by Dymond, but the fruits were woolly and insipid. Trees in later houses are carrying heavy crops of fruits. In the early vinery

Fig. 79.—CLIVEDEN: RECENTLY PURCHASED FROM THE DUKE OF WESTMINSTER, BY MR. ASTOR OF NEW YORK.

(THE TERRACE FRONT AS IT APPEARED IN 1877.)

CLIVEDEN.

The purchase of this beautiful Thames-side estate by Mr. Astor, the American millionaire, from the Duke of Westminster, has drawn general attention to the place. The situation of Cliveden is charming, commanding as it does views of the river Thames and the surrounding country from a considerable elevation. The mansion itself is a majestic pile, erected by the then Duke of Sutherland from designs by Barry in 1849. A new wing has recently been added by the Duke of Westminster, and various improvements carried out, including a high pressure water supply for the gardens and pleasure grounds. The late Mr. Fleming, as many of the readers of these lines will remember, made the spring and early summer gardening at Cliveden famous. Spring

the Grapes are swelling fast, and the Vines in grand health, as are those in the succession vineries. A large number of Spiræa astilboides is coming into flower, also Dendrobiums, Roses, and Carnations. The pleasure grounds and estate generally appear to be in excellent order everywhere. The estate passes from the present owner in August next, when Mr. Astor, who has been in tenancy the past three months, takes possession. *H. D.*

PLUM AND WALNUT CROPS IN FRANCE.

It is stated that the French Plum crop at Bordeaux in 1892 was below the average yield, being about 20 per cent. smaller than that of the year 1891. The Californian Plum crop having been one-third less than in 1891, and last year's Apple crop having likewise been small, there was a certain demand for French Plums from the United States in spite of their high prices, but by far the larger proportion was consumed in France itself. The quality of the 1892 crop was remarkably fine. Walnuts, it seems, were an abundant crop last year, and there was a large demand for them from foreign countries, the average price for good quality was maintained during the autumn shipping season at 19*s.* per cwt. Several thousand bags of "Cornes de Mouton" Walnuts, which had been rejected on arrival at Bordeaux as insufficiently dry, and afterwards stored in warehouse, were eventually cleared off at 11*s.* per cwt., leaving a loss to inland packers. The trade in Walnut kernels is increasing, some 5000 cases having been ordered at Bordeaux by New York and Chicago importers. *J. R. Jackson, Museum, Kew.*

MARKET GARDENING UNDER GLASS.

(*Continued from p.* 517.)

Messrs. Burton & Sons, Bexley Heath.

Although Messrs. Burton & Sons are known chiefly as horticultural engineers, many fruit growers about London have heard of the Peaches produced at this establishment in the Erith Road, Bexley Heath. Not many are more successful with Peaches than is Mr. Burton, and finer samples than were exhibited by him at a meeting of the Royal Horticultural Society at the Drill Hall last autumn, it would be difficult to find. At the time of our visit, many of the trees were covered with blossom, and the rest of the trees had set their fruits. Mr. Burton's happy experience is that he never finds any difficulty in procuring a good "set" even on his earliest trees, and he does not know what it is to sustain a failure of crop. A tree of Sea Eagle, which was bought and planted in 1890, was cropped to the extent of twenty-three fruits the same year, in 1891 it had sixty-two, last year it had ninety-eight, and it is expected to carry 130 during the present season. Such cropping as this would be thought by many gardeners to be injudicious, and we confess that it would appear so to ourselves, did we not know that the tree in question is making good wood, and exhibits the highest degree of health. The tree, when planted, was about 2 years old. Maidens are not bought. Mr. Burton sent to market during last year as many as 1200 dozen Peaches, and they were grown in two houses. One of these is a beautiful span-roof, 220 feet long, 10 feet high, and 13 feet wide. Houses are not arranged for succession, but the varieties contained in the one house are so selected that the supply covers a period of from four to six months. An unusual feature is that known as the Standard-house, which was figured in these pages on May 3, 1890. It is 112 feet long, 15 feet high, and 24 feet wide, and the trees are growing perfectly as natural as are the Plums outside. This system is believed to be quite as profitable as the orthodox trellis, and to the visitor it is a pleasant change from that method. Mr. Burton is glad to welcome anyone who goes to see his Peaches, of which he is more than a little proud, and those who may be pilgrims during the season, when the fruits will be swelled to such surprising size as they attain here, will not complain that their time has been badly spent. In the long span-roofed house were the following varieties, amongst others:—Peaches; Princess of Wales, Magdala, Mignonne Crosse, Rivers' Orange, Sea Eagle, Alexander, Abec, Early Rivers', Early Beatrice, Downton, Rivers' Early York, Hale's Early, Violette Hâtive, Stirling Castle, Gladstone, Noblesse, Royal George, and Goshawk. Nectarines; Humboldt, Lord Napier, and Pine Apple. The superior character of the houses in which the fruits are grown has, no doubt, a great influence in the success achieved, for both in the fall which has been given to the roof and in the system of ventilation obtaining, Mr. Burton's choice has been happy. Nothing else of consequence is grown for market, if we except a large batch of Adiantum cuneatum, and the yearly supply of Tomatos, which is usually about a ton and a half.

The Week's Work.

PLANTS UNDER GLASS.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

GREENHOUSE PLANTS.—Plants of Aspidistra lurida and A. lurida variegata that are looking unhealthy from over-using, should be attended to, and if the pots are full of roots, and large plants are required, give a shift into a larger size, and place them in a warmer house, where they can be frequently syringed and encouraged to grow. Plants that have grown too large, may be broken up and potted into smaller pots. In this way they are often useful for baskets or table-work; they like good peat and loam in about equal parts, with a little rich manure and sand. Do not allow them to get dry at any time. They will stand in a cold room as long as most plants, but are kept in better health if placed in a good growing temperature at times.

ARAUCARIA EXCELSA.—This valuable plant for conservatory or house-work wants careful attention at the present time; mind the heads do not get broken, and avoid crowding them with other plants. They should be grown in various sizes, and are best kept in pairs when potting, afford them good turfy loam, with plenty of sharp sea-sand, good drainage, and abundance of air and water; they may be increased by cutting or by seeds.

ORANGE TREES.—Move into larger pots or tubs any of these that require it at once, give them good turfy loam and peat in about equal parts, with an addition of dry cow or sheep-dung, some small portion of sand and brick rubbish. They like plenty of drainage, and good supplies of water during the growing season, with frequent syringing. A little shade is beneficial—just after re-potting—to them in very bright weather, and they like abundance of air, but if they are placed out-of-doors during the summer months, it should be in a warm sheltered situation. They will do very well for a time if surrounded by other trees and shrubs to keep them warm. A cold terrace is the very worst place for them. They grow much better if kept in a house to themselves, and given a liberal treatment during the growing period. Thin out the fruit well, especially on small trees.

ROSES.—Tea-scented and other varieties that have done flowering should be well fumigated and washed with mildew destroyer, and during hot weather they may receive copious waterings with hose or engine, and abundance of manure-water at the roots; let the shoots grow as they like. Rêve d'Or and W. Allan Richardson have been very brilliant this spring, Cheshunt Hybrid is one of the sweetest and best dark Roses for planting out in conservatory or Rose-house.

CHRYSANTHEMUMS.—Attend to potting, do not let young plants get cramped in small pots. The bright weather has brought on the earlier-struck plants a little too fast, and if they are getting tall and are strong, take off the points and strike them in cold frames; better flowers will be obtained from the late-struck plants. Be careful that green-fly does not injure the shoots, if there are any present, fumigate, or syringe with Quassia-chips solution.

VIOLETS in frames should now be divided and planted out on a north border. Give plenty of rich manure. The best results are obtained from plants divided and planted at the end of April or beginning of May. Put them out in lines 1 foot apart and 6 inches between the plants.

THE ORCHID HOUSES.

By W. Holmes, *Gardener, Pickering Lodge, Timperley.*

ZYGOPETALUM MACKAYI, Z. CRINITUM, Z. MAXILLARE, Z. ROSTRATRUM, do well in any plant-stove, or on the north side of the Dendrobium-house; they are now making new roots and growths. If any are needing potting or surface-dressing it should be done forthwith, for if delayed the new roots will be far advanced, and being very brittle they easily get broken. A good compost for Z. crinitum and Mackayi, should consist of good fibrous loam and peat, with sphagnum moss in about equal parts, and a good sprinkling of broken crocks and coarse silver-sand well mixed together; they like copious supplies of water during the growing season, but the drainage must be good. Z. maxillare does much better grown in the Odontoglossum-house, and potted in good peat and moss, with plenty of crocks; they should be well elevated above the rim of the pots. Z. rostratum may be grown in the stove; it does well either on Tree Fern stems or potted like maxillare, but using very little material about their roots. The Fern stems are the best, as the long rhizomes soon get over the sides of the pot, and so have to be disturbed. Barkerias are best in the Mexican-house, and should be given every encouragement to grow. They are useful autumn-flowering Orchids, and if properly treated, will repay the trouble bestowed on them; they should be grown on rafts, with a fair amount of sphagnum moss, and well secured with copper-wire. When growing syringe them well morning and afternoon. The two best species are B. Lindleyana and B. Skinnerii. Keep a good look-out in the evenings for snails, cockroaches, woodlice and crickets, as these very soon find their way to the new fleshy roots.

THE PHALÆNOPSIS.—We are at the present time examining our entire stock of these plants, this being the most seasonable time to do this kind of work, the plants having mostly finished flowering, and new roots are beginning to form. Any that have not finished flowering will be benefited by having their flower-spikes cut off now. We have the following species:—P. amabilis, P. grandiflora, P. g. aurea, by far the finest, with sepals and petals broader than those of the typical grandiflora—it has also more of the yellow colour on the crest and throat; P. gloriosa, the "paper-white" species, a beautiful flower, worthy of a place in the most select collection; P. Luddemanniana, of which there are several forms, with much larger flowers, and finer in colour and markings than the type; P. leucorrhoda, a supposed natural hybrid between P. amabilis and P. Schilleriana, a supposition that is probably correct, as it partakes of the characteristics of both; P. Sanderiana is another fine species, which has the good attribute of a strong constitution; P. S. alba is a very fine variety, but it is as yet a scarce plant; P. Schilleriana is an easy plant to cultivate, and it comes into flower at a period generally when flowers are scarce, i.e., in the mid-winter; P. Stuartiana is another grand species, and one that is very distinct; P. violacea is a gem, but it is rather difficult to grow into a large plant, not unfrequently making only one leaf in the season, and has but few flowers on a spike, but it is a plant that is worth all the trouble it gives to grow it. The house these plants occupy is a span-roofed one, facing south, with top and bottom ventilators, and plenty of hot-water pipes in the house, which are never made very hot, and by so doing the air moisture is not dried up so quickly as it would be by very hot pipes. The plants are fastened to cylinders of Teak, and nothing but clean crocks and a small amount of fresh sphagnum moss, just sufficient to hold moisture, is put about the roots. The new roots creep down the sides of these cylinders, and being aërial, the atmosphere is kept very moist indeed whilst the period of growth lasts, that is, from the present time till November, damping down between the rows of plants, and keeping the stages and cylinders in a moist state. I never syringe Phalænopsis overhead, but the undersides of the leaves get the spray from the syringe, eradicating thrips and red-spider, which often harbour on the underside. Scale insects which sometimes

can be sponged off with tepid soft-water. The house is kept rather close for a time from this date until the plants begin to grow, when the ventilation is increased by degrees, and by the autumn the bottom ventilators are left open, unless north-easterly winds are blowing; in fact, it is safer to close them halfway whenever the wind is strong and cold, from whatever direction. During the summer-time, inside the house, temporary shading, such as is used for the blinds, is tacked up, the outer shading being scarcely thick enough in very bright weather. Teak is better than earthenware, as it seldom needs washing—an operation very often injurious to young roots, checking growth, and inducing bad health. The cylinders will last five or six years, and when decayed, it is best to transfer the plants into new ones, the new roots not being able to take a firm hold of the decayed wood. Phalænopsis may be well-grown without having a special house built for them—a plant-stove, or the Dendrobium-house will do; but they must have the shadiest part, and be hung up to the roof, or grown on a stage with plenty of moisture about them. The temperature should now be 70° at night, 75° to 80° by day, and a few degrees higher by sun-heat will do no harm.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maiden Erlegh, Reading.*

APRICOTS.—Where the pinching of young growths has not yet been attended to, the shoots will now be too hard to be easily pinched with the finger and thumb; but they may be cut back to three or four leaves, doing the work on a tree gradually, first by taking the strongest of the shoots, and at intervals those remaining. This is an important operation, and should receive early attention, or before the leaves at the base of the shoots become of a yellow colour in consequence of overcrowding, and unable to fulfil their functions in developing flower-buds.

CHERRIES, MORELLO.—Trees on walls with fruit set should have the shoots at the hinder part of the branches and where otherwise badly placed or crowded, cut away, and any foreright shoots pinched back to two or three leaves. Syringing with soapsuds and dilated tobacco-juice may commence directly black aphides are seen.

SWEET CHERRIES.—Although all the free-bearing Sweet Cherries, viz., Governor Wood, Cleveland Bigarreau, and Frogmore Early, repay for thinning the crop, that fine and likewise free-bearing variety Bigarreau Napoleon should have the same attention as soon as possible, no Cherry being more appreciated or more useful for dessert in its season than Bigarreau Napoleon. Governor Wood and Cleveland Bigarreau are such prolific varieties, that it is usually necessary to thin the crop to enable the trees to make good growth. Pinch or cut back breast-wood, and secure leading shoots, which will facilitate the keeping of the trees free from aphis previous to netting them, which must be done as soon as the fruit begins to colour.

WATERING AND MULCHING.—This is everywhere much needed. Apricots, Plums, Cherries, Peaches and Pears on the walls, also pyramid Pears and newly-planted and transplanted trees have been mulched and heavily watered here. Our water for garden use, coming from a pond, is warmed and softened, and therefore everything that I could wish. The Raspberries, and black Currants, and Strawberries will soon receive similar attention. Bush Apples need water, and to be mulched as soon as possible.

FRUITS UNDER GLASS.

By M. Temple, *Gardener, Carron House, Stirlingshire.*

PINES.—Now that the active growing season has arrived, it is a suitable period to arrange the whole stock of plants in pots. Those carrying fruit should have a compartment to themselves, or be placed at one end of the pit or house where they have to be ripened, and any that are showing fruit should come next, and so on, until the newly-potted suckers are farthest from the fruiting plants. Even in the early stages of growth, a distance of 2 feet apart at this season for good suckers of smooth Cayenne is not too much. A more liberal shift can be given now than at any other time, as growth is vigorous, and will remain so till October. Afford the plants water should not be potted when in a hard dry state. Pot into good turfy loam firmly, using only a little soot in the soil. Manure is better supplied from the surface or in liquid form, and only when there are abundance of active roots to assimilate the nourishment. A bottom-heat of 90° for fruiters should not be exceeded (the finest Queen Pine plants we ever saw was last year, they were grown on a stage without any bottom-heat), and 80° to 85° is enough for young growing plants.

VINES.—Those lately planted should be encouraged by heat and moisture until they are in active growth, then air should be allowed freely. When planting young Vines, let the soil be pure and not rich with manure next the young roots. Turfy-loam is very suitable, and they can afterwards be fed freely with the manures specially prepared for their requirements. Vines, which have fruited, should be stopped where they are to be cut back to at pruning season, and the laterals rather closely stopped, as growth proceeds to the apex of the house. Permanent Vines should have air and light over all the foliage, and be grown with moderate heat only, to prevent long-jointed watery wood. Inarching may be done when the wood of Vines is in the necessary condition. The two barks should be united evenly, and the slices removed may be from 3 to 5 inches long. Vines in pots to supply early Grapes should now be nearly full grown, stop them closely, and assist them to ripen early and well, in order to be rested by November.

PEACHES.—Where early fruits are ripening, it is a safe method to go over them every morning while dry and cool, and gather those fruits which will separate easily from the trees. Place them on paper shavings, dry moss, or wadding, with a sheet of clean paper next to them. Nets or straw placed to catch the dropping fruit is an old practice, but we never could be persuaded to adopt it, as we believe that Peaches are better when gathered under-ripe than at the falling stage. Syringing, watering, tying-in the wood, taking out all shoots not required on later trees, should be followed up. Let tobacco-powder be freely applied to wood and foliage if black aphis appears, and fumigate if necessary.

THE KITCHEN GARDEN.

By H. C. Prinsep, *Gardener, Buxted Park, Uckfield.*

RUNNER BEANS.—A full crop of this wholesome vegetable is seldom grown, owing to the seed being sown too thickly, or the Bean stakes so placed that the twining growth becomes entangled, thus preventing the foliage receiving its proper amount of light. If the seed is planted or sown so as to form a double row, a trench should be taken out 18 inches wide and two spits deep, and filled three parts full with rotted manure, and the remaining fourth with the soil. After this is made firm by trampling it, two drills 9 inches apart should be drawn, and the seeds put into these at 6 inches apart. It is good practice to put two seeds in a place for the early sowing, as the soil is sometimes not sufficiently warm to cause germination. This season, however, the soil is warmed to a considerable depth, and there is small fear of the seed decaying. When the plants have grown sufficiently to show which is the stronger, the weaker should be pulled up. Beans, being very tender, should have some protection till danger from frost is passed, or the first sowing may be cut off. If the soil is rich, and the weather warm, growth will be rapid, and to prevent the entanglement of the bine, the stakes should be put to the rows as soon as danger from frost is considered to be over. I prefer sticks of about 10 feet long, placed 1 foot apart on each side of the row, and about 3 inches from the plant, whose growths are tied with green rushes to the poles, so as to give them a start. In staking Beans, let them slant outwards, so that their tops are at least 3 feet apart. By so doing the light and air has the same opportunity in each row, the flowers setting more freely, and consequently producing a much larger yield than when the poles either cross each other or stand upright. It must be borne in mind, that in order to get the full benefit from such rows, the plants will require liberal treatment when in full bearing.

CELERY.—Owing to the abnormal heat, Celery plants have got very forward—even those sown late; and unless they can have plenty of room to grow, they will soon be spoiled. Where possible, the plants should be transferred to the trenches, but if space is limited, they may be transplanted before they get too large to a well-prepared piece of ground, whence they can be lifted, and if the soil is loose and rich they will lift freely when wanted for the trenches.

PEAS.—The early sowings in this district will be ready to pick in a few days, while those sown in pots and transplanted are far behind these. It is very interesting to watch the growth side by side of the different kinds. Continue to make sowings as fast as the previous sowing appears through the soil.

BRUSSELS SPROUTS.—Take advantage of the first warm shower to transplant those plants which were raised from seed sown at the beginning of April. When these have to be grown between the early rows of Potatos, the latter should be earthed-up, and the plants dibbled in the furrows, and if the sets are sufficiently wide apart in the rows, Brussels Sprout plants may be set between them; but if the rows are not more than 2 feet 6 inches distant, every other row only should be planted, as this will allow more room for the plants to grow sturdy, and Sprouts will be produced in greater abundance.

THE FLOWER GARDEN.

By T. H. Crasp, *Gardener, Canford Manor, Wimborne.*

ALPINE AURICULAS.—These beautiful spring flowers have of late years been much neglected, now, however, they are happily regaining to some extent the position they once held. Their cultivation is not difficult, but at the same time a few special points of treatment are necessary to grow them successfully. They are propagated easily by division or seed; the colours come fairly true, so that great variety may be obtained from one packet alone. Seed should now be sown in boxes of fine sandy soil, and if these are placed in a cool, shaded frame, germination will soon take place. Sow thinly, so that it will not be necessary to disturb the young seedlings until they get a good size, when they can be pricked off into fine rich soil on a half-shady border. If the old plants have finished blooming, they may now be divided, planting them in a shady part of the reserve garden, and a little deeper than they were before.

BEDDING-PLANTS.—If all such bedding-plants as Iresine, Coleus, Alternanthera, &c., are required in quantity, the propagation by cuttings can still be continued, even up till the middle of May. Every tiny top will root readily in heat, and if kept growing, good plants may be obtained by the time this class of plant can be safely put out in the open ground. If cuttings can be obtained in number, the quickest and best way is to make up a slight hot-bed with a surface of fine light soil, about 4 to 6 inches in depth, and faced over with sand. Dibble the cuttings into it a little wider apart than one would in boxes or pots, they will soon root if kept close, shaded, and uniformly moist, and after the usual hardening off, can be planted direct to the flower-beds. Coleus move best out of pots, and cuttings should then be potted up where possible.

Where the dry tubers of Begonias have not been started in heat, they could now be planted out in the open ground, provided it is prepared properly, and in a warm situation; they should be planted about 2 inches deep, dropping a little sand on each tuber afterwards, and giving them a good mulching of sifted leaf-soil, or cocoa-nut fibre. With this treatment the plants do not flower quite so early, at the same time beds of them look quite as well at the end of the season, and amply repay, especially where labour and room for starting purposes are a consideration.

FINE-FOLIAGED PLANTS.—These play an important part in the flower garden, and form capital reliefs to flowering plants, for which purpose such things as Cannas, Maize, Ricinus, Giant Hemp, &c., are very useful, and all can be raised from seed in a few weeks with the exception of the Cannas. The present time is not too late for sowing, and if after germination they are kept growing, they will make large enough plants for the purpose, in fact, better plants than those starved and stunted in pots. Should such plants be already raised and potted off, it is advisable to give a shift into a larger pot before the pots become too full of roots, for if checked in such a manner, it takes them some considerable time to recover themselves.

EDITORIAL NOTICES.

Letters for Publication.—*All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* written on one side only of the paper, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for contributions, or to return unused communications or illustrations, unless by special arrangement.*

Plants, &c., to be Named.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be carefully packed and numbered, and not more than six should be sent at one time.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Illustrations.—*Photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c., are particularly solicited; but the Editor cannot be responsible for loss or injury.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Advertisements should be sent to the PUBLISHER.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY, May 9 — Royal Horticultural Society, Committees, at Drill Hall, James Street, Westminster. National Rose Society. Horticultural Club.

WEDNESDAY, May 10 — Royal Botanic Society, Musical Promenade. East Anglian Horticultural Club.

SHOWS.

WEDNESDAY, May 10 — Gloucester and Cheltenham Horticultural Society (two days), at Gloucester.

THURSDAY, May 11 — Crystal Palace Great Summer Show (two days).

SALES.

TUESDAY, May 9 — Sale of Imported Orchids at Protheroe & Morris' Rooms.

WEDNESDAY, May 10 — Palm Seeds from Brazil, Herbaceous Plants, Ferns, &c., at Protheroe & Morris' Rooms.

THURSDAY, May 11 — Bridgen Place Collection of Established Orchids at Protheroe & Morris' Rooms (two days).

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—53°.2.

The Wild Rabbit.

The rabbit is such a pest in gardens and plantations, that estate managers and gardeners should welcome the little book that Mr. Simpson, of Wortley, has lately published through Messrs. Blackwood & Son. Mr. Simpson's way of dealing with rabbits is not primarily to shoot, or to poison, or trap them, or to expose them to the attacks of their enemies, or to subject them to bacterial inoculations, all of which processes are more or less cruel, and might subject the practitioner to the anathemas of that well-meaning but very short-sighted and worse than mischievous body, known as the Anti-Vivisection Society.

Mr. Simpson's process is, we may say, more artful, and more practical than this. By the methods he inculcates, he minimises the mischief done by the furry marauders—he confines them to their own territory, which he makes so pleasant for them that they do not care to stray from it, and—he makes them "pay!" Mr. Simpson notes the utterly unscientific treatment of rabbit warrens in the past, and shows how landowners have been content to take everything out of their warrens and to put back nothing in return—a style of farming which, from one cause or another is unfortunately too prevalent, but which does not commend itself to the market gardeners who manage to turn the land to far greater advantage than the average farmer does. "Impoverishment," writes Mr. Simpson, "combined with a soured and tainted condition of the pasture, caused by want of lime, salt, and other dressings, is the whole secret of the matter." Flesh and blood and bone are constantly removed from the warren, nothing is added to it to compensate for the loss, and so the soil becomes exhausted, the rabbits diminish in weight and in numbers, they roam the neighbourhood in search of food, which they cannot get at home, and do mischief which is quite preventable. All this is good scientific reasoning, the practical deductions are obvious.

In the book before us, Mr. Simpson tells us how to do it, and, assuming the correctness of his figures, there is no doubt of the success of his operations commercially. The book is clearly, forcibly, and sensibly written, so much so that we are tempted to make many extracts from it, but we think it preferable to refrain from doing this, and to counsel those of our readers interested in the matter to study the argument for themselves, to note the carefully managed array of facts which the author gets together, the inductions based upon them, and lastly, the practical deductions derived from them. In contrast to this method of procedure, and as showing the necessity for that instruction in technical agriculture and horticulture which is now being inaugurated by many of our County Councils, we cite the following passage:—

"It is a fact that a very large number of farmers do not read agricultural papers, far less books. [To a less degree the same may be said of the rank and file of gardeners.] Farming traditions are mostly oral, an interchange of opinion on agricultural topics among themselves seldom extends further than the next market town or village. At such rendezvous, you may often meet farmers whose practice is the same to-day as their forefathers generations ago. I have met middle-aged farmers, tenants of over 150 acres, who acknowledged that they had never bought an agricultural paper, and never read one except by chance. And they was not exceptional examples, nor were they bad farmers as their class goes. In the villages where newsagents reside, the trade is mainly confined to the sensational local weekly papers among farmers and their hands who do read, and an agricultural sheet is a comparative rarity. The same apathy causes these farmers to absent themselves from the County Council agricultural lectures given in many places now, and attended chiefly by school-masters, their assistants, and others not practically connected with farming."

Whether it is good policy to recommend rabbit culture to allotment-holders is doubtful, unless all the neighbouring allottees co-operated in the management, and shared the proceeds.

Royal Horticultural Society.—The next display of flowers, fruit, &c., will take place on Tuesday, May 9, at the Drill Hall, James Street, Victoria Street, Westminster, and Prof. Cheshire will lecture on "How to Solve Chemical Questions concerning the Soil," at 3 p.m. The Temple Show on May 25 and 26 will intervene between this meeting and the next to be held at the Drill Hall on June 6.

Horticultural Club.—The usual monthly dinner and *conversazione* will take place on Tuesday, May 9, at 6 p.m., and the committee at 5 o'clock. The subject for discussion will be "Spring Gardening," to be opened by Mr. W. Ingram, of Belvoir Castle Gardens.

Hooker's "Icones Plantarum."—The last part issued in March is devoted entirely to descriptions and illustrations of Orchids, chiefly Indian and Malayan, and for the most part of botanical rather than of horticultural interest.

M. L. Linden.—We greatly regret to receive from this gentleman a protest against the unanimous decision of the jury at Ghent. We hoped that M. Linden would have continued to be actuated by the spirit which won him so much sympathy at Ghent. As the protest is addressed to the Society, we refrain from adding any further comment for the present.

Bournemouth and District Gardeners' Association.—On Wednesday evening, April 19, Miss Agnes C. Rooper, an honorary member of the Association, gave an interesting and suggestive lecture on "Some of the Reasons for the Effects which Air, Light, and Water, have on the Growth of Plants." At the conclusion of the lecture many questions were asked by members, and were answered fully by Miss Rooper, who was unanimously accorded a hearty vote of thanks.

"Report on Rust and Mildew on Wheat Plants."—A valuable report from the Board of Agriculture has been issued dealing with the subject of rust or mildew on Wheat plants. It is illustrated with coloured plates by Mr. W. G. Smith.

"Dictionnaire Pratique d'Horticulture."—The French translation of *Nicholson's Dictionary*, edited by M. S. Mottet, is indispensable to all who read French, as it is more complete than the original edition, and contains several additional features. It is issued in parts by Octave Doin, of Paris, and may be procured of any foreign bookseller.

Wild Mexican Potato.—The Cornell University *Agricultural Bulletin*, n. 49, records some experiments made with this plant, which is the Solanum tuberosum var. boreale—*alias* S. Fendleri. The tubers are brown, with deep eyes, and tend to be flattened. They keep well; the flesh is very yellow. When cooked the flavour is rich, and possesses a slight aroma which is not present in the common Potatos.

Russian Thistle.—The *Farmers' Bulletin*, No. 10, published by the United States Department of Agriculture, contains an account of this plant, described as one of the worst weeds ever introduced into the Wheat fields of America. Our botanical readers will not be surprised to hear that it is not a Thistle—popular names never err on the side of accuracy; but they will be interested in learning that the plant in question is Salsola Kali, a plant met with only near the sea coast in this country. It appears that it takes possession of the soil, and ousts everything else, whilst its spines render it specially objectionable to horses and other animals. In the pamphlet before us, the damage done in one year is estimated at 2,000,000 dollars in Dakota alone.

A Graft Hybrid.—The *Botanical Gazette* for March gives the following account of the method used in grafting by Mrs. Dixson (librarian of the University of Chicago), and of the graft hybrid which resulted from her experiment. She says:—"I took two strong healthy plants, one a pure white and one a pure red (single bloom Geraniums), and grafted them together at the root in length sections, using common grafting wax, and binding with long strips of flannel. The first year there was little accomplished except to keep the plant alive. In the fall I placed it in the sunniest corner of the room, with plenty of rich soil. It grew rapidly, and soon flowered profusely. At first there were red flowers, with blotches of white, sometimes one perfectly

white petal, and all of the others red. The second summer the two plants were fairly wedded into one life on conditions of absolute equality. The heads would show red and white flowers in almost equal proportion. I remember one cluster with three white flowers, two mottled ones, and the rest pure red. It lived for four years, and grew to be such a bush that it had to be trained against the porch-rail." At the time I saw the plant, the mixture of red and white was even more marked than the condition which Mrs. Dixson describes. One blossom had two red petals, and the rest white; another had some pure red, and the other mottled with white, &c. I could not discover that either plant seemed to have influenced the hybrid any more than the other one had. They were certainly fairly "wedded together." *Herbert L. Jones, Cambridge, Mass.*

Fig. 80.—view of keir house and terraces. (see p. 537.)

Transplantation of Large Trees.—We have lately received from Mr. Crasp, Lord Wimborne's gardener at Canford Manor, some notes of his method of removing big trees, which has met with great success, and also a photograph depicting a Weeping Ash tree, weighing with the soil attached 7 tons, and standing on a trolly ready for removal. This tree was transported a distance of 4 miles, and it cost in digging out and transplanting, including which the trees mostly stand. We do not reproduce the photograph kindly sent, as it merely represents a tree standing on a trolly, and several of these are needed to enable anyone to understand the whole work of excavating, supporting, loading, and removing these great masses of soil.

The Drought.—The urgent need for water in gardens and pleasure grounds in most districts has led Mr. C. J. Merryweather, head of the well-known firm of fire-engine manufacturers, to draw the attention of our readers to the use of fire-engines for watering crops, shrubs, &c. It is not generally known how suitable a fire-engine is for such work, being capable as it is of pumping water through great lengths of hose fitted with suitable nozzles, either a heavy shower or a fine spray being delivered, as may be desired. The present drought offers an opportunity for the trial of this method of moistening the soil, and Messrs. Merryweather inform us that they are ready to advise farmers and landowners on the subject, and lend the necessary apparatus on being given a few hours' notice.

Chislehurst and District Gardeners' Mutual Improvement Association. — The above body of horticulturists brought to a close a successful winter session by holding their annual social meeting at the Bull Hotel, Chislehurst, on the evening of Wednesday, April 26, when between sixty and seventy members and friends dined together. The president, Mr. Lyne, gardener at Foxbury, the hon. sec., and officers, have reason to be pleased with the doings of the past session, the following subjects having been taken up and discussed at various meetings held in the district, viz., Gardeners and Gardening, Zonal Pelargoniums, Celery and its Cultivation, Our Association, The Chrysanthemum, Ornamental Trees and Shrubs, Strawberry Culture, Carnations and Picotees, Poinsettias, Seakale, The Kitchen Garden, The Rose, Cyclamens, Eucharis amazonica, Madresfield Court Grape, The Violet, Asparagus, Tuberous Begonias, Mignonette, Herbaceous Calceolarias, and Melons. There has also been formed a circulating library

with books of reference on horticultural subjects, for the use of members.

MESSRS. BARR & SONS' TULIPS.—The florist's Tulips have made a magnificent display at the Long Ditton Nursery, Surbiton, but their season is likely to be not only an early but a short one. We do not remember to have seen Tulips in full bloom on the first day of May, as was the case this year, and if the weather continues dry the bloom cannot last much longer. Therefore, those wishing to see the old-fashioned Tulip as it used to be seen in the days of Groom and Goldham, should not delay visiting Messrs. BARR's collection. Every class of Tulip is represented, and the "breeders," that is, the self-coloured varieties, are in great force.

NATIONAL ROSE SOCIETY.—A meeting of the committee of the above will be held, by kind permission of the Horticultural Club, at their Rooms, Hotel Windsor, Victoria Street, Westminster, on Tuesday, the 9th inst., at 3 30 P.M.

ROSE SHOW FIXTURES IN 1893.—

June 22 (Thursday), Ryde.
" 28 (Wednesday), Earl's Court.
" 29 (Thursday), Newport and Windsor.
July 5 (Wednesday), Dursley.
" 11 (Tuesday), Harleston.
" 12 (Wednesday), Earl's Court.
" 21 (Friday), Ulverston.
" 25 (Tuesday), Tibshelf.
" 29 (Saturday), Bedale.

EDWARD MAWLEY, Rosebank, Berkhamsted, who kindly furnished the above, says, "I shall be glad to receive the dates of any Rose shows not mentioned, for publication in my next list of fixtures, which will be issued early in June."

THE SHROPSHIRE COUNTY COUNCIL.—At the quarterly meeting of the above body, on April 22, at Shrewsbury, it was stated, in the report of the Technical Instruction Committee, that Mr. ROBERT SMITH, F.R.H.S., is still lecturing to good audiences on horticultural subjects in different parts of the county, the Chairman bearing testimony to the signal success of the lectures.

"BOTANICAL MAGAZINE."—In the number for the present month, there are figured Gladiolus oppositiflorus, also figured and described in the *Gardeners' Chronicle* this year, March 11. Kniphofia modesta, a native of Natal and Griqualand, a plant with narrow leaves and small white flowers; raceme cylindrical, moderately dense, and 6 to 12 inches long. Allium cabulicum, a native of Kabul, bearing a dense, globose, many-flowered umbel; segments of blossom lanceolate, acute, whitish, with a keel of red-brown. Satyrium sphaerocarpum, a South African species near to S. militaris; flowers white, with carmine markings both inside and out. Veronica Colensoi, a New Zealand species, near to V. Traversii. It comes from the Ruabine Hills and the Alps of the Middle Island, from Nelson southwards at elevations of 3000 to 5000 feet. An evergreen of close habit, and with light blue flowers, it is likely to be a good rock-garden plant.

LAVENDER.—We learn from the *South Wales Daily News* that Lavender is now cultivated in South Australia. The plant was found growing in a swamp in the south of that colony [?], and was regarded as a nuisance by the settlers, as their cattle would not eat it. One of them, however, made inquiries, and discovered that it was Lavender. Acting on the advice of Mr. MOLYNEUX, Secretary to the Agricultural Bureau of South Australia, he has planted a considerable area of light, sandy soil having clay beneath it, and intends to distil the scent from it.

A FINE DENDROBIUM THYRSIFLORUM.—From the gardener at Totley Hall, Sheffield, we have recently received a photograph of a specimen of the above species bearing thirty-nine racemes of bloom. The plant showed fourteen more racemes, but these the gardener removed to save the plant from being unduly exhausted, or, in gardener's parlance, "flowered to death." The racemes measure 1 foot in length, with from sixty to seventy flowers on each. The plant has the same kind of treatment as D. nobile.

HORTICULTURAL CLUB.—A special dinner and *conversazione* were held at the Rooms of the Club, the Hotel Windsor, Victoria Street, Westminster, on Tuesday, April 25, when the chair was taken by Sir JOHN T. D. LLEWELYN, Bart., the Chairman of the Club. The especial feature of the meeting was to entertain Mons. HENRI CORREVON, of Geneva, who had delivered a lecture on "Alpine Plants" at the Royal Horticultural Society's meeting at the Drill Hall in the afternoon; but in addition several other gentlemen from abroad were present as guests—Mons. Frœbel, of Zurich; and the Messrs. Seidel, of Dresden. There were also present, of members and their friends, the Rev. W. Wilks, Dr. Power, and Messrs. Philip Crowley, Henry Seebohlm, H. J. Pearson, Geo. Monro, H. J. Veitch, Harry Turner, Edward Cockett, Harrison Weir, H. Selfe Leonard, J. Martin Smith, A. L. Wheeler, J. S. Cousens, &c. The tables were beautifully decorated with some grand masses of hybrid Rhododendrons, which the Chairman most kindly had sent from his gardens at Penllergare, South Wales, and which arrived in great freshness; while Mr. Webber, of Covent Garden, sent some specimens of Tasmanian Apples, and also a dish of English Ribston Pippins, grown to compare with the Tasmanians; it was generally conceded that although the foreigners looked well, in point of flavour they were generally inferior. The Chairman gave the toast of "the Queen, and the Visitors," to which Messrs. Seidel, Correvon, Power, and Seebohlm, responded. Mr. H. J. Veitch gave the toast of "the Club and its Secretary," who proposed that of "the Chairman," and a vote of thanks to him for his kindness in sending the flowers.

THE PROMISE OF THE FRUIT TREES.—From many and diverse parts of the country we hear of the most abundant bloom on fruit trees of all kinds, on the walls and in the orchard. Small fruits, Strawberries especially, seem to be full of promise, but the universal cry is for rain, and unless the welcome showers soon fall, the returns will falsify much of this abundant promise.

THE STOTT SPRAYERS.—Another meeting of fruit-growers and others took place on Lord SUDELEY's fruit farm, Toddington, on the 22nd ult., to still further test the efficacy of the various insecticides on the insects infesting fruit trees at this season. The various substances were declared by those present to have quite answered expectations, having killed caterpillars, red-spider, and aphides on either the first or second application.

BRESLAU.—Dr. PAX, lately of Berlin, has been appointed Professor of Botany and Director of the Botanic Garden, Breslau, in succession to the late Professor PRANTL.

MUNICH.—Dr. HEINRICH MAYR has been appointed Professor of Forestry in the University of Munich.

SYSTEMATIC BOTANY.—Mr. ALFRED W. BENNETT is about to give a course of lectures on Systematic Botany at St. Thomas' Hospital. The lectures will be given on Tuesday and Wednesday mornings, beginning on May 2, at 10 A.M., and will be illustrated by specimens. Tickets may be had from the Secretary to the Medical School, St. Thomas' Hospital, S.E.

CHICAGO.—At the World's Horticultural Congress, to be held in Chicago in August, papers are to be read on the following subjects:—Technical Horticultural Education, Relation of Experiment Stations to Commercial Horticulture, Horticulture in its General Relation to Art, and Improvement of Public Grounds (school-yards, cemeteries, highways, the development and preservation of natural beauty).

KENT COUNTY COUNCIL.—The Experiments Committee held a meeting at the Horticultural College, Swanley, on Thursday, April 13, and visited the land proposed to be used for experimental purposes. It was decided that the crop should be dwarf Beans, and the land to be divided into ten plots, each of which will be manured in a different manner.

THE CURRANT CROPS IN GREECE.—Reporting on the trade of the Morea for the year 1892, the British Consul says of the Currant crop, that the vineyards in the districts of Pyrgos, Olympia, Gastuni, and Zante, suffered from a severe attack of the "Peronosporos," by which the crop was reduced by about 40,000 to 50,000 tons. Almost all the Currant-growing districts of Greece were visited by this malady, but only in the above was the damage of any serious consequence. "This disease, which has at times caused such great damage to the vines in Italy, France, and elsewhere, is in appearance somewhat like the Oidium, and shows itself first in the form of a white blight or fungus on the leaves, which it partially destroys. It then attacks the bunches at the period when the fruit is just forming, and causes it to wither and drop off. Experts have recommended the powdering of the plants in the spring with a mixture of powdered sulphur, lime, and sulphate of iron, but the expense would be considerable, and it is, therefore, doubtful if the peasantry will have recourse to this preventive, although great fears are entertained of a recurrence of the malady in the spring." Some protection of British buyers against imposition in fraudulently stating one kind of Currant to be that of another, has been made by the Greek authorities. "By a law passed in July last by the Greek Chamber," it is stated that it is now a punishable offence to mark any package containing Currants for shipment to any foreign market with any name other than that of the district where they were produced. The British consumer can, therefore, now depend upon getting "Vostizza," "Gulf," or "Patras" Currants should he buy a package which has been so marked in Greece. Formerly, all kinds of rubbishy Currants grown on the western coast of the Morea were branded as Vostizza, Gulf, &c., in order to deceive foreign customers.

THE DIANTHUS.—In the part of the *Journal of the Linnean Society* recently issued, is a carefully-elaborated monograph of the species of Dianthus by Mr. F. N. WILLIAMS. The monograph is worked out exclusively from a botanical point of view, but it will be valuable for reference by the cultivator. Mr. WILLIAMS enumerates in all 238 species, of which he gives careful original descriptions, with references to the more important synomyns. A paragraph is devoted to hybrids, but Mr. WILLIAMS has not recalled the noteworthy fact that the first hybrid of any kind produced artificially was one between Dianthus caryophyllus and D. barbatus. This was known as Fairchild's Sweet William, after the name of the raiser, FAIRCHILD, of Hoxton. Whether what we now term mule pinks are descendants from this, we do not know. In any case the honour of having produced the first hybrid plant on record belongs to an English gardener. FAIRCHILD had a vineyard at Hoxton as late as 1722. He died in 1729, and made provision in his will for the annual delivery, in St. Leonard's Church, Shoreditch, of a sermon on "The wonderful works of GOD in creation, or on the certainty of the resurrection of the dead, proved by the certain changes of the animal and vegetable parts of creation."

AN OLD VARIETY OF POTATO.—We have received three small cut sets of Potatos from Mr. W. G. HOLMES, a seed merchant, of Tain, N.B. These bits of tubers seem to belong to a flattish heart-shaped, white-skinned variety, with white or very slightly empurpled buds. The skin is smooth, and the eyes or buds are scarcely depressed below it. The following note accompanied the tubers:—

growing wild for eighty years amongst the limestone rocks near Benmore, Ross-shire, on the property of Sir Charles Ross, Bart., of Balnagowan. I am informed by Mr. Graham, the gamekeeper at Rosehall, that these Potatos have probably been in the same spot for a century, and cultivated by shepherds, who occupied the place 100 years ago, but that there has been no person living there since 1814. I can say nothing at present as to the quality, or whether it is an early or late sort, but thought it might be of interest if these unregenerate octogenarians were favoured with an airing in the columns of the *Gardeners' Chronicle*." We will have these sets planted and tested, and identified, if possible.

Carnation Pride of Great Britain.—One of the finest, if not quite the finest, primrose-yellow coloured Carnation is the above-named novelty, a bloom of which has been sent us by Mr. T. Ware, of the Hale Farm Nurseries, Tottenham. The bloom is full, and of large size, 3 inches in width. It has one drawback for a Carnation, in that it is destitute of perfume.

Beaumontea grandiflora.—This splendid greenhouse or warm conservatory creeper is rarely found in abundant bloom, and, except in large houses, suitable places cannot be found for it. Like Stephanotis florabunda, it must have a considerable run for its roots, and have the wood well-ripened, if it is to flower satisfactorily. Mr. R. Maries, Mythop Nurseries, Lytham, sends us a fine head of flowers, cut from a plant growing in ordinary soil, in an intermediate-house, where it is trained along the roof close to the glass, fully exposed to sunshine. The plant was figured in the *Gardeners' Chronicle*, May 8, 1886, from materials furnished us by Mr. Ruffett, the then gardener to Earl Cowper, at Panshanger Park, Hertford.

Winter and Summer Spinach.—There has been much writing in this and other journals about the comparative hardiness of varieties of Spinach, and generally the writers have preferred what they have named the Round. The variety that we commonly grow under the name of Prickly Spinach comes nearest to the wild form of Spinacia oleracea, which has rather narrow-pointed, arrow-shaped leaves, the leaf-stalks of a reddish colour, and the seeds furnished with sharp prickles. When the cultivated variety of this species is well grown, it is furnished with spreading branches, well covered with leaves, and does not flower readily. The Round-seeded Spinach forms a rosette-like plant, from out of the centre of which the flower-stems issue. According to M. Vilmorin there is a Prickly-seeded variety with roundish leaves, which bears a tolerable resemblance to the Lettuce-leaved Spinach. It is clear then, he says, that of two varieties, which are equally good in other respects, the preference will always be given to the Round-seeded variety, the seed being more convenient to handle. It seems to follow, then, that what the gardeners say who have written about Round Winter Spinach does not apply to our old friend of summer cropping, which is the Round-seeded Flanders Spinach; or to the Round-seeded, round-leaved, large Dutch Spinach; but rather to the Prickly-seeded variety, with round leaves, above alluded to. Perhaps some of our correspondents in the trade could clear this matter up for the benefit of our readers.

Eucharis amazonica.—It is so seldom that we see a large number of Eucharis amazonica really well-grown, writes Mr. F. C. Edwards, that I have forwarded you a photograph of a houseful grown by Mr. McPherson, gardener to Lord Londesborough, Londesborough Park, Market Weighton. The roof of the house is covered with Asparagus plumosa nana, which makes a pleasing contrast to the snow-white flowers on the stagings below. When the photograph was taken, there were fifty-two pots of 12 inches in diameter, which produced 280 spikes of flowers and 1638 flowers. [The photograph alluded to presented an unusually fine lot of

Mr. E. Bennett.—There are doubtless many old friends of this esteemed gardener, formerly of Osberton, Enville, Hatfield, and more recently of Harefield Grove, who will be interested to learn that a few months since he entered into an engagement with the Board of Works for the tenancy for seven years of the extensive walled-in gardens at Hampton Court. These comprise some 15 acres, with a vast wall area, also a large number of vineries, peach and plant-houses, frames, &c. For some years these gardens were in the occupation of Messrs. Jackson & Sons, of Kingston-on-Thames; then they passed into other hands, and when Mr. Bennett took possession, not only was all the glass in a most dilapidated state, but the gardens were literally beds of Couch grass and other weeds. A man needed a stout heart who would undertake the regeneration of the place. Mr. Bennett seems to be the man for the purpose. He has secured the lease for a fairly moderate rental, has induced the Board of Works to put new hot-water piping into all the houses, to repair and paint them, and carry out many other needed repairs. He has also, so far as is possible, cleaned and cropped the greater portion of the ground, although it will take five years' hard work to do the whole area thoroughly. The Vines and Peach trees are all old, and badly need renovating. One good feature is the splendid fruit promise outside, and the neighbourhood of many excellent customers in the Palace inmates.

The Horse-Chestnut.—Although in such an immense length of trees on either side as the famous Chestnut avenue in Bushey Park presents, there must of necessity be much sameness, yet in spite of this, there is much variety; indeed, scores of trees show in habit of growth, in leafage, and in form or size of bloom-spike, so much diversity that the great interest attaches to seeing this avenue in the spring. This year the bloom has been most abundant, fine and beautiful, and has been admired by tens of thousands of visitors; indeed, on Sunday last, which seems to have been regarded as the usual Chestnut Sunday, although exceptionally early, the attendance of visitors was enormous, the weather continuing fine, although clouds tempered the sunshine.

John Ruskin Strawberry.—So well pleased is Mr. Gilman, the gardener at Ingestre Hall, Staffordshire, with this variety, that he intends to force 800 plants early next season.

Oxford Botanic Gardens.—We learn that the above will undergo some improvement by the renewal and increase of the glasshouses, a sum of £3500 having been voted by the University, the expenditure to be spread over three years. The gardens are held on lease of Magdalen College, and when this lease was granted in 1876, it was a stipulation that repairs, estimated then to cost £5580 should be executed, but of which sum only £2200 have been expended.

The Horticultural College, Swanley, Kent.—The Experiments Committee of the Kent County Council held a meeting at the Horticultural College, Swanley, on Thursday, April 28, at which Professor Cheshire gave an account of a method of growing Mushrooms, which he had found very successful. This system consists of making the bed up of alternate layers of earth and fresh manure, instead of the common method of forming the bed of a bulk of manure, with earth only on the surface. It had been found on trial at the College, that the crop was much larger under the former treatment, and the bed lasted longer. It was decided that sulphate of copper and lime should be again tried this season on the Potatos, as a preventive of the Potato disease. At the next meeting, May 11, it was decided that Professor Cheshire would give his views with regard to "The Economic Production of Nitrates on a Farm."

The Surveyors' Institution.—At the ordinary meeting, held on Monday, April 24, the adjourned discussion on the paper, read by Mr. T. Bright at the meeting of April 10, on "Underwoods, their Growth and Utilisation," was resumed and concluded; and a paper by Mr. R. F. Grantham (Associate), entitled "Recent Experience in Sewage Filtration considered in relation to River Pollution," was taken as read, with a view to its discussion at the next meeting.

Farewell at Kew.—A farewell dinner was held on the 26th ult. in honour of Mr. G. H. Krumbeigel, who has been appointed to Baroda, and of Mr. Willie, who has received an appointment to the Gold Coast. Mr. Hugh A. Pettigrew presided over a company of nearly fifty, and a very enjoyable evening was spent.

Publications Received.—*Town and Home Gardening*. By Mrs. T. Chamberlain. (J. S. Virtue & Co.)—*Agricultural Produce Statistics of Great Britain*. Board of Agriculture.—*North American Locusts, &c.* By Lawrence Bruner, Washington.—*Annual Report of the Fruit Growers' Association of Ontario.—Plant Atlas*. By Sebastian Kneipp. (Grevel & Co.)—*Poultry for Table and Market*. Tegetmeier. (*Field* Office.)—*Official Catalogue of the British Section, Chicago Exhibition*, 1893 (price 25 cents). London: W. Clowes & Sons, Limited, 13, Charing Cross, W.C.—*The Royal Botanic Gardens, Ceylon: Report of Dr. H. Trimen, Director.—Semer et Planter*, illustrated. Paris: S. Rothschild, 13, Rue des Saints-Pères.

PLANT PORTRAITS.

Acer nikoense, *Garden and Forest*, April 5.

Anthurium Andreanum var. Warnbeckeanum.—A white spathed variety, *Illust. Monatshefte*, February.

Apple, McMahan, *Canadian Horticulturist*, March.

Aristolochia gigantea (Martuet and Zuccarini). [Not to be confounded with A. gigas]. *Illustration Horticole*, t. 171—172.

Batemannia Colleyi, *Lindenia*, t. 365.

Cattleya Hardyana ×, *Reichenbachia*, t. 55. A natural hybrid between C. aurea and C. Warscewiczii, and manifesting great variation in colouring. It is one of the finest of all the Cattleyas. The segments of the flower are deep rosy-lilac, the lip rich crimson, with the base of a golden yellow streaked with crimson.

Cœlogyne Sanderæ, *Kränzlin*.—This species, which was figured in a recent issue was, we find, published simultaneously in *Reichenbachia*, t. 56, where a botanical description is given by Dr. Kränzlin. The species, say Messrs. Sander, should be grown in rough fibrous peat and sphagnum moss, suspended from the roof in pans or baskets in a temperature of 60° to 65° F., and should receive copious supplies of water when growing, and never be allowed to get dry, except to the extent of sweetening the material in which the plant is growing. The present plant is much injured by hard water, so that, as in the case of most Orchids, rain-water should be used. See also *Gardeners' Chronicle*, March 25, fig. 52.

Cornus Kousa.—A Japanese cornel, with oblong lanceolate leaves and starry white flowers, each about 3 inches across, and with four oblong acute white involucral bracts, *Garden*, February 26.

Cymbidium Lowianum.—Messrs. Sander, in *Reichenbachia*, recommend this plant to be grown in the best yellow loam, with a little clean coarse sand and charcoal in well-drained pots or pans. Copious waterings are necessary when the plant is in active growth, but care should be taken not to over-water newly potted plants, nor should they be plunged for any length of time, as this treatment is likely to cause the roots to rot and die.

ROUND GHENT.

(*Continued from p.* 515.)

M. Ed. Dereyghere van Coppenolle.

Scheepsdaele, Bruges, has an extensive and extremely well-built nursery, in which Palms, Aspidistras and other decorative plants are remarkably well-grown, the large and beautifully furnished plants of Latania borbonica being especially fine.

In one of the houses were some very neat little standards of the small-leafed Myrtle in pots. These are always neat and pretty objects, and they are still more so when in flower. Here standard and pyramid Sweet Bays are remarkably well grown, and may be found of all dimensions. It takes a long time to grow up fine specimens, and considering the amount of care necessary in their cultivation, it is a wonder how they can be sold at the price they are.

M. Henri Beernaert, Port d'Ostende, Bruges, next favoured us with a view of his establishment, which is happily situated for water, as it has a canal on each side of it, and the water of Bruges is a capital stimulant for plant-life, but scarcely good for man to consume. The new house of eight spans will form a fine addition to the nursery, and will doubtless quickly be filled with noble Palms similar to those which now occupy the eight-span house previously erected. In another block of houses the Kentias and Latanias are grand, and the large quantity of Cypripedium insigne are in fine health. In this house space is utilised, and a fine effect created by suspending all over it plants of Anthurium Scherzerianum, which are just now covered with brilliant spathes. Outside is a nice lot of variegated Phormiums, &c.

A slight détour enabled us to inspect the houses of M. Gaissée, Director of l'Horticulture Brugeoise, in the Rue Louis Fontcastle, which are filled chiefly with Latanias of excellent quality, and a fine lot of Chamærops and other Palms.

COCCIDÆ, OR SCALE INSECTS, WHICH LIVE ON ORCHIDS.

The scale-insects which occur on Orchids are numerous and interesting, but not sufficiently known. An imperfect search in the West Indies has already yielded some new forms; and if the Orchids which are annually received in Europe from all parts of the tropics were even casually examined for these insects, the results would probably be remarkable. Moved by a vision of much good entomological material going to waste, and hoping that some may be prompted to search for Orchid Coccidæ, I give herewith a few notes on those already known, fourteen in number. A few observed by myself are added, bringing the total number of Orchid Coccidæ up to eighteen.

The new species will be described more fully elsewhere later on.

1. *Dactylopius glaucus* (Maskell). Found in New Zealand on hothouse Orchids, and considered injurious. It also lives on a variety of other plants. The adult female is about one-fourteenth of an inch long, oval, green or brownish-red, segmented, covered with a thin mealy secretion. This is a "mealy-bug," not a scale-insect in the literal sense of the word.

2. *Prosopophora Dendrobii*, Douglas (fig. 81, 3).—Found in Demerara on Dendrobium Calceolaria, infesting the stems. The scale is brownish, oval in outline, slightly convex, with a median keel. Length about a quarter of an inch. The substance of the scale is waxy, and dissolves away on boiling in caustic potash.

3. *Vinsonia stellifera* (Westw.) (fig. 81, 2).—Easily recognised by its star-like shape. It was originally found on Cypripedium niveum, a Siamese species. In Jamaica it is common. Dr. Henderson gave me a leaf of Broughtonia sanguinea on which were twenty scales, all along the midrib of the under side. It is not confined to Orchids, being common on the Mango. Mr. C. A. Barber sent me many from St. Kitts, on Ardisia polycephala; and through Dr. Plaxton I received it on Cocoa-nut from Barbados.

4. *Ctenochiton elongatus* (Maskell).—Found on Dendrobium in New Zealand. The female scale is elongated, narrow, rounded at the ends, one-third of an inch or less in length. It is whitish, with a curious fringe.

5. *Lecanium hibernaculorum* (Targ).—Has been found on Phaius (cultivated) in Europe. The scale is about one-ninth of an inch in diameter, nearly globular, reddish-brown. It is very closely allied to the common brown scale, L. hemisphæricum.

6. *L. Angræci* (Boisd.)—Found on Angræcum sesquipedale from Madagascar. It has never been described, but is said to resemble L. cestri, which is a Pulvinaria, and L. filicum, which is allied to L. hibernaculaorum.

7. *L. hesperidum*, L.—The common flat scale, found on many kinds of plants in Europe, America, and New Zealand. It is yellowish-brown or brownish, flat, oval, about one-tenth of an inch long. Mr. Harris sent me what appears to be the young of this species, found on Stelis, at Cinchona, Jamaica.

8. *L. acuminatum*, Signoret.—Found on Orchidaceous plants in hothouses in France. It is like the last, but broader in proportion to its length, with a slight tendency to be triangular.

9. *Conchaspis Angræci* (Ckll.), n. g. and sp. (fig. 81, 1).—Found on a Madagascar Orchid, Angræcum eburneum var. virens, at Hope Gardens, Jamaica. The scale is small, circular at its base, pyramidal or low-conical, with the apex not central. Its colour is white. The insect itself might at first sight be taken for Diaspis, but its structure is very different, and the adult has legs.

10. *Planchonia Oncidii* (Ckll.), n. sp.—First found by Dr. Henderson on Oncidium tetrapetalum in Kingston, Jamaica, but it also infests Broughtonia sanguinea. The scale is minute, about the size and shape of a pin's head, bright yellow, with a pinkish fringe of little rods.

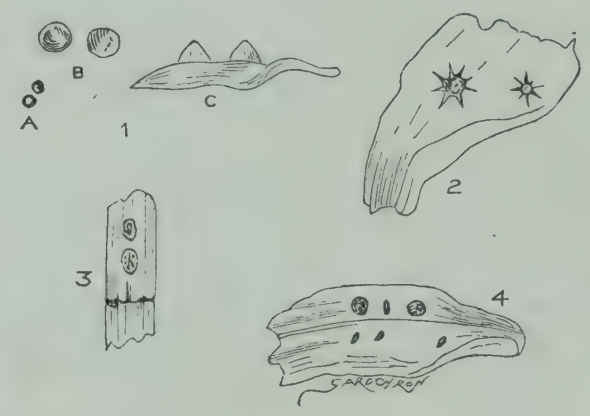

Fig. 81.—Orchid scale insects.

1, Conchaspis Angræci (Ckll.), A, natural size; B C, enlarged; B, from above; C, from the side 2, Vinsonia stellifera (Westw.). 3, Prosopophora Dendrobi (Dougl). 4, Aspidiotus biformis (Ckll).

11. *P. Epidendri* (Bouché sp.)—Found on Epidendrum cuspidatum; the scale is very small, depressed, greenish-yellow, the margin fringed or ciliated. It has never been sufficiently described.

12. *Aspidiotus biformis* (Ckll.), n. sp. (fig. 81, 4).—Found on an Orchid exhibited at a flower show at Kingston, Jamaica; afterwards received from Mr. Hart, who found it on Oncidium Sprucei in the Royal Botanic Gardens, Trinidad. The female scale is about 2 millim. across, broadly oval or circular, convex, brown-black, with the nipple-like exuviæ dark-red brown, and placed away from the centre. The surface of the scale is strongly granulose. The male scale is much smaller, and elongate with parallel sides, the exuviæ placed at one end. Conspicuous white patches are left when the scales are removed from the plant. The female, removed from the scale, is pale bluish, with the terminal segments yellowish. There are three pairs of lobes, the third or outermost pair being more or less rudimentary. A scale found on Cattleya Bowringiana at Hope Gardens, Jamaica, is very similar to A. biformis, but the exuviæ are black. A third form, the scales of which are crowded together and overlapping, was found by Dr. Henderson on Odontoglossum grande in Kingston, Jamaica. In this, the exuviæ are pale, but black when the coating of secretion is rubbed off. Provisionally, these Cattleya and Odontoglossum forms may be distinguished respectively as A. biformis var. Cattleyæ and var. Odontoglossi.

13. *A. Epidendri* (Bouché). — On Epidendrum in European hothouses, and on Orchids in hothouses in New Zealand. The female scale is about one-twelfth of an inch in diameter, circular, flat, dirty-white, or brownish. The male scale is elongated. This insect is allied to the common A. nerii.

14. *A. nerii* (Bouché).—Mr. Maskell states that this is found on hothouse Orchids. The scale is white, small, circular, with the orange-yellow exuviæ not covered by secretion, or at least, only the second-skin is covered.

15. *Aulacaspis Boisduvalii* (Sign).—Infests Orchids in European hothouses; and the same species, or a variety of it, has been found by Dr. Henderson in Kingston, Jamaica, on Oncidium tetrapetalum and Broughtonia sanguinea. The scale is white or pale-greyish, the exuviæ very pale straw-colour, and placed away from the centre, but not marginal. The male scale is elongate, and tricarinated, which distinguishes this at once from any Aspidiotus.

16. *A. Cymbidii* (Bouché).—Found on Cymbidium, and is apparently allied to the last. The exuviæ, judging from a figure in *Timehri*, are marginal. The male scale is tricarinate.

17. *Mytilaspis pinnæformis* (Bouché).—Found on Cymbidium in Europe. This is a mussel-scale, like the well-known M. pomorum of the Apple. The colour is light brown.

18. *Fiorinia stricta* (Maskell).—On Dendrobium in New Zealand. The female scale is elongated, narrow, with the sides almost parallel, length about one-eleventh of an inch. Its general colour is black, with some white secretion. The male scale is white, with the black exuviæ at one end; it is not keeled. *T. D. A. Cockerell, Curator of Museum, Institute of Jamaica, Kingston, Jamaica, January* 31, 1893.

FRUIT PROSPECTS.

As the unique weather-blend of drought, sunshine, and frost continues, it becomes more interesting to note how the fruit trees, now so rapidly whitening into the brilliant prospects of a full harvest, conduct themselves under their rare experience. Up to the 12th day of April, all is well, writing in general terms. The trees are singularly free from blight and insect pests, and the embryo fruits are setting sure and fast. Unlike the fruit-blossoms of last year, which hung shivering so long on the brink of setting, till they had neither heart nor vitality left to do aught but fall ignominiously to the ground, Plums and Pears are now setting fast in the open, in this following close suit to the Apricots, Peaches, Nectarines, and early Plums on walls. In proof of this sure and safe setting, the petals of the fruit-flowers have begun to fall in showers in the warmer localities. Last year they hugged the trees for weeks, thus giving rise to false hopes, that never had any solid basis in fact; for after a certain rather limited time, every day the blossoms of fruit trees lighten up the landscape with their matchless beauty, there is the less and the worse chance for a crop of fruit. The persistence of the bloom is a sign of failure, not the symbol of hope to the fruit-grower. So soon as the pollen fructifies the embryo fruit with new life, the flowers begin to fade and fall; there, in fact, being proof that the second solid step, towards a plentiful fruit harvest, a sure and safe set has been taken.

Last year's fruit failure happened owing to the wet rather than through the cold. It was too slow, and whilst the first blossoms lingered, the change of perfect fructification was lost. The pollen had never been long out enough or vital enough for its functions, or if it did, there were not sunbeams in sufficient number or energy to carry it where it was needed when it was wanted; and thus miserably, and as some might say, accidentally, the fruit crop of 1892 was crippled and lost. This year the sun is in full force, and seems inclined to run full tilt against the frost, and means a rich fruit harvest. The drought so far has powerfully helped the sunshine. The two together indirectly aided, probably through the restraining

powers of the frost and north-east winds, have hardened and consolidated, and ripened and distributed the pollen. Hence, we have as it were, a contest every day in garden and orchard in which the sun and vital powers match themselves against creation, as our American cousins would say, that as against climate and all the crowded chapter of accidents that imperil our fruit crops for the next six weeks. It is early to prophesy, and probably the wish is father to the thought, but I venture with confidence to claim the victory for solar and vital force. A few weeks without blasting and unseasonable cold, and the chief danger will be surmounted. At this moment, the fruit crops are at their chief danger crisis. Even the protection of the floral envelope is being cleared off from the stigmas and embryo fruits earlier than usual. Bright sunshine, perfect and copious fructifications, have cleared or are clearing the petals off with a rush, and the tender embryo fruits are left to withstand as best they may the cutting winds and penetrating frosts. But so far they have withstood all those chilling forces, and the fruit crop is safe. A few more days or weeks and the first battalions—Plums and Pears—will be in leaf, and in less danger. Wood and leaf growth are clean, strong, plentiful. All should be left until danger from a sudden frost-nip is over and gone. Spare growth of leaflets and shootlets will probably suffice to ensure the safety of the yet more delicate fruitlets. Even the latter are hardier than usual this spring; they have not been cradled in sunshine, brought up and out in drought, and roughly rocked by north-easters for nothing. These young fruits of the year 1893 are as different as the same fruits could well be from the poor half-blanched emasculated fruitlets of 1892. Some thousands of those that did set, or seemed to set, last year, succumbed to the first general trial or strain upon them. The ruddy, robust fruitlets of this year seem better fitted to rough anything that our erratic climate may have in store for them. No doubt our fruit prospects may yet be wrecked. But then, they may not, and even a fool's paradise for a few weeks may surely be better than no paradise.

And some of our fruit prospects can hardly be wrecked. Cherries are hardly formed. Amongst Apples generally, assuredly they are not yet in much danger of wreckage. Hardly a bloom is yet opened in Cambridgeshire, notwithstanding the flood-tide of golden sunshine for six weeks, and some fruit crops are almost beyond wreckage. I went into an Apple orchard to-day with the Apple trees forming an arbour of unopened buds over a grand thicket of Gooseberries, fresh and green, with never a brown leaf nor speck of blight, and literally crowded with berries, hastening up to regulation size for first picking. Unless we get a dash of Greenland's icy weather to sandwich our sunny April showers, such crops as these, under such conditions, are already out of the wood. After all, we have no dark wood at all full of ravening wolves of cold, insect pests, fungi, &c., to pass through this year. Surely for once we may, after doing our best to command success and a full fruit-basket from garden and orchard, confidently leave the results to vital force and solar energy, which, so far as we can see, seem working together to give fruit growers a great victory over all their foes. *D. T. Fish, April* 12.

AN APOSPOROUS LASTREA.

I FURNISH a sketch, on a much enlarged scale, of a seedling Lastrea (fig. 82), which in its early stages of growth has developed a large number of prothalli upon the edges and the upper surface of its fronds, in a manner which has never hitherto been recorded. A paper was read on the subject at the British Association meeting at Edinburgh in August last, and evoked much interest, and the plant was subsequently exhibited at the meeting of the Linnean Society in November. A short abstract will therefore probably be of interest to your readers from the fronds (apospores) has hitherto been only observed upon the sites of the sori, or at the apices of the subdivisions of mature adult fronds, while in this case the prothalli developed subsequently to the sketch were mainly produced upon the upper surface, and in such dense masses as to constitute the little fronds literal bunches of prothalli, though the fronds developed normally at the outset. These prothalli appear to be quite normal in outline, and are provided with root-hairs in abundance. Whether they will produce plants remains to be seen, though their vigorous appearance fully justifies the expectation.

Curiously enough, no less than four plants thus characterised have made their appearance, three smaller ones having arisen in immediate contiguity to the first, the last and smallest presenting the extreme form of the phenomenon, the two first fronds arising from the prothallus being simply stalked prothalli of the normal cordate outline, but only distinguishable from primary fronds proper by their shape, translucency, and the presence of root-hairs behind them, the stipe is of normal length,

FIG. 82.—AN APOSPOROUS LASTREA.

and the two fronds (?), with an incipient third one, spring from an obvious axis of growth.

There are several features in this case which lead me to surmise that the plants are of apogamic origin, and not produced by the usual sexual action of antherozoids upon an archegonial embryo. Subsequently to Professor Farlow's discovery of apogamy upon Pteris cretica, it was found that Lastrea pseudo-mas cristata, the common crested male Fern, was frequently, if not constantly, produced from a sexual bud upon the prothallus, and the subsequent growth of the plants under notice establishes it precisely as in that variety. Secondly, the development of all four plants has taken place within the limits of one fair-sized prothallus, but with such a definite distance between each as could not be the case with plants originating from the same cluster of archegonia. In that case, they would be crowded close together. Finally, the intermediate condition between prothallus and Fern proper which the whole phenomenon indicates, points to the same conclusion. Hence the instability may fairly be imputed to the absence of that vital stimulus which the normal mode of reproduction involves, but which apogamy precludes.

Apart from this speculative aspect of the case, three new points are presented by it:—1st. This species (Lastrea) has not been observed hitherto to produce aposporous prothalli. 2nd. Only adult may be termed panapospory, as distinct from apical or toral apospory, the whole of the upper surface, as well as the edges and terminal points, yielding prothalli abundantly.

The plant was a chance seedling in a Wardian case in my fernery. *Chas. T. Druery, Fernholme, Forest Gate.*

PALMS AND THEIR CULTURE.

IT requires but little observation to note what a contrast is afforded in the condition of Palms under different growers. Sometimes they appear in a truly sickly condition, and at others they commend themselves by their vigorous and healthy growth. For this difference there must be reasons, and the following, perhaps, are a few of them. One of the chief causes of Palms assuming a sickly appearance, is that of keeping them too dry at the roots. This they cannot endure for any length of time without showing injury, and ultimately after suffering a loss of foliage, the growth is starved and stunted. Once in this state it will take some considerable time to restore them to health and freshness, even if ever they are really again what they should be. If I am not greatly mistaken the majority of Palms are found growing not on high ground and exposed to drought at the roots, but more frequently in low-lying districts where moisture at the roots is somewhat continuous. In such positions having plenty of moisture, combined with the alluvial soil of valleys and marshes, the Palms find a congenial home. This should give us some idea of their requirements under cultivation by which we may grow them the more successfully. Unhappily, Palms do not show visible symptoms of an insufficient supply of water by flagging as many other plants do, bearing it patiently for a time, and eventually they are suspected of being wrong at the roots and in need of a shift to restore them. This bring us to another error of cultivation, that of overpotting, which also is a grave mistake, and one which any close observer may note for himself if he ever has the opportunity of inspecting either medium-sized or large plants when they are first imported into this country from the continental nurseries. These plants are always remarkable for their health and vigour, compared with the size of the pots or tubs in which they have been grown. Now, if our continental neighbours can manage them thus so successfully, there is no reason why we should not be able to do the same if we will but adopt rational methods. Only those who have taken note of these truly noble plants whilst still confined at the roots will credit what a length of time they will retain their beauties provided they have proper attention in the way of an abundant supply of water.

Over-potting is the source of other evils in the case of plants to be used in rooms. When Palms are used in this way, and the plants happen to be over-potted, the roots must inevitably suffer through not being able to absorb the moisture in the soil so rapidly as they should do; consequently, the soil becomes colder, and the tender or young rootlets perish, not being of that hardy, wiry nature as is the case in pot-bound plants. These plants might get on fairly well as long as they are in congenial quarters; but when in lower temperatures, and exposed to cold currents of air, they cannot be expected to do so. Another result of overpotting, in the case of decorative Palms, is that of inconvenience, a sufficiently large head or mass of foliage not being available for vases of limited size, to say nothing of yet another trouble—that of additional labour in removal.

Shading during the warmer months is advisable when the plants are near to the glass, but it is not so essential when there is a good space between, so that room is afforded for the movement of a larger volume of air. The most injurious of insects are the white scale, thrips, and red-spider in some cases. Reverting to the first failing alluded to, it is necessary to state, that when Palms of medium or large size are watered, it should be done thoroughly, for the proportion of room allowed

that accorded to smaller plants. It should be seen that the plants are soaked through to the base, or the watering may be deceptive, the base of the ball being that part where most of the roots congregate, and requires even more water than the upper portion. When, therefore, there is any suspicion of a plant being dry at the bottom, it is a good plan to stand it in a pan of water for a time; in fact, when dealing with plants that are excessively pot-bound, it is safer to leave the pans under the plants during the summer months. By keeping Palms in proportionately small pots, there is far less danger of souring the soil, and thus rendering it unfit for root-action. It is, at any rate, a very rare occurrence to find a Palm injured by any excess of water, if not excessively overpotted. As an instance of what an amount of moisture a Palm will thrive in, I would quote that of a large specimen of Phœnicophorium seychellarum which I once grew until it touched the glass, and there was no other remedy left but to drop it into the tank of water below which the plant had hitherto stood. I thought that with 6 inches of the ball in the warm water it would suffer; not so, however, for it seemed to delight in it rather than otherwise. When Palms have become pot-bound, and it is unadvisable to put them into larger pots, they should be assisted with some manurial stimulant. Manure-water from a farmyard cesspool is very good as a change, or soot-water will answer very well, but I prefer a concentrated artificial manure to anything. Having tried several, I have never found anything yet to impart such a deep green tint to the foliage as Standen's Gardener's and Amateur's Friend, which, whatever it may contain, consists of ingredients that are readily assimilated by Palms, and but a small quantity is required; once or twice a week is often enough to apply it, just sufficient being used to give a light dusting over the surface. In relation to the soil used for the growth of Palms, two distinctions can be made. Some kinds, as the Seaforthias, the Phœnix, the stronger rooting Arecas, and the same of the Livistonas with the Chamærops and Pritchardias, a larger proportion of loam is advisable by reason of their extra vigour. On the other hand, the Kentias, the finer rooting Arecas, and small growing sorts in general which possess smaller and more wiry roots, will thrive well in a rather peaty soil. Good leaf-soil, such as our continental friends are able to obtain, is a good material undoubtedly. When we can secure it from Oak and Beech-leaves, it is a good substitute for peat, or may be used with it or with the loam. In any case a little loam gives stability to the soil, and the stronger growers I find to thrive better when allowed a fair proportion, say from one-half to two-thirds. Firm and careful potting are quite essential to permanency, for it does not pay to push this work through in a hurry. The white scale, before alluded to, is a tedious insect to subdue, but with patience and a trustworthy insecticide it can be done; it is most troublesome on kinds which are grown in the most heat. Red-spider attacks those with the thinnest leaves as a rule, the Chamædoreas and several of the Cocos family, for instance. Areca lutescens and Thrinax elegans are also liable to it when in dry positions. Thrips will attack the plants in the summer time, the place most susceptible being a dry airy house, such as a conservatory during that period of the year. *H.*

ON THE GROWTH OF THE VINE.

A valuable contribution to the study of the growth of the Vine has been made by Messrs. L. Roos and E. Thomas.

The authors determined, at regular intervals of two weeks, from May 15 to September 20, the proportion of dry-matter, nitrogen, potash, phosphoric acid, sugar, and acid in the year's growth (berries, leaves, and stem) of a Vine of the Aramon variety. The vineyard from which the Vine for examination was chosen was located on a clay-lime soil. It had 1886. The Vine selected had been manured with farm-yard manure in 1890.

For each analysis a sufficient quantity of material was taken from the new growth in different parts of the Vine, and the berries, leaves, and stems, were separated from each other. The results are given as follows:—

Date of Sampling.	Stage of Growth.
May 17 ...	Bunches formed, but very small.
May 31 ...	Berries more distinct.
June 14 ...	Two or three days before flowering.
June 28 ...	Flowering past.
July 12 ...	Berries the size of an ordinary Pea.
July 26 ...	Berries very rich in juice (60 per cent.).
Aug. 9 ...	Berries translucent, seeds visible.
Aug. 23 ...	Bunches beginning to ripen, berries purple.
Sept. 6 ...	As above, but colour deeper.
Sept. 20 ...	Little change in appearance.

Composition (Fresh Material) of the Vine at Different Stages of Growth.

Date.	Dry Matter.			Nitrogen.			Ash.			Potash.			Phosphoric Acid.			Sugar or Glucose.		
	Fruit.	Leaves.	Stems.	Fruit.	Leaves.	Stems.	Fruit.	Leaves.	Stems.	Fruit.	Leaves.	Stems.	Fruit.	Leaves.	Stems.	Fruit.	Leaves.	Stems.
1891.	pr. cent.	pr. cent.	pr. cent.	pr. cent.	pr. cent.	pr. cent.	pr. cent.	pr. cent.	pr. cent.	pr. cent.	pr. cent.	pr. cent.	pr. cent.	pr. cent.	pr. cent.	pr. cent.	pr. cent.	pr. cent.
May 17 ...	14·27	21·85	13·20	0·49	0·74	0·21	1·29	1·58	1·12	0·47	0·33	0·37	0·14	0·22	0·06	Trace	0·50	Trace
May 31 ...	15·15	23·03	17·45	0·52	0·94	0·31	1·32	1·82	1·18	0·43	0·44	0·38	0·17	0·21	0·08	0·66	1·00	1·00
June 14 ...	16·50	22·25	27·68	0·39	0·74	0·36	1·17	1·62	1·00	0·30	0·38	0·35	0·12	0·15	Trace	0·74	1·45	1·35
June 28 ...	14·31	26·10	23·27	0·31	0·67	0·23	0·94	2·40	1·28	0·35	0·52	0·45	0·09	0·14	0·06	0·63	1·65	1·85
July 12 ...	8·82	30·30	27·10	0·26	0·78	0·27	0·38	2·51	1·34	0·15	0·38	0·42	0·04	0·11	0·06	0·74	1·35	1·35
July 26 ...	9·87	29·78	30·92	0·21	0·65	0·24	0·46	2·67	1·47	0·16	0·42	0·44	0·04	0·12	0·08	0·72	1·68	1·50
August 9 ...	9·47	31·25	28·65	0·16	0·52	0·23	0·37	3·45	1·55	0 16	0·33	0·42	0·03	0·13	0 09	1·01	1·27	1·10
August 23 ...	10·52	33·30	30·60	0·11	0·60	0·20	0·40	3·66	1·53	0·16	0·31	0·25	0·03	0·12	0·06	4·77	1·63	1·14
September 6...	15·15	36·80	43·86	0·11	0·56	0·22	0·47	3·68	1·73	0·22	0·29	0·39	0·04	0·12	0·07	7·27	2·01	1·60
September 20 ...	16·20	37·00	43·80	0·09	0·50	0·20	0·38	4 58	1·82	0·16	0·27	0·18	0·03	0·04	0·07	9·15	1·30	0·40

The tabulated data show that the phosphoric acid decreased from the time of flowering to maturity in the leaves and berries. It remained very constant ing (June 14), when only traces were found. It is suggested that this may be the result of an error in analysis.

The dry matter increased steadily in the leaves and stems. In the fruit it remained stationary at between 14 and 16 per cent. until the berries began to form, when it decreased to 8·82 per cent. It remained between 8 and 10 per cent. for several weeks, and then increased to 16·2 per cent. by accumulation of sugar in the berries. The acid in all three organs was less at maturity than at the beginning of growth. For the leaves and twigs the decrease was quite regular, but this was not true for the Vines.

In these the amount of acid increased steadily until it was larger than in the other organs, and then decreased as maturity advanced, until it was less than that in the leaves. At the stage when the berries began to mature there was a striking coincidence between the increase of sugar and the decrease of acid in the fruit.

During the first ten or twelve weeks the per cent. of sugar was less in the berries than in the other organs. As maturity approached, the sugar in the fruit increased rapidly, but in the leaves and stem varied only within narrow limits throughout the season.

The increase in dry substance of the Vine material, and the accumulation of plant-food constituents obtained from the soil, are shown in the diagrams. These show a constant increase from the beginning of vegetation to the time of Grape gathering.

The sums (in grains) of the potash, phosphoric acid, and nitrogen, contained by an average branch were as follows:—

June 28	...	...	1·451 grains.
July 12	...	...	1·959 ,,
July 26	...	...	2·363 ,,
Aug. 10	...	...	2·419 ,,
Sept. 6	...	...	3·158 ,,
Sept. 21	...	...	2·977 ,,

As this increase is common to all the organs, the authors conclude that it cannot be laid down as a rule, that the development of the fruit is entirely dependent upon the leaves and Vines.

At the time of harvest, calculating on the basis of 100 parts of nitrogen, there are the following proportions of fertilizing materials abstracted from the soil, in the three organs:—

	Grapes.	Leaves.	Vines.	Total.
Nitrogen	58	32	10	100
Potash	80	13	7	100
Phosphoric Acid ...	70	10	3	83

In view of the facts presented, the authors are inclined to consider nitrogen of considerable importance in a fertilizer of Grapes.

The authors sum up the conclusions applicable to this variety of Grape, and to the conditions of this experiment as follows:—

1. A saccharose is present in the leaves, stems, and Grapes, during the first three months of growth.

2. The absolute decrease of acid is not correlative with the increase of sugar in the plant or fruit.

3. A decrease of acid is observed at the same time that a notable increase of levulose takes place in the fruit.

4. The assimilation of fertilizing materials is continuous up to maturity.

5. The authors are inclined to attribute an important rôle in Grape production to the nitrogenous manures. *J. J. Willis, Harpenden.*

SPRAYING.

Prepare for the year's campaign. Begin early, and do it well. The following are the leading formulas for fungicides and insecticides:—

Bordeaux Mixture is made by dissolving 6 lb. of sulphate of copper in 5 galls. of water; slake 4 lb. of fresh lime in 6 galls. of water, and when cool, strain into the copper mixture; dilute to 22 galls. This can be used half-strength, with about equally good results, if it is applied

o every 40 galls. of mixture. Insects and fungi can nth be combated at the same time.

Ammoniacal Solution of Carbonate of Copper.—Dissolve 5 oz. of carboate of copper in 3 pints of ammonia of a strength of 22°. Stir rapidly until the copper dissolves. Dilute to 40 or 50 gallons when wanted for use. For the same purpose as Bordeaux Mixture, and easier to apply, but probably not so good a fungicide.

Eau celeste is for mildews, rots, blights, &c. Dissolve 1 lb. of sulphate of copper in 2 galls. of water; in another vessel 1 lb. of carbonate of soda, and mix the two solutions. When chemical reaction has ceased, add 1½ pint of ammonia, 22°, and dilute to 25 galls. of water.

Paris Green is the best general insecticide. For most purposes, use 1 lb. to 250 galls. of water, keeping it well stirred when using. *London Purple* can be used in the same way, but it is usually more caustic to foliage than Paris Green.

Kerosene Emulsion.—Dissolve 1 quart of soft-soap, or one-fourth pound of hard soap, preferably whale-oil, in 2 quarts of hot water, and add 1 pint of kerosene. Mix thoroughly while the mixture is still hot, until a perfect emulsion is formed—one that does not separate when cold. For use, dilute with fifteen parts of water.

Lye-wash.—One pound of concentrated lye to one barrel of water, or 1 lb. of potash to 12 galls. of water, to be used for scale-insects like the barklouse. If home-made lye is used, a bushel of good wood-ashes contains about 4 lb. of potash. *American Gardening.*

CULTURE OF TECOMAS.

Although unquestionably some of the most beautiful of indoor climbing plants, the Tecomas are not, at present, much in favour with gardeners. And the reason is not far to seek. They are, when treated as ordinary greenhouse plants, amongst the shyest flowering of that class. Those who have not seen the old species, T. capensis, at its best—as, for instance, it may be seen in the out-door gardens on the French Riviera, can scarcely form an idea of the brilliant picture produced by its bright orange-scarlet flowers from October to December. It is the difference between our climatic conditions, more especially as regards sunlight, and those which obtain in southern France, that renders this south African plant so unsatisfactory in our glasshouses. There is a method of culture, however, first adopted, so far as I know, by Messrs. Low of Enfield, which entirely overcomes its shy-flowering propensity. I can speak from experience of its value, having adopted it myself for the last five years. By this method, this species is no longer a climber, but is reduced to a pot plant for the stages of the greenhouse.

Cuttings should be taken in spring, as soon as the young growth is moderately firm, and struck singly in 2½-inch pots, in a gentle bottom-heat. After having become fairly rooted, they should be grown on in an intermediate temperature, potting them on as required. By the time they have filled a 6-inch pot with roots, they will be from 12 to 18 inches high. No stopping must be done, as it is necessary, in order to obtain flowering strength, that the plant should for the first season be restricted to a single stem. About the middle of July the plants must be taken out-of-doors, and the pots stood on, or partly plunged in, a bed of ashes, in a position exposed to the full sun. Here they should stay until a flower-spike shows at the apex of the shoot. Shortly after the young spike has appeared, lateral growths will push from the axils of the uppermost pair of leaves; these must be at once removed, so that all the strength of the plant may be centred on the flower-spike. When the young spike is about 1 inch long, the plants must be removed to the greenhouse, and kept there till the flowers are developed. Soon after rehousing the plants, a sprinkling of some patent manure, given about twice, helps to increase the size of the flowers, as well as tends to heighten their colour.

Besides T. capensis there is a new hybrid, T. Smithii ×, which is equally beautiful when in flower. It was raised in Australia from T. capensis and T. velutina, and its flowers are bright orange-yellow. It is but little known as yet, it having first flowered in England some three years ago. The treatment detailed above suits it equally as well as T. capensis.

My experience with both the species is, that when treated in this way, nineteen out of twenty flower. Being rarely more than a foot and a half high, such plants are very convenient for the greenhouse shelf, and at the season they flower, November and December, the bright orange and scarlet is especially welcome. Occasionally large plants, grown on the rafters of the greenhouse, flower, but it is only after an exceptionally hot summer—such as that of 1887 or where the lights above the plant can be entirely removed during the summer months. *W. J. B.*

HOME CORRESPONDENCE.

PEACH BUD-DROPPING.—Mr. Temple, in a recent issue, made some reference to particular varieties which are more or less subject to the above evil. I have not found much difference between them, when the fruits are ripened early and about the same time. The American varieties, such, for instance, as Waterloo, Alexander, and Hale's Early, are exceptionally early fruiting, and planted in the same house with Royal George, Grosse Mignonne, and Stirling Castle, &c., the first two usually ripen six weeks and Hale's Early three weeks before the others; and to bring forward the later ones, the houses after the early fruits are ripe, are frequently kept closer than is good for the trees—and further, sometimes the Alexander has poor flavour when ripened in May, owing to insufficient ventilation when approaching ripeness, which is somewhat difficult to prevent when later ripening fruits are growing in the same house. Bud-dropping still puzzles Peach growers, and although we are repeatedly told how to prevent it, we have not been told the cause. In the *Gardeners' Chronicle* for February 25, p. 238, "O. T. F." speaks highly of the practice of root-lifting at intervals of two or three years, according to the age of the trees; and since he adopted that method, there has not, to his knowledge, a single bud dropped. This is strong evidence, and yet I have found trees taken from the open walls and planted under glass drop a portion of their buds the second year, notwithstanding that full attention was paid to the trees. It would be interesting to many if "O. T. F." would give the names of the varieties he forces, and the time when the early fruits are ripe. I do not wish it to be understood that I have little faith in lifting the roots, believing that it is beneficial. But what was the probable cause of the malady? Had the soil of the borders got Peach-sick, and the drainage bad? If this were known, one might better form an opinion. Those who plant Peach trees usually make good preparation in the matter of borders, and the shoots and trees generally appear excellent, and one would hardly suppose it to be the fault of the roots, as it is almost impossible for them to have got out of their allotted space, and trees on the open walls whose roots are allowed to grow in some instances for years undisturbed, rarely if ever shed buds as do early-forced trees. Then, again, some trees indoors, when early forced, whose roots have not been disturbed for years, some seasons scarcely shed a bud, while the following year quite the reverse is the case, notwithstanding the treatment remains the same, and the wood is well ripened. We are also warned against too strong dressings of manure, a too high temperature at starting, over-cropping and crowding of the young shoots; yet, where all these points are carefully attended to, the evil still presents itself. We are, moreover, advised to remove the lights of forcing-houses, and I believe this to be a good practice, and to supply manure-water abundantly at various times, and never to allow the trees to lack water, besides some other precautions—but still the buds drop. If lifting the roots be a preventive, what is then the cause? I am persuaded that the mischief occurs principally in the month of October, as if the buds are cut in half, where bud-dropping is an annual occurrence, it will be found the interior of the individual buds is dead (browned, as if burned). These buds hang on the trees till starting time, when they swell somewhat and then drop. Young vigorous trees whose wood is not well ripened, do not drop their buds in this way, but the flowers open weakly and then drop, while the wood grows rankly throughout that season. Wood is made very early in the season. Of course the wood in early Peach-houses has a long spell of hot weather to pull through before the leaves fall, and it is a question whether or not the buds get burned in some way. I have frequently observed early-forced trees, whose foliage has been kept clean with the free use of the syringe, after a few nights of early frost drop their leaves rapidly. Then a few weeks' spell of very warm weather follows, the buds get forward, while the sun shining on the bare shoots may have something to do with the injury to the buds, or the buds may get a severe check in some other way. Lifting the roots very early would certainly check the trees, and prevent the buds from getting so forward as would be the case if left undisturbed. But be that as it may, I am satisfied that the evil is contracted about this time, and not at the starting period, and that it is not always attributable to dryness of the roots, over-cropping, over-crowding of the shoots, or ill-ripened wood. *H. Markham, Mereworth Castle, Maidstone.*

THE VIOLET PLUM OF EAST ANGLIA.—There need not, I think, be any doubt or mystery respecting this Plum. George Lindley's *Guide to the Orchard and Kitchen Garden*, 1831, accurately describes the Plum in question, p. 444, No. 9:—"Violette Hâtive, syn. Violet, Early Violet. Branches numerous, slender, downy. Fruit small, oval, rather pointed at the apex, and compressed towards the stalk, about 1⅜ inch long and 1 inch in diameter. Suture shallow, in some extending from the stalk to the apex. Stalk half an inch long, slender, inserted in a small cavity. Skin purple, when fully ripe of a deep blue or violet colour, and covered with a thin blue bloom. Flesh green, and adheres to the stone. Juice sugary, with an agreeable acid; ripe the beginning of August. An old Plum, cultivated by John Tradescant before 1629. It is a most excellent bearer, and ought to be planted in the garden of every poor cottager throughout the kingdom; it might then not inaptly be called the cottager's Plum." This gentleman resided at Catton, near Norwich, and would not be at all likely to mistake this popular variety (at that time) in the Norwich market. *East Norfolk.*

HARDY SPRING VEGETABLES.—The planting of autumn and winter vegetables will soon call for consideration, and it is a matter of some moment with cultivators to get intelligence regarding the behaviour of vegetables during the past winter. Among Broccolis, more than a half of the general stock was destroyed, the hardiest this season has proved to be one to which we made special reference as to its excellence last summer, viz., "Methven's June." Two rows, from plants sent for trial late in July, are in good condition; one of the rows (of a few dozen plants) was lifted with roots entire and placed beside the other row left untouched, which had several destroyed, but the plants removed are almost uninjured, sturdy, and healthy, and entire as to numbers, and expected to be ready for use in June. Veitch's Model comes next in point of hardiness, one-fourth having been destroyed; Cattel's Eclipse, a great favourite, is more injured than Model; Downie's Latest-of-All has suffered to the extent of half the crop; Veitch's Main Crop is much the same as the last-named; others, including Knight's Protecting were severely cut down. Celery stood fairly well; Veitch's Rose and Major Clarke's Red having stood the frosts remarkably well. The latest are not large, but they are now, April 25, in good condition, and likely to give useful heads till June. They had a little dry litter placed over the ridges of four rows each during the time of the severest frost, but for most of the winter they were not covered. I always plant Celery in shallow ridges—often on the level—as I have seen practised in London market gardens, and for the latest crops do not favour large growth, and I afford manure but moderately. Spinach was badly injured, but nearly every heart of the plants of the Round variety remained sound, and they are now robust plants; but the Prickly-seeded Spinach has almost disappeared. Brussels Sprouts and Borecole have done good service by supplying plenty of young Sprouts. These on ground not heavily manured stood the winter much better than those on rich land; Cabbage (six varieties), were destroyed, all but their hearts. *M. T., Stirlingshire.*

REMEDY FOR THE GOOSEBERRY SAWFLY.—It may interest your readers in general, and your correspondent, "J. D.," in particular, to know that I have

for many years kept down the Gooseberry sawfly by a vigorous and repeated application of strong clear lime-water applied either by means of a syringe, or overhead with a fine rose watering-pot, giving sufficient at a watering to wet all the foliage and the ground under the bushes. It is easily made, cheap and safe. *D. Davis, Kyre, Tenbury.*

ELLAM'S EARLY CABBAGE.—I have never seen a better stock, or a truer or finer piece of this capital early Cabbage than Mr. Sage has in the gardens of Ham House, Richmond. What a contrast does this present to many other breadths I have seen, where either the plants of diverse sorts have all bolted off to seed, or else are just leaves without hearts. Ellam's Early, as seen at Ham House, has scores—indeed, hundreds—in perfect solid-hearted condition. Nothing could be better, and a big breadth of several acres would now be worth a little fortune to a market-grower. The soil is sandy, and it dries very rapidly. Probably large sorts of Cabbages would not do at all. In the Cabbage tribe nothing could be more tender and delicious than are these small heads. *A. D.*

GENTIANA ACAULIS.—In a conversation I had with Mr. Pope, of the King's Norton Nurseries, Birmingham, he said that this plant was blooming profusely in his nursery, and he gave what he supposed was the reason for its blooming so well. From a hint given by a lady who was familiar with the Swiss Alps, and had observed that this Gentiana throve best when it could receive the thawing snow-water on to the plant, Mr. Pope, to test the value of such waterings, used iced, or the coldest water he could get, and it was dropped into the hearts of the plants during the summer, even under hot sunshine, and plants with an extraordinary number of blooms are now to be seen in his private garden. *W. D.*

SPRING BEDDING, ETC., IN HYDE PARK.—In Park Lane very noticeable are some good beds of the well-known Dielytra spectabilis, carpeted with Viola Blue Bell, and having a band of white Daisies—a happy combination; two beds of the same, carpeted with Viola Mrs. Turner, will have a very pleasing effect when the latter gets fully established; one bed of purple Stocks, having an edging of white Daisies, is pretty. A series of beds of mixed Pansies, with an edging of red Daisies, will make a grand show later on. One bed is just now particularly good. Two beds near Grosvenor Gate planted entirely with Daisies, one white, the other red, at the present time are making a good show. A bed planted with Pansies, having purple flowers flaked with white, after the style of the Countess of Kintore, is charming. The Wallflower beds, twelve in number, running through the grass plot between Grosvenor and Mount Street Gates, planted with yellow and dark alternately, are now at their best. The Auriculas, in four beds at the Mount Street Gate, have Wallflowers planted in them for the sake of the shade they afford, and these will soon be in bloom. The Flower Walk in Kensington Gardens still affords pleasure to all those who admire an old style of gardening. In the way of herbaceous plants may be seen in full bloom, noble clumps of Solomon's Seal, Polemonium rupestris, Iberis correæfolia, one of the finest of the evergreen Candytufts, with white flowers; a clump of Doronicum plantagineum excelsum, bright golden-yellow flowers on a carpet of white Tulips, is pleasing. In the way of trees and shrubs flowering in this quarter at present may be specially mentioned the Lilacs and Pyrus floribunda which are in full bloom. The Hawthorn and the Laburnum are just ready to burst into bloom, as is also the pretty Spiræa prunifolia. *J. B.*

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

APRIL 25.—Present: Mr. McLachlan (in the chair); Mr. Blandford, Professor Green, Rev. W. Wilks, Mr. Wilson, Dr. Bonavia, Professor Müller, and Rev. G. Henslow, Hon. Sec.

Eucalyptus Galls.—Mr. Blandford reported upon his examination of the large woody galls sent to the last meeting by Baron von Mueller from Australia (wrongly referred to Acacia). They appeared to be formed at the base of the leaves. The gall was occupied by a large solitary coccid, the head being turned away from the orifice by which the larvæ escaped. Mr. McLachlan observed that coccids usually live externally on plants; but for some time a group has been known, including several species, which form galls on Eucalyptus in Australia, the coccids being sometimes upwards of 1 inch in length.

Bardfield Oxlips changing Colour.—Rev. C. W. Dod sent a clump bearing several umbels of yellow, and one of red flowers with the following communication. Referring to the specimens brought to the last meeting by Dr. Masters, he writes: "I have during the last few years investigated many of these cases in which I used to believe, but I have come to the conclusion that if a plant growing in the same soil and position, and not having been drugged, seems to have changed the colour of its flowers, *aliquis latet error*. In the particular case of the Bardfield Oxlip, which I grow in many spare corners of my garden, I find the duration of life of the plants to be about four years. Seedlings take the place of those that die, and are often amalgamated with them, flowering all together; so that it seems that one with dull red flowers (always the first departure from the typical colour in the Primula veris, L., class) appears to be part of the same plant, which is bearing yellow flowers. By the next year the yellow-flowering plant is probably dead, and the red-flowering one has quite superseded it." On carefully washing the mould away from the "clump" sent by Mr. Dod, it was readily resolved into seven perfectly distinct plants, six bearing yellow flowers, and one being dull red-flowered, thus entirely corroborating Mr. Dod's account of the origin of a change of colour being by seed only.

Erythronium grandiflorum, giant form, &c.—Mr. Wilson exhibited a flowering spike of this plant, 16 inches in height, with leaves proportionately large. It appeared first in 1892 among some seedlings, and is considerably larger in the present year, He also showed a specimen of Narcissus triandrus, remarkable for its strong growth, bearing four instead of the usually two flowers; also an umbel of a Primula, with the flowers dissociated along the peduncle.

Myosotis Proliferous and Many-petalled. — Dr. Bonavia exhibited sprays of this variety, which is now in the market. The petals are often as many as nine or ten in number, though no flower appears to be "double." Two or three flowers are sometimes fused together, as in Tomatos. An examination of this variety made by the Secretary showed that instead of the separate flowers along a common peduncle, as in the ordinary Forget-me-not, each flower is represented by a raceme, a proliferous condition sometimes seen in Solomon's Seal, Bluebells, &c. The individual flowers were characterised by "symmetrical increase," the sepals, petals, and stamens being multiplied uniformly. The pistil was malformed, consisting of a conical structure, the stylar tube being open above, with a rudimentary stigmatic border. About eight ovules were arranged in a circle at the base of the ovary, the placentation being thus free central. The terminal flower on the main axis was very remarkable, recalling somewhat similar malformations often seen in Foxgloves, Larkspurs, &c. It consisted of a whorl of many sepals, within which were five clusters, consisting of oval scale-like carpels, with a row of glands outside them; then followed in succession within the scales a mass of petals and stamens. Five similar carpellary scales then were seen around the axis, within which all round were numerous abortive ovules. The central axis consisted of a flower turned inside outwards, the members of which being in a reversed order—viz., stamens on the outside of the tube of the corolla, the corona being thus on the exterior surface, the petal lobes over-arching them outwards, while the centre was occupied by a tuft of erect sepals. Information as to the origin of this remarkable variety, and the name of the raiser, is greatly to be desired.

Peach Leaves Malformed.—Rev. F. C. Dillon sent leaves which were curled, and with a blistered appearance, the lower epidermis peeling off. It was thought to be due to a chill by east winds, and not to the presence of fungus or insects. They were referred to Professor Green for further examination.

NATIONAL AURICULA

(Northern Section).

APRIL 25.—This exhibition was held in the Town Hall, Manchester, in conjunction with the Manchester Royal Botanical Society Show. The Auriculas formed the principal part of the exhibition, and here, as was the case in the South, the season was about three weeks earlier than usual. In consequence of the recent hot dry weather, the plants shown were not quite up to the usual standard. The premier Auricula in the show was the Rev. F. D. Horner, shown by Mr. T. Lord of Todmorden.

For six dissimilar Auriculas, the 1st prize went to Mr. Irving Hind, Halifax; and for four dissimilar kinds to Mr. T. Lord, Todmorden.

Mr. B. Simonite was 1st for a pair of Auriculas, and again for a single plant of the green edge type.

Mr. T. Lord was successful with a single plant of the grey edge type, and Mr. W. H. Midgley, in the white edge section. For a single plant of the self-coloured Auriculas, Mr. Irving Hind was 1st. For four dissimilar alpine shaded Auriculas, there was considerable competition, the 1st prize being awarded to Mr. J. Beswick, and to the same exhibitor for a single plant of this type, but with a yellow centre. Mr. J. Clements was equally successful with the white centres. Mr. S. Barlow, Castleton, was 1st for twelve dissimilar fancy Auriculas, for twelve dissimilar Polyanthuses, and for twelve Primroses.

Miscellaneous exhibits were numerous and good, and were contributed by most of the nurserymen of the district, and from the garden of the Society at Old Trafford.

YORK SPRING FLOWER SHOW.

APRIL 26 AND 27.—In connection with the exhibitions held under the auspices of the Ancient Society of York Florists, the first spring show was instituted on the above date. It is hoped that the spring show will prove an unusual attraction to lovers of flowers and admirers of horticultural produce in York and its immediate neighbourhood. The display provided in the Exhibition Building on this occasion was a good promise of success in coming years. Some fine exhibits were arranged in the two great halls, producing a beautiful effect. The centre of the largest hall was occupied with groups of plants, in or out of bloom, arranged for effect. In this department, Mr. J. Sinclair, of York, carried off the premier prize, with a tasteful and light arrangement of Ferns and flowering plants, Mr. H. Leetham being a good 2nd. The last exhibitor was 1st for six stove and greenhouse plants, one Palm, and six plants suitable for dinner-table decoration. Mr. W. B. Richardson was 1st for three Azaleas, shown as naturally grown. The same exhibitor was also awarded a 1st prize for one Azalea. Exceptionally fine specimens of Spiræa (Hoteia) japonica were shown by Miss Stewart, Mr. T. Lambert, and Mr. S. Wright, and awarded prizes in the order named.

Mr. J. Sinclair was a conspicuous winner of prizes in the classes for cut flowers and forced Strawberries. Messrs. D. Richardson, H. Leetham, J. Kirk, J. Hall, Miss Barstow, Mr. T. Lambert, and Mr. J. Sinclair carried off the principal prizes for vegetables.

BIRMINGHAM BOTANICAL AND HORTICULTURAL NARCISSUS EXHIBITION.

APRIL 26, 27.—A liberal schedule offered by the Birmingham Botanical and Horticultural Society would have brought an extensive display of these flowers to their exhibition at the Edgbaston Gardens on April 26 and 27, but the hot weather of the end of the month had driven many collections out of flower, so that the display was of a very limited character, and in the cut bloom classes Mr. Wilson, South Cave, East Yorkshire, had a walk over in the classes in which he exhibited; in his collections were leading kinds, including some of Henry Collins, very fine and distinct.

For plants in pots, Professor Hillhouse was the only exhibitor.

Messrs. Pearson, of the Chilwell Nurseries, Nottingham, had a good honorary exhibit of Narcissus, amongst them, Madame de Graaff, very fine white; Mrs. Vincent, another lovely white; Mrs. John Pope, white, quite new; Mrs. J. B. M. Camm, Glory of Leyden, a grand yellow, the trumpet golden yellow, the segments rather lighter in colour, and remarkable for breadth and solidity. A First-class Certificate was awarded to this very fine variety; N. Bicolor Grandee and N. B. Empress were also very fine in this collection, also N. incomparabilis King of the Netherlands, a superb variety; N. i. Princess Mary, creamy white, with orange stained spreading cup is also a gem; and N. i. Goliath and N. i. Frank Miles, creamy yellow, with bright yellow centre, an acquisition. N. P. R. Barr, is a beautiful yellow, of the Empress type. N. Leedsi Duchess of Brabant and Leedsi Mrs. Langtry, varie-

es of poeticus, and N. Burbidgei Model, N. B. Falstaff, and N. B. Agnes Barr, were conspicuous in this ollection.

Mr. Robert Sydenham, Birmingham, staged a ood collection of bright well-coloured flowers not or competition, including N. Nelsoni major, very harming; N. Burbidgei in very fine character; N. Mrs. . B. M. Camm, very fine; N. Barri conspicua, highly oloured; N. Johnstoni, N. Queen of Spain, very lovely, nd quite distinct; N. Leedsi Duchess of Westminster, hite, with pale cream centre, and N. Princess Mary, reamy-white, with rich yellow perianth. Mr. ydenham had also a good display of Parrot and ther Tulips.

The Birmingham Botanical Gardens set up a mall collection of Narcissi, amongst them N. Poeticus ngustifolius, Burbidgei Robin Hood, B. Mary, incomparabilis varieties, John Stephenson, Cynosure, Glow, marginata, and varieties of Leedsi, and thers.

Mr. Jannoch, Dersingham, King's Lynn, had a ery fine display of Lily of the Valley in various esigns, to which a Silver Medal was awarded; and Messrs. Hewitt & Co., The Nurseries, Solihull, set p a bank of hardy cut flowers, with a group of Narcissus blooms. *Correspondent.*

WHITE EAST LOTHIAN STOCKS IN POTS.

For some weeks past, a quantity of plants of this retty variety have been in full bloom in one of the ouses at the Moseley Botanical Gardens and College Grounds, Birmingham. Mr. French, the gardener here, has for several years past made this his avourite plant, and sows the seed at the end of April or early in May, and as soon as the plants are it, plants them out, and pots them up into 48-pots arly in the autumn, afterwards shifting them into arger pots. They are grown quite hardily until January or February, and then they are brought nto the houses, and fully 80 per cent. come with louble flowers. The plants are about 15 to 18 inches igh, with clear white flowers, invaluable for cutting. When well done, this stock is an excellent subject for early winter blooming. *W. D.*

THE BIRMINGHAM BOTANICAL GARDENS, EDGBASTON.

On the occasion of the Narcissi Exhibition, April 26 and 27, the bright summer weather tempted many to have a good look round out-of-doors, and many gems amongst our early spring-blooming plants were met with. On a narrow border running in front of the glasshouses which front the terrace many interesting plants were to be found, including a small group of Opuntia vulgaris, O. Rafinesquii, and O. senilis, which have stood several winters without protection. Close by is a strong plant of a species of Amsonia, a North American herbaceous plant, with corymbs of pale lavender-coloured flowers, and well deserving a place in any collection of herbaceous plants. The procumbent Phloxes, plants of much beauty for rockwork, bordering, and very early blooming, such as Nelsoni, divaricata, and others, are in full bloom; and against the low wall of the greenhouses there is a species of Cotoneaster, an evergreen shrub of great beauty, well fitted for covering a low wall. The leaves are round in shape, and it carries a profusion of small pink and white flowers.

On the south side of the terrace are beds for spring-blooming plants, one of which is filled with La Candeur double white Tulip, standing on a carpet of Myosotis. Another has a carpet of the True Blue Viola, and an edging of Arabis albida variegata and bright-coloured Tulips. Another bed has a carpet of the white and yellow Polyanthus, Dean's variety, with a border of the Cerastium tomentosum, in the whole of which Hyacinths were in bloom. Masses of the Early Harbinger Wallflower perfumed the garden.

In the greenhouses were observed some Orchids and other plants in flower, of which a large plant of the Sikkim Himalayan Rhododendron Dalhousieianum was in full bloom; and close by was a large specimen of Brachyglottis repanda, a greenhouse shrub which had flowered profusely, and is now clothed with a profusion of fluffy seeds. Several fine flowering plants of Cineraria cruenta, the original species, were interesting objects. A large carpet of the dwarf Veronica serpyllifolia was a striking object, a mass of small white flowers. *W. D.*

Obituary.

Mr. Edwin Sanderson.—This well known Chrysanthemum cultivator, for the space of thirty years President of the Old Stoke Newington and Borough of Hackney Chrysanthemum Society, died at his residence, St. Mary's Road, Harlesden, on the 27th ult., at a good old age, having been in ill-health for a few years past. He retired from the post of President when the Borough of Hackney Society was changed to that of the National Chrysanthemum Society. From the year 1846, almost up to the time of his death, he had been a cultivator of Chrysanthemums. Originally the secretary of the Stoke Newington Society, he passed through various offices until he was made president, and at the time *Gossip of the Garden* was published, about forty years ago, he contributed many papers on the culture of the flowers he loved so well. It was the incurved section to which he gave his attention, and he grew them with remarkable success. He was buried in Willesden Parish Churchyard on the 2nd inst., in the presence of a large number of old friends, Messrs. R. Ballantine and R. Dean, chairman of the committee and hon. secretary, representing the National Chrysanthemum Society, and a magnificent wreath from the Society was laid upon the coffin.

Enquiry.

"He that questioneth much shall learn much."—Bacon.

Would some of our readers kindly inform W. Anderson where he can obtain terra-cotta labels suitable for Orchids?

The Weather.

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending April 29.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1893.	Below 42°, difference from Mean since January 1, 1893.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1893.	Total Fall since Jan. 1, 1893.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1893.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	4 +	52	2	+ 152	— 32	2 —	79	14·8	44	25
1	4 +	61	7	+ 133	— 7	3 —	62	7 0	49	34
2	3 +	51	6	+ 160	— 52	4 —	50	5 0	58	37
3	5 +	77	5	+ 228	— 21	4 —	53	5·2	71	42
4	7 +	89	4	+ 289	— 35	4 —	51	5·1	66	41
5	6 +	88	0	+ 223	— 40	4 —	50	6·0	71	43
6	5 +	69	0	+ 183	— 50	2 —	64	11 3	63	35
7	6 +	77	0	+ 242	— 84	4 —	53	6·9	51	35
8	7 +	95	0	+ 259	— 66	6 —	51	9·1	73	45
9	4 +	68	0	+ 167	— 95	3 —	64	9 0	50	30
10	5 +	84	0	+ 200	— 98	5 —	57	9 7	57	35
*	6 +	97	0	+ 310	— 53	5 —	58	7·6	81	49

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; (* Channel Islands.)

THE PAST WEEK.

The following summary record of the weather for the week ending April 29, is furnished from the Meteorological Office:—

"The *weather* was again fine, dry, and warm over England and the greater part of Ireland, but in Scotland the conditions, after being fine during the earlier days of the period, became unsettled towards its close, and falls of rain and hail set in; in the extreme north some snow showers were experienced. By the end of the week, the unsettled weather was extending gradually to England and Ireland, and slight rain had occurred at nearly all stations.

"The *temperature* continued above the mean in all districts, the excess varying from 3° to 5° in the north and west, to 6° or 7° in most parts of England. The highest of the maxima were registered on the 24th or 25th, when the thermometer rose to 82° in 'England, E.,' 81° in 'England, S.W.,' 80° in 'England, S.,' and to between 72° and 78° in the other districts. Towards the end of the week, the maxima were much lower, the thermometer in many places failing to reach 60° in the warmest part of the day. The lowest of the minima occurred on the 28th over England, on the 29th in Scotland, and on irregular dates in Ireland, and ranged from 31° in 'Scotland, E.' and 'England, S.W.,' and 32° in 'England, S.' and 'Scotland, W.' to 38° in 'Ireland, S.,' and to 46° in the Midland Counties.

"The *rainfall* was less than the mean in all districts. Over England the fall was scarcely appreciable, and in Ireland the amount was only one to two-tenths of an inch, while in Scotland the fall was larger, varying between two and four-tenths.

"The *bright sunshine* was very prevalent over the entire kingdom, and greatly exceeded the mean. The percentage of the possible duration ranged from 44 to 63 in Scotland, from 50 to 57 in Ireland, and from 51 to 73 over England. In the Channel Islands the percentage was as high as 81."

Markets.

COVENT GARDEN, May 4.

Market heavily supplied; Grapes and Strawberries being a complete drug, with business slower. *James Webber, Wholesale Apple Market.*

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.
Arums, dozen pots	9 0	18 0
Azalea, per doz.	18 0	24 0
Adiantum, per doz.	6 0	12 0
Aspidistra, per doz.	15 0	30 0
— specimen, each	7 6	21 0
Cineraria, per doz.	6 0	9 0
Cyclamen, doz.	9 0	18 0
Cyperus, per dozen	4 0	10 0
Dracæna, each	1 0	5 0
Erica, various, doz.	9 0	21 0
Ferns, various, doz.	4 0	9 0
Ferns, small, per 100	5 0	8 0
Ficus elastica, each	1 6	7 6
Genista, per doz.	6 0	9 0
Lilium Harrisii	18 0	30 0
Lily of the Valley, 12 pots	9 0	15
Marguerite, per doz.	6 0	12 0
Mignonette, doz. pots	6 0	9 0
Palms, various, each	2 0	10 0
— specimens, each	10 6	84 0
Pelargoniums, p. doz	12 0	18 0
— scarlets, p. doz.	4 0	9 0
Primula sinensis, doz.	4 0	6 0
Saxifrage, per doz.	12 0	18 0
Spiræ per dozen	8 0	12 0

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.
Arum, per doz. bl.	1 0	3 0
Azalea, dozen sprays	0 6	0 9
Bouvardias, per bun.	0 6	1 0
Carnations, 12 blms.	1 0	3 0
Eucharis, per dozen	3 0	4 0
Gardenias, per dozen	1 0	3 0
Heliotropes, per doz. sprays	0 6	0 9
Lilac, Eng., 12 bun.	6 0	9 0
— French, per bunch	3 6	5 0
Lilium Harrisii, doz.	2 0	4 0
Lily of the Valley, doz. bunches	3 0	6 0
Maiden Hair Fern, 12 bunches	4 0	6 0
Marguerites, p. doz. bunches	2 6	4 0
Mignonette, 12 bun.	3 0	6 0
Narcissus, various, French, doz. bun.	2 0	6 0
— single do.	2 0	9 0
Myosotis, 12 bunches	2 0	3 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blms.	2 0	6 0
Pelargoniums, scarlet, p. 12 bun.	4 0	6 0
— 12 sprays	0 6	0 9
Polyanthus, 12 bun.	2 0	4 0
Primroses, doz. bun.	0 6	1 0
Primulas, dble. p. bun.	0 6	1 0
Roses, Tea, per dozen	0 6	2 0
— coloured, dozen	2 0	4 0
— yellow (Maréchals), per doz.	1 6	6 0
— red, per dozen	1 6	3 0
— (French) p. doz.	0 9	1 6
Spiræa, 12 bunches	3 0	6 0
Tuberoses, 12 blms.	0 6	1 0
Tulips, per doz. bun.	2 0	4 0
Violets, Parme French per bunch	3 6	4 0
— small English, p. doz. bunches	1 0	1 6
Wallflower, 12 bun.	2 0	3 0

Orchid-bloom in variety.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.
Apples, p. half-sieve	2 0	3 6
— Nova Scotia, per barrel	10 0	17 6
— Tasmanian, per case	2 6	12 0
Cobs, per 100 lb.		
Grapes, per lb.	2 0	4 0
Lemons, per case	12 0	20 0
Pine-apples, St. Michael	2 0	5 0
Oranges, per case	20 0	30 0
Strawberries, per lb.	1 0	4 0

Potatos.

Trade for old Potatos is at a standstill. Best samples selling slowly, at 45*s.* to 60*s.*; ordinary, 30*s.* to 35*s.*

New Potatos.—Large arrivals; prices lower; only a limited demand. Malta Rounds, 10*s.* to 12*s.*; Kidneys, 12*s.* to 16*s.*; Teneriffe Kidneys, 10*s.* to 15*s.* *J. B. Thomas.*

VEGETABLES. — AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Beans, French, lb.	1 6– 2 0	Mushrooms, punnet	2 0–
Beet, red, per dozen	2 0– 3 0	Mustard and Cress, punnet	0 4–
Carrots, per bunch	0 4– 0 6	Parsley per bunch	0 3– 0 6
Cauliflowers, each	0 3– 0 6	Seakale, per basket	2 0– 2 6
Cucumbers, each	0 4– 0 8	Shallots, per lb.	0 6–
Endive, per dozen	2 0– 3 0	Tomatos, per lb.	1 0– 2 0
Herbs, per bunch	0 9– 1 0	Turnips, per bunch	0 4– 0 6
Lettuces, per doz.	1 6– 2 0		

SEEDS.

LONDON: *May* 3. — Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write, that numerous sowing orders still come to hand. Red Clover-seed in particular being much wanted and astonishingly scarce, is firmer. Alsyke, White and Trefoil are also strong. There is no change in grasses. Tares, for lack of rain, have recently been slow. Sanfoin is in short supply. Canary seed exhibits a marked recovery from its late depression. Little attention is at present given to Hemp seed. Blue Peas are decidedly better. In Rape seed the tendency is upwards. Mustard keeps firm. Linseed dull.

FRUITS AND VEGETABLES.

BOROUGH: *May* 2.—Quotations:—Spinach, 2*s.* to 2*s.* 6*d.* per bushel; Kale, 1*s.* 3*d.* to 1*s.* 9*d.*, do.; Greens, 3*s.* to 5*s.*; Parsley, 3*s.*; Carrots, 2*s.* 6*d.* to 3*s.* 6*d.* per dozen bunches; English Onions, 8*s.* to 10*s.* per cwt.; Horseradish, 2*s.* to 2*s.* 6*d.* per bundle; Apples, 4*s.* 6*d.* to 6*s.* per bushel.

SPITALFIELDS: *May* 2.—Quotations:—Apples, Tasmanian, 8*s.* to 12*s.* per box; American Apples, 10*s.* to 20*s.* per barrel; Spinach, 1*s.* 6*d.* to 2*s.*; Curly Kale, 1*s.* 6*d.* per bushel; Sprouting Broccoli, 2*s.* to 2*s.* 6*d.* per sack; Seakale, 1*s.* 3*d.* per punnet; Cauliflowers, 6*s.* to 10*s.* per tally; Greens, 4*s.* to 5*s.* long Radishes, 1*s.* 3*d.*; round do., 8*d*; Parsley, 4*s.* per dozen bunches; Endive, 1*s.* to 1*s.* 6*d.*; Cabbage Lettuces, 8*d.* to 1*s*; frame Cucumbers, 2*s.* 6*d.* to 5*s.* per dozen; Mustard and Cress, 2*s.* per dozen baskets; Horseradish, 2*s.* 6*d.* per bundle; Spring Onions, 5*s.* to 6*s.* per dozen bundles; forced Rhubarb, 1*s.* 3*d.*; natural do., 1*s.* 3*d.* to 1*s.* 6*d.* per dozen bundles; Carrots, 60*s.* per ton; Egyptian Onions, 7*s.* to 8*s.* per cwt.

FARRINGDON: *May* 4.—Quotations:—Cauliflowers, 2*s.* 6*d.* per dozen; Cabbages, 1*s.* do.; do., 5*s.* per tally; Spinach, 2*s.* to 2*s.* 6*d.* per bushel; Carrots, 60*s.* per ton; Beetroot, 50*s.* per ton; English Onions, 9*s.* to 11*s.* per cwt.; Asparagus, 2*s.* per bundle; Horseradish, 2*s.* 6*d.* per dozen; Apples, Tasmanian, 10*s.* 6*d.* per box; do., Nonpareils, 11*s.* do.

POTATOS.

BOROUGH: *May* 2.—Quotations:—English Magnums, 40*s.* to 60*s.* per ton. New, 10*s.* 6*d.* to 25*s.* per cwt.

SPITALFIELDS: *May* 2.—New Canary Island, 11*s.* to 16*s.* per cwt.; old do., 45*s.* to 90*s.* per ton.

FARRINGDON: *May* 4.—Quotations:—Bruce's, 55*s.* to 60*s.* Magnums, 50*s.* to 55*s.*; Main Crop, 80*s.* to 90*s.*; Imperators, 50*s.* to 55*s.* per ton.

LONDON AVERAGES: *May* 3.—Magnums, 40*s.* to 50*s.*; Hebrons, 58*s.* to 70*s.*; Imperators, 50*s.* to 60*s.*; Belgians, 35*s.* to 45*s.* per ton. New:—English, 2*d.* to 4*d.*; Jerseys, 1*d.* to 3*d.*; Guernsey Kidneys, 2*d.* to 3*d.* per pound.

NOTICES TO CORRESPONDENTS.

AWARD AT THE ROYAL HORTICULTURAL SOCIETY MEETING ON THE 25TH ULT.: *J. C.* The matter is of no public interest. Why not write to the secretary if you feel that justice was not done?

CARNATIONS FOR FLOWERING IN NOVEMBER: *Foreman.* Do not stop the points of shoots later than the last week in June.

CARPET BEDS, AND PLANTING THEM: *O. J.* With four beds 21 yards long and 4 feet wide in each instance, planted with the ordinary carpeting plants, your four assistants will spend half their time in trimming the plants, and otherwise keeping them in order during the summer months, so that the fifteen glass-houses that you have will perforce get but little attention. If the beds were partly filled chiefly with hardy little shrubs, say, Box, Euonymus japonicus, E. radicans in green and variegated forms, Thuia Lawsoniana erecto-viridis, small Irish Yew, Osmanthus, green and gold Hollies, Aucubas, Juniperus communis, Retinospora obtusa and its varieties albo-picta, aurea, nana, and pygmea aurea, R. plumosa argentea and aurea, and others, Widdringtonia ericoides, Cryptomeria elegans, some portion might be reserved for such hardy plants as could at this season be obtainable, and which might be planted with some chance of doing well. These dwarf hardy things are Ajuga reptans, Antennaria tomentosa, Arabis albida variegata, Artemesia frigida, Herniaria glabra, Mentha pulegium, Santolina incana, Saxifraga Aizoon, S. intacta, S. oppositifolia, Sedum brevifolium, S. rosularis, S. Ewersi, S. lividum, Sempervivum arachnoideum, S. arcuarium, and S. soboliferum. Of tender plants, there are Iresines Herbsti and Lindeni, Echeveria glauca metallica, E. retusa glauca, E. secunda glauca, Pachyphytum bracteatum, Mesembryanthemum cordifolium variegatum, a number of Alternantheras, green, crimson, orange, and other colours, Pyrethrum Golden Feather. We cannot say here how you should plant the beds, beyond advising you to group round-headed evergreens, and use pyramidal forms chiefly as dot plants, the dwarf hardy and the tender dwarf plants being employed for dividing lines, edgings, and panels. It would be best to have a plan drawn on paper, or on the beds themselves.

EXCRESCENCE ON APPLE-BARK: *H. J. C.* This is probably due to the puncture of some kind of mite. Stove-Pine next week.

GENISTA OVERRUN BY A PARASITIC PLANT: *Waterjug.* Cuscuta europæus; destroy every bit of it by fire.

INSECTS: *A. R.* Red-spider—Tetranychus telarius. Wash the Gooseberry-bushes, &c., with soft-soap, flowers-of-sulphur, and warm water; or make a sulphuret of 1 lb. of sulphur and 2 lb. of quicklime in 1 gallon of water, boil for 10 minutes. Take 2 oz. of this fluid, and 4 oz. of soft-soap, mix well together, and add 1 gallon of hot water; when moderately warm, use with the syringe. In slight attacks, thorough daily syringings and good root-watering have a beneficial effect.

LILIUM LONGIFLORUM VAR. HARRISII: *M. J.* Assuming that you buy the bulbs in August, pot them without delay in sandy loam, a little peat, and dry cow-dung, affording fair drainage, and only half filling the pots with mould. Plunge in the soil in a warm spot, say, the foot of a south wall, covering the pots with slates, and some mould over all; or put them in Cocoa-nut fibre in a garden frame. If the soil was moist when used, no water should be necessary before the bulbs push up their growth; when that is visible, put them in a greenhouse, and later, in an intermediate-house. When approaching bloom, these Lilies will stand a temperature rather higher than that of this house, but the blooms are then rather flimsy, and do not last long either on or off the plants.

NAMES OF PLANTS: *J. W. F.* Cantua dependens.—*T. B., Nottingham.* Saxifraga muscoides.—*W. E. C.* Prunus padus.—*W. H.* Kerria japonica fl.-pl.—*M. I.* 1, Magnolia conspicua; 2, Heuchera glabra; 3, Saxifraga rotundifolia; 4, Saxifraga capillaris; 5, Claytonia sibirica; 6, Saxifraga hypnoides.—*F. K.* 1, next week; 2, Sparaxis grandiflora; 3, Clematis montana.—*E. M. C.* Abortive flower of Dendrobium Wardianum.—*A. B., Birmingham.* 1, Pellionia Daveauana; 2, Pellionia pulchra.—*G. McKenzie.* Next week.—*N. F. B.* Menyanthes trifoliata, Bogbean or Buckbean.—*G. H. S.* 1, Cytisus biflorus; 2, Limonia trifoliata; 3, Hibbertia Cunninghamii, probably petals dropped; 4, Metrosideros floribunda; 5, Illicium floridanum; 6, Jasminum heterophyllum; 7, Boronia elatior.—*Delta.* 1, Cœlogyne corymbosa; 2, Bifrenaria inodora var. xanthina; 3, Maxillaria sp.—send bulb leaf, and description of growth; 4, Dolichos lignosus.—*Ripley.* 1, Found on Laurel root is Lathræa squamata; 2, Prunus Padus, Bird Cherry; 3, Berberis Darwini; 6, Blechnum polypodioides; others next week.—*R. Scott.* 1, Pteris longifolia; 2, Aspidium sp.; 3, not recognised in absence of fertile fronds; 4, Lastrea serra; 5, Asclepias Curassavica; 6, Adiantum Ghiesbreghtianum; 7, Adiantum tenerum.—*U. C. C.* 1, Lonicera; 2, Symphytum asperrimum; 3, Phlox setacea var. The others next week.

NOTICE TO LEAVE EMPLOYMENT: *Newmarket.* In your case a quarter's notice.—*Gardener.* We do not know the terms under which you took service with the lady, but a month's notice or money in lieu thereof is customary, unless there has been gross misconduct on your part.

PEACHES: *J. Hogan.* The fruits sent are mildewed, and nothing can now be done to save them. Use one of the many remedies for mildew given in these pages. Read "Spraying" in the present issue.

PEAR CATERPILLAR: *E. R.* The fly sent is not the parent of the caterpillar. For a remedy see the answer under "Small White Maggot on Flemish Cherry," in this column.

PRUNING OF MARÉCHAL NIEL ROSE AFTER FORCING: *M. J.* The plant, when the bloom for the season is on the wane, should be kept rather dryer at the root for a fortnight, and then receive a severe pruning, that is, cutting back well down to the older parts of the branches generally, but of course bearing in mind desirable extensions in any direction, the shoots for this purpose being left of considerable length; but these should be few in number in any one season. Some top-dressing of rich soil or manure will perhaps be necessary when the Rose breaks.

SMALL WHITE MAGGOT ON FLEMISH CHERRY: *W. H.* The minute grubs in your Apple blossoms are those of a small weevil known as Anthonomus pomonum. The perfect insect hybernates under the bark and in the crevices, and in early spring deposits the eggs in the young buds. Those in Cherry are, in all probability, the same, or, at any rate, are closely allied. The young grubs commence to eat the reproductive organs of the flower as soon as hatched, so that most of the mischief is done before the flowers are ready to open, and in most cases the infested buds never properly open, but become brown, as in your sample. This being the case, spraying is of little use, because the liquid cannot reach the inside of the buds, but spraying would kill the larvæ of the Tortrix, winter moth, &c. It has been found useful to place a sheet under the trees, and then, in the first warm days of early spring, to tap the trees sharply; this causes the beetles engaged in laying eggs to fall on to the sheet, where they can be collected and destroyed. Washing or scrubbing the trunks and larger branches with some insecticide during late autumn and in the winter might destroy a certain proportion of the weevils. Tarring the trunk has also been recommended. It is an insidious pest, and one very difficult to get at. Fortunately, it is ordinarily abundant only in certain years. *R. McL.*

VINES: *H. J.* Died of old age and bad treatment. They had this year sufficient life to push some weak shoots on fire-heat being applied, and that was all. Clear them out; make a border with an impermeable bottom; let it slope to a drain of rubble at the front; and, if there be an inside border, let that have a drain to itself, say, just inside the front wall of the vinery, and conduct these drains to a dry well or a garden drain. Do not have a greater depth of soil than 2 feet; make the border piecemeal, the first section being about 5 feet wide. It can be kept moist whilst of narrow width by means of a lining of strawy stable-litter, leaf-mould, &c., piled against the sides. It is not too late to make a border, and plant growing Vines. In the border use only turfy loam, lime-rubbish, charcoal, and Thomson's Vine-manure. Other aids to growth can be afforded when they are called for, and that is not at first. Use a small quantity of rich compost on planting the Vines, but no fresh or strong manure.

WORMS IN POTS: *E. W. R.* The worms do harm to plants in flower-pots by carrying the fine particles of the soil down to the bottom, which in time almost or quite prevents the egress of water. The soil then gets waterlogged and soured, and unfit to support healthy plant life. When the presence of worms is noticed, carefully turn out the ball of soil, and the worm or worms may be picked out. If the soil has been carried down to the bottom of the pot, clear away the dirty crocks, and carefully crock a new pot or wash the old one quite clean, and when it is dry crock it anew, placing a little moss or rough bits of soil on the top of the crocks, and then the old ball. If the ball is very soddened, it may be found desirable to pick off carefully the soil round the sides and bottom of the mass, and repot in new soil, affording no water for several days. Sometimes more radical measures are necessary, and the whole of the old soil has to be shaken off, the roots washed, and then carefully repotted. This should only be done with plants just emerging from their winter's rest. If the plant is a large one, and cannot well be repotted or even examined owing to its being in growth, water the soil with clear lime-water, which will have the effect of bringing the worms to the surface, when they must be caught.

COMMUNICATIONS RECEIVED. — R. Smith. — M. T. M.—J. R. J.—W. G. S.—W. G.—A. K.—F. H. E. (next week).—C. A.—M. C.—N. C. F.—G. B.—G. J.—J. O'B.—D. T. F.—M. T.—H. E.—W. S.—J. D.—B. W.—J. B. W.—C. M.—N. E. B.

SPECIMENS RECEIVED.—A. D. R.—Jas. B.—W. W. W.—M. J. T.—G. P.—G. McKensie, next week.

GARDENING & FORESTRY EXHIBITION, EARL'S COURT, LONDON, 1893.

SCHEDULES OF PRIZES,

AND ARRANGEMENTS FOR

SPECIAL FLOWER SHOW (Opening Day), May 13. **SHOW OF ORCHIDS**, &c., May 18 & 19. **SHOW OF ROSES**, &c., June 28. **SHOW OF ROSES**, &c., July 12. **SHOW OF CARNATIONS, PICOTEES**, &c., July 26 & 27. **SHOW OF FLOWERING and FOLIAGE PLANTS**, &c., August 9 & 10. **SHOW OF GLADIOLI**, &c., August 23 & 24. **SHOW OF DAHLIAS and AUTUMN FLOWERS**, &c., September 13 & 14. **SHOW OF HARDY FRUIT**, &c., September 27, 28, & 29.

ADDRESS—Mr. H. E. MILNER, *Chairman*, GARDENING AND FORESTRY EXHIBITION, EARL'S COURT, LONDON, S.W.

REGULATIONS TO BE OBSERVED BY EXHIBITORS.

1.—The prizes offered are open for competition amongst home and foreign cultivators.
2.—Specimens not provided for in the Schedule may be exhibited, marked "Not for Competition." Extra prizes in the form of Cups, Medals, Money Prizes, &c., will be awarded for exhibits of merit. Exhibitors entering in this section are **specially requested to state definitely the amount of space required**, in order that proper arrangements may be made.
3.—Every exhibit must be legibly labelled.
4.—Every exhibitor must give at least four clear days' notice of the class or classes in which he intends to compete, on the Entry Form herewith, addressed to Mr. H. E. Milner, Chairman, Gardening and Forestry Exhibition, Earl's Court, S.W. **Under no circumstances** will entries (in the competing classes) be received on **the mornings of the Shows.**
5.—Every exhibitor must specify the amount of space (in square feet) his exhibits will occupy, in order that proper arrangements may be made.
6.—Exhibitors are SPECIALLY REQUESTED to give notice OF ANY WITHDRAWAL OF ENTRIES AT LEAST two days previous to each show.
7.—All specimens must be the *bonâ fide* property of the exhibitor or of his employer, or they will not be eligible to compete for prizes.
8.—No exhibits will be received after 10 o'Clock on the mornings of the exhibitions, and all persons (except such as may be officially retained) must retire at 10.30 a.m., at which hour the Judges will proceed to make the awards. The decisions of the Judges will be final.
9.—Cards corresponding with the entries will be furnished on the mornings of the Exhibitions at the Secretary's office.
10.—Exhibitors will be responsible for the proper placing of these cards, and they are requested to satisfy themselves that the cards correctly describe the objects exhibited.
11.—The Committee have instructions to refuse all exhibits which they consider unworthy of being shown.
12.—The Judges have the right of withholding the prizes where the specimens exhibited may be considered unworthy of them.
13.—Any prize improperly obtained will be forfeited, and the exhibitor may, at the discretion of the Committee, be excluded from competing at future exhibitions.
14.—No exhibitor can take more than one prize in any one class.
15.—Exhibitors, with their necessary assistants, will be admitted for the purpose of giving the requisite attention to their Plants between the hours of six and ten each morning.
16.—Exhibitors' Pass Tickets and Breakfast Tickets, for necessary attendants only, will be supplied by the Secretary.
17.—The Executive will not be responsible for loss of, or damage done, to plants, &c., during the Exhibitions; but all ordinary care will be taken of them.
18.—The prizes awarded will be paid within a month after each Show.
19.—In order to encourage high-class culture in Plants, Flowers, Fruits, &c., a limited number of valuable Gold Medals will be awarded to exhibits deemed so worthy by the Judges appointed to adjudicate on their merits. It is not necessary that such exhibits be displayed at the competitive shows; they may be arranged at intermediate dates, notice of intention to exhibit being given **seven days previously.**
20.—The Committee reserve the right of deciding in all cases not specially provided for by these regulations.

SPECIAL FLOWER SHOW, May 13.

Group 1.—PLANTS. *Open Classes.*

		1st Prize. £	2nd Prize. £	3rd Prize. £
Class 1.	9 Stove and Greenhouse Plants in flower, distinct	8	5	3
,, 2.	Group of 25 Roses, in any size pots—may include Standards	8	5	3
,, 3.	12 Show or Fancy Pelargoniums, in flower, in 8-inch pots	5	3	2
,, 4.	18 Greenhouse Azaleas, in any sized pots	6	4	2
,, 5.	Group of miscellaneous Flowering and Foliage Plants, arranged in a space not exceeding 150 square feet	7	5	3
,, 6.	9 Fine Foliage Plants	6	4	2
,, 7.	18 Herbaceous Calceolarias	3	2	1
,, 8.	24 Auriculas	3	2	1
,, 9.	Group of Malmaison Carnations (18 specimens)	4	3	2
,, 10.	12 Cliveias. Open	4	3	2
,, 11.	12 Amaryllis. Open	40/-	30/-	20/-

Group 2.—CUT FLOWERS. *Open Classes.*

		1st Prize.	2nd Prize.	3rd Prize.
Class 12.	3 Stands or Vases of Flowers and Foliage, suitable for the decoration of a dinner-table	40/-	30/-	20/-
,, 13.	3 Hand Bouquets	40/-	30/-	20/-
,, 14.	Basket of Cut Flowers, for table decoration	30/-	20/-	10/-
,, 15.	1 Bride's Bouquet	20/-	15/-	10/-

Meritorious Exhibits not named in the Schedule will be recognised. Exhibitors *must state definitely* amount of space required for these exhibits.

Certificates of Merit will be awarded to New Plants, Flowers, Fruits, and Vegetables of superior merit.

SHOW OF ORCHIDS, &c., May 18 and 19.

Group 1.—PLANTS.

		1st Prize. £	2nd Prize. £	3rd Prize. £
Class 1.	Group of Orchids and Foliage Plants, arranged for effect, to occupy a space 15 ft. by 10 ft. Open	10	7	5
,, 2.	Group of Orchids and Foliage Plants, arranged for effect, to occupy a space 12 ft. by 8 ft. Amateurs	7	5	3
,, 3.	Group of Crotons, arranged for effect, to occupy a space 12 ft. by 8 ft. Open	4	3	2
,, 4.	Group of Dracænas, arranged for effect, to occupy a space 12 ft. by 8 ft. Open	4	3	2
,, 5.	Group of Greenhouse Azaleas in flower, to occupy a space 12 ft. by 8 ft. Open	4	3	2
,, 6.	Group of Pelargoniums in flower, to occupy a space 12 ft. by 8 ft. Open	4	3	2
,, 7.	Group of Roses in flower, to occupy a space 12 ft. by 8 ft. Open	4	3	2
,, 8.	Group of Malmaison or other Carnations in flower, to occupy a space 12 ft. by 8 ft. Open	4	3	2

Group 2.—CUT FLOWERS. *Open Classes.*

		1st Prize. £	2nd Prize. £	3rd Prize. £
Class 9.	12 Bunches of Cut Orchids, distinct	3	2	1
,, 10.	Basket of Cut Orchids, for table decoration	30/-	20/-	10/-
,, 11.	3 Bouquets of Orchids	40/-	30/-	20/-
,, 12.	1 Bouquet of Orchids	20/-	15/-	10/-
,, 13.	12 Cut Roses, distinct	20/-	15/-	10/-

Group 3.—FRUIT. *Open Classes.*

		1st Prize. £	2nd Prize. £	3rd Prize. £
Class 14.	3 Bunches Black Grapes, any variety	40/-	30/-	20/-
,, 15.	3 Bunches White Grapes, any variety	40/-	30/-	20/-
,, 16.	3 Dishes Strawberries, distinct, 25 fruits to a dish	30/-	20/-	10/-
,, 17.	1 Dish Strawberries, 25 fruits to a dish	10/-	7/-	5/-
,, 18.	1 Dish Peaches, 6 fruits	15/-	10/-	5/-
,, 19.	1 Dish Nectarines, 6 fruits	15/-	10/-	5/-
,, 20.	1 Dish Cherries, black or white	15/-	10/-	5/-

Meritorious Exhibits not named in the Schedule will be recognised. Exhibitors *must state definitely* amount of space required for these exhibits.
Certificates of Merit will be awarded to New Plants, Flowers, Fruits, and Vegetables of superior merit.

SHOW OF ROSES, &c., June 28.

Open Classes.

		1st Prize. £	2nd Prize. £	3rd Prize. £
Class 1.	48 Roses, distinct, single trusses	4	3	2
,, 2.	24 Roses, distinct, 3 trusses of each	4	3	2
,, 3.	24 Roses, distinct, single trusses	40/-	30/-	20/-
,, *4.	24 Roses, Teas and Noisettes, distinct, single trusses	3	2	1
,, *5.	18 Roses, Teas and Noisettes, distinct, single trusses	40/-	30/-	20/-
,, 6.	18 Bunches Garden Roses, distinct, not less than 3 trusses to a bunch	3	2	1
,, 7.	12 Trusses, any dark Rose	30/-	20/-	10/-
,, 8.	12 Trusses, any light Rose	30/-	20/-	10/-
,, 12.	12 Trusses, one variety, Tea or Noisette	30/-	20/-	10/-
,, 13.	Basket of Roses, arranged for effect	20/-	15/-	10/-
,, 14.	Group of 25 Roses, in 7-inch pots	4	3	2

Amateurs.

		1st Prize. £	2nd Prize. £	3rd Prize. £
Class *15.	24 H. P. Roses, distinct, single trusses	3	2	1
,, 16.	12 H. P. Roses, distinct, 3 trusses of each	3	2	1
,, *17.	12 H. P. Roses, distinct, single trusses	30/-	20/-	10/-
,, *18.	18 Teas and Noisettes, distinct	40/-	30/-	20/-
,, *19.	12 Teas and Noisettes, distinct	30/-	20/-	10/-

Open Classes.

		1st Prize. £	2nd Prize. £	3.d Prize. £
Class 20.	12 Bunches of Cut Gloxinias, 3 blooms to form a bunch, arranged with any foliage	30/-	20/-	10/-
,, 21.	Group of Tuberous Begonias, arranged for effect, to occupy a space 12 ft. by 8 ft.	4	3	2
,, 22.	3 Stands or Vases of Flowers and Foliage, suitable for the decoration of a dinner-table	40/-	30/-	20/-
,, 23.	Single Stand of Flowers, suitable for table decoration	20/-	15/-	10/-

FRUIT. *Open Classes.*

		1st Prize. £	2nd Prize. £	3rd Prize. £
Class 24.	6 Dishes of Fruit, distinct	3	2	1
,, 25.	3 Bunches Black Grapes, any variety	30/-	20/-	10/-
,, 26.	3 Bunches White Grapes, any variety	30/-	20/-	10/-
,, 27.	3 Melons, one or more varieties (not to be cut)	20/-	15/-	10/-
,, 28.	1 Melon (not to be cut)	10/-	7/-	5/-
,, 29.	1 Dish Peaches, 6 fruits	10/-	7/-	5/-
,, 30.	1 Dish Nectarines, 6 fruits	10/-	7/-	5/-
,, 31.	1 Dish Figs, 9 fruits	10/-	7/-	5/-
,, 32.	2 Dishes of Cherries, distinct	15/-	10/-	5/-
,, 33.	3 Dishes Strawberries, 25 to a dish	20/-	15/-	10/-
,, 34.	1 Dish Strawberries, 25 to a dish	10/-	7/-	5/-

* Exhibitors in Class 4 cannot compete in Class 5. Exhibitors in Class 15 cannot compete in Class 17, nor those in Class 18 in Class 19.
Meritorious Exhibits not named in the Schedule will be recognised. Exhibitors *must state definitely* amount of space required for these exhibits.
Certificates of Merit will be awarded to New Plants, Flowers, Fruits, and Vegetables of superior merit.

PARTICULARS OF FUTURE SHOWS WILL BE ADVERTISED LATER ON.

THE GARDENERS' CHRONICLE

PUBLISHER'S NOTICES.

GARDENERS' CHRONICLE TELEGRAMS.—*The Registered Address for Foreign and Inland Telegrams is "Gardchron, London."*

ADVERTISEMENTS.

Scale of Charges for Advertising.

Head Line charged as two.

4	Lines	..	£0	3	0	15	Lines	..	£0	8	6
5	„	..	0	3	6	16	„	..	0	9	0
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7	„	..	0	4	6	18	„	..	0	10	0
8	„	..	0	5	0	19	„	..	0	10	6
9	„	..	0	5	6	20	„	..	0	11	0
10	„	..	0	6	0	21	„	..	0	11	6
11	„	..	0	6	6	22	„	..	0	12	0
12	„	..	0	7	0	23	„	..	0	12	6
13	„	..	0	7	6	24	„	..	0	13	0
14	„	..	0	8	0	25	„	..	0	13	6

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GARDENERS AND OTHERS WANTING SITUATIONS. 26 *words, including name and address,* 1*s.* 6*d.*, *and* 6*d. for every additional line (about nine words) or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, which are charged at the ordinary scale.*

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NOTICE TO ADVERTISERS.—*In many instances Remittances in Payment of Repeat Advertisements are received without name, address, or anything beyond the postmark on envelope by which to identify the sender; this in all cases causes a very great deal of trouble, and frequently the sender cannot be identified at all.*

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POSITION.—*Advertisers are specially requested to note, that under no circumstances whatever can any particular position be guaranteed for advertisements occupying less space than an entire column.*

POSTAL ORDERS.—*To Advertisers, Subscribers, and Others.—It is very important in remitting by Postal Order that it should be filled in payable at No.* 42, *DRURY LANE, to* A. G. MARTIN, *as, unless the number of a Postal Order is known, and it has been made payable at a particular office, and to a particular person, it is impossible to prevent any person into whose hands it may fall from negotiating it.*

N.B.—The best and safest means of Remitting is by POST-OFFICE MONEY ORDER.

Advertisements for the current week MUST *reach the Office not later than Thursday noon.*

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements,
41, WELLINGTON STREET, STRAND, W.C.

SUBSCRIPTIONS.

All Subscriptions payable in advance. The United Kingdom, 12 *months,* 15*s.*; 6 *months,* 7*s.* 6*d.*; 3 *months,* 3*s.* 9*d. All Foreign Subscriptions, including Postage,* 17*s.* 6*d. for* 12 *months. Post-office Orders to be made payable at the Post-office,* 42, *Drury Lane, W.C., to* A. G. MARTIN.

Subscribers who experience any difficulty in obtaining their copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint).

BEST LAWN MOWERS in the MARKET.

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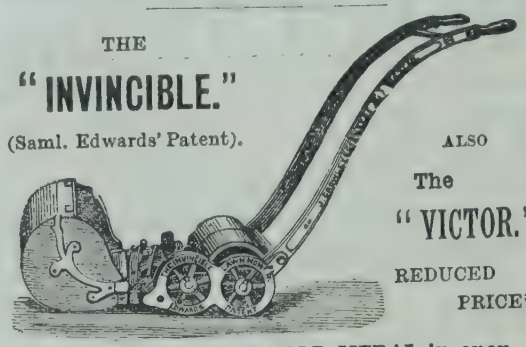

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LIMITED.
SHEFFIELD.

AUTOMATIC DAMPER
FOR GREENHOUSES.

Dr. GEORGE WALKER, Inventor of Chrysanthemum Cup Tubes, Wimbledon, says:—"I have used your Automatic Damper for some weeks, and am perfectly satisfied with it. A most ingenious and useful invention."

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BLACK VARNISH
for Preserving Ironwork, Wood, or Stone.

(Registered Trade Mark.)

An excellent substitute for oil paint, at one-third the cost.

Used in all the London Parks, at Windsor, and Kew Gardens, and on every important estate in the Kingdom. Has stood the test of forty years' trial. Requires no mixing; can be applied cold by any ordinary labourer. Price 1*s.* 6*d.* per gallon at the manufactory, or carriage paid to any railway station, 1*s.* 8*d.* per gal. in casks of 36, 18, or 9 gals.

CAUTION.—Every Cask bears the above Registered Trade Mark. Beware of cheap imitations.

HILL & SMITH,
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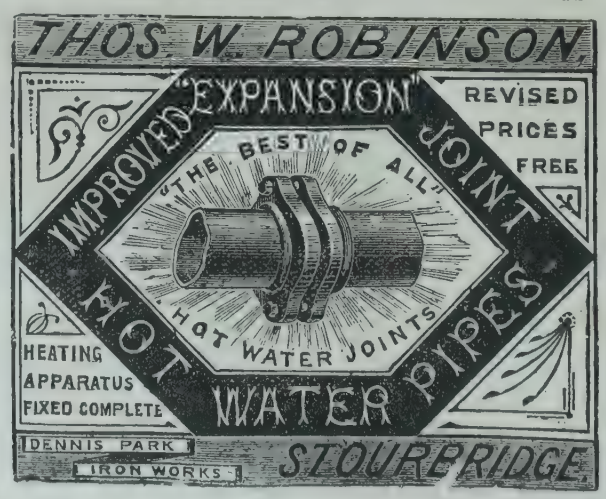
47, Dawson Street, Dublin.

THOS. W. ROBINSON.



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PATENT IMPERISHABLE
GLAZING WITHOUT PUTTY,

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All houses can be taken to pieces and re-erected.

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Designs and Estimates Free, and Measurements taken Free of Cost.

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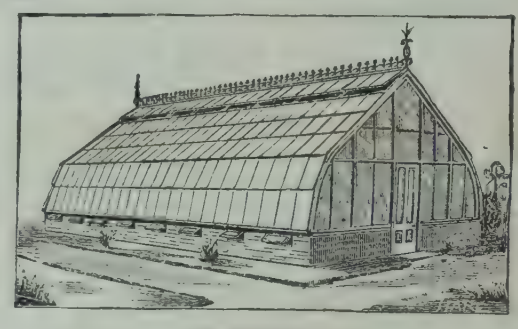

ALL KINDS.

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"SIR.—As you requested my opinion of the houses which you erected for me some 4 years ago, I beg to inform you that I consider them a perfect success, and I have recommended them to many of my neighbours.—Yours truly (signed) MACCLESFIELD."

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LIGHTEST RUNNING, and CHEAPEST ROLLER MACHINE.

UNEXCELLED DURABILITY.

Made in all sizes, from 10 to 24 inches.

The LARGEST SIZE EASILY WORKED BY ONE MAN.

SELIG, SONNENTHAL, & CO,
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NICOTINE SOAP.—Effectually eradicates all Insect Pests, without injury to foliage. Price, 1*s.* 6*d.*, 3*s.*, and 5*s.* 6*d.*; 14 lb., 15*s.* 6*d.*; 28 lb., 26*s.* To be obtained through all Seedsmen and Florists.—CORRY & CO., Ltd., 13, 15, and 16, Finsbury Street, London, E.C.

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COUNTY COUNCIL LECTURES.

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Will be useful to Lecturers and Students in the above subject.

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ORCHID PEAT.

PREPARED, ready for use, all fibre, 10s. per sack; 5 for 47s. 6d.
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BROWN FIBROUS PEAT, for Azaleas, Rhododendrons, and Ferns, 4s. per sack, 5 for 18s.; and 3s. per sack, 5 for 12s. 6d.
PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM, each 2s. 6d. per sack; 5 for 10s. PREPARED POTTING COMPOST, 4s. per sack; 5 for 18s. All sacks included.
Send Postal Order for Sample Sack.
Special terms to the Trade For Price List apply to THE FORESTER, Joyden Wood, near Bexley, Kent.

EPPS'S Selected PEAT,

For ORCHIDS, STOVE PLANTS,

Hardwood do., Ferns, and Rhododendrons, by sack, yard, ton, or truckload. SPECIAL ORCHID PEAT, in sack only. Rich fibrous LOAM, superior LEAF-MOULD, Coarse, Crystal, and Fine SILVER SAND, CHARCOAL, C. N. FIBRE REFUSE, fresh SPHAGNUM, Patent MANURES, FERTILISERS, INSECTICIDES, and all other Garden Requisites. Peat Moss Litter.
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DRURY LANE, W.C.

CATALOGUES RECEIVED.

GEORGE PHIPPEN, Reading—Bedding Plants and Dahlias.

B. S. WILLIAMS & SON, Victoria and Paradise Nurseries Upper Holloway, London, N.—Plant Catalogue.

CHARLES FRASER'S Exors.—Poultry Appliances.

J. C. v. RAVENSWAY, Singapore, Straits Settlements, Asia—Orchids.

HOGG & WOOD, Coldstream, N.B.—Turnip Seed.

WILHELM PFITZER, Stuttgart, Germany—General Catalogue.

OSCAR TIEFENTHAL, Wandsbek, Hamburg, Germany—German Plants and Roots.

GARDENING APPOINTMENTS.

MR. WM. ADAMS, for the last six years Head Gardener to Mrs. C. A. MARSHALL RIVERSLEIGH, Charles Hill, Farnham, as Head Gardener to H. SAUNDERSON POOLE, Esq., Fairfield, Cobham, Surrey.

Mr. A. INNES, Tweed Vineyard, Clovenfords (and for four years General Foreman, Duncombe Park), as Head Gardener to W. D. GRAHAM MENZIES, Esq., Hallyburton, Coupar-Angus, Forfarshire, N.B.

Mr. J. ROGERS, late of West Ashby Grove, Horncastle, as Gardener to H. LAMB, Esq., Gretton House, Kettering.

WANTED, a SUPERINTENDENT for a BOYS' HOME in the country. Knowledge of some trade required, Gardening preferred.—Apply, by letter only, stating full particulars, to K., Messrs. Street Bros., 5, Serle Street, Lincoln's Inn, W.C.

MESSRS. JOHN LAING AND SONS REQUIRE an energetic and competent MAN to take the Charge of one of their Branch Nurseries, all Glass. Must be well up in the Growing and the Propagation of Soft-wooded Plants, Roses, Vines, &c.—State wages required, and references, to the Forest Hill Nurseries, S.E.

WANTED, a HEAD WORKING GARDENER.—Age 35 to 40, married, no family. Under-Gardener kept. Wife to undertake small Dairy and Laundry, with assistance. Joint wages, 30s. Cottage, coals, vegetables. Apply by letter.—Mrs. BARCLAY, Whitney Wood, Stevenage.

WANTED, a GARDENER, near London. Small Garden, with Glass. Single man preferred.—Apply, with references, to C. C. H., 193, Romford Road, Stratford, E.

WANTED, a WORKING HEAD GARDENER, for Flowers and Fruit. Must understand Growing Roses, Carnations, Chrysanthemums, Peaches, and Grapes. One accustomed to Growing for Market preferred. Wife to undertake Small Laundry.—THOS. HOLMAN, Esq., Gate House, East Hothly, Sussex.

WANTED, a GARDENER, for the Kitchen and Flower Garden. Boy kept.—Address, with full particulars, Rev. H. EWBANK, St. John's Vicarage, Ryde. Only likely applications answered.

WANTED, a GARDENER, Scotch preferred, for a Gentleman's Place at Woking. Experienced in Greenhouse Plants. Lawn work important. No cottage. State wages, and give references.—Address A. L., Box 1059, Sell's Advertising Offices, London.

WANTED, a GARDENER, about 30, married, no family. Thorough knowledge of work. Excellent character. Useful help and boy kept. Cottage found.—Apply, stating age and wages. Holm Lodge, Romford.

WANTED, a thorough all-round HEAD WORKING GARDENER, for Sussex. Age about 35. No incumbrances. Wife must undertake preserving. Five men in all kept, and boy. Church of England. Wages £80, and Cottage; no milk. Write full particulars to G. D. C., Willing's Advertising Offices, 162, Piccadilly, W.

WANTED, SEVERAL GARDENERS, who have had practice among Vines.—Apply, after the 8th inst., to Claigmar Vineyard, Church End, Finchley.

WANTED, a PROPAGATOR of Alpine and Herbaceous Plants. Wages to commence, 21s. per week.—Apply to BARR AND SON, Nurseries, Long Ditton, Surrey.

WANTED, a GROWER of Soft-wooded Stuff, Palms, Ferns, Cut Blooms, Cucumbers, Tomatos, &c. Wages 25s. per week. Must be thoroughly used to Market Work.—Apply to LUXTON'S, 25 to 29, High Street, Salisbury.

WANTED, an ORCHID GROWER.—Must be smart and active. Well up in Watering and Potting. Age about 25 years. State wages required and references to ALPHA, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a JOURNEYMAN, for Kitchen and Flower Garden.—One who can use Spade and Scythe. A man of sound character. No hothouse bird need apply.—LEACH, Albury Park Gardens, Guildford.

WANTED, a GARDEN LABOURER, handy among Hardy Flowers, Mowing, Clipping, &c., 21s.—WALL, Grim's Dyke, Harrow Weald, Middlesex.

WANTED, a respectable young MAN in a Market Nursery, quick at Potting, Watering, Tying, &c. Only experienced men need apply; abstainer preferred. Good character indispensable. Wages 18s., and overtime.—Apply, TITE, Hampton.

WANTED, a thoroughly experienced MAN, to Grow Cut Flowers, Pot Plants, Grapes, Tomatos, Mushrooms, &c. Must be a good Salesman. State experience and wages to HARWOOD BROS., Balham Nursery, Balham, S.W.

WANTED, TWO young MEN used to Cucumber Work. Wages, 21s. per week. Permanent situation. State age and experience to W. H. AND D. WHITE, Heath Park Nursery, Romford

WANTED, a good and quick HAND at Grape Thinning, for about a month.—S. G. RANDALL, Skegness.

WANTED, AT ONCE, in a Market Nursery, THREE quick active young MEN. Those used to Market work preferred.—K. DROST, Kew Nursery, Richmond, Surrey.

WANTED, a steady young MAN, well up in Growing Palms and Ferns, and General Nursery-work Inside. Wages, 18s. per week.—T. K. INGRAM, Parkstone Nurseries, Dorset.

WANTED, a strong active young MAN, for Kitchen Garden.—Seven kept. Countryman preferred. Wages 21s. per week.—Apply, W., 6, Princess Street, White Hart Lane, Tottenham.

WANTED, GRAPE THINNERS.—Competent Men required temporarily.—Apply to TITE, Hampton.

WANTED, a young MAN well up in Growing for Market.—J. GRIFFIN, Florist, Market Hall, Southport.

WANTED, SIX quick LADS, 15 to 18, used to Pruning Tomatos.—Apply personally to A. W. SMITH, Burnham Villa, Feltham Hill, Middlesex.

WANTED, a strong active LAD, about 18, for Surrey, to work under a Gardener, look after Cows and Pigs, and be generally useful. 15s. or 16s. weekly, milk, and vegetables. North Country preferred. Special arrangements for travelling expenses, if from distance.—Address G., Mr. R. Hunter, 27, Albert Hall Mansions, Kensington Gore, S.W.

WANTED, a HANDY-MAN, to do Carpentering, Painting, and General Work on a Gentleman's Place. Wages about 16s. per week, cottage, and garden. State age, &c.—FLEMING, The Gardens, Alice Holt, Farnham, Surrey.

WANTED, as STOKER, a MAN thoroughly acquainted with Stoking, to attend to Fires and Engine for pumping water. Abstainer preferred. Wages, 20*s.* per week, with cottage on the premises.—State all particulars to MANAGER, Whiteley's Nurseries, Hillingdon Heath, near Uxbridge.

WANTED, as TRAVELLER, to represent a Firm largely engaged in the Orchid Business, an energetic, respectable, trustworthy Man, who has had extensive experience in this branch of business.—Address, giving references, and stating salary expected, to A. O., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, as TRAVELLER, for a Leading House, an energetic Man, who has had large experience on the road, and is well up in Farm and Garden Requirements. Also must have a good knowledge of the Nursery Trade. Age not under 30. To a thoroughly respectable and competent representative a liberal salary will be given.—Address, with full particulars of previous engagements, age, &c., X., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

Seed Trade.

WANTED, a HEAD SHOPMAN, by a leading Retail Firm.—Must be active, and of good address, and have a thorough experience in all branches of the Business.—All particulars to SEEDS, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a SHOPMAN, with experience of London Retail Seed and Plant Trade. State age, salary, &c., to SMAIL AND CO., 23, Lime Street, London, E.C.

WANTED, a NURSERY CLERK.—Must be a good writer, and conversant with Plants. One that knows shorthand and type-writing preferred. Wages and references to NURSERYMAN, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, AT ONCE, a young Lady, for First-class Florist's Shop.—Must be well up in Bouquets, Buttor-holes, &c.; and have good references.—Apply, The FRUIT and FLOWER SHOP, 17, Turl Street, Oxford.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. *on Wednesday will, in all probability, be held over to the next week.*

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

B. S. WILLIAMS AND SON beg to intimate that they have at present in their Nursery and upon their Register some excellent Men, competent either to fill the situation of HEAD GARDENER, BAILIFF, FOREMAN, or JOURNEYMAN. Ladies and Gentlemen requiring any of the above will please send full particulars, when the best selections for the different capacities will be made.—Victoria and Paradise Nurseries, Upper Holloway, N.

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character, and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—
F. SANDER AND CO., St. Albans.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. All particulars on application.
Telegraphic and Postal Address—"DICKSONS, CHESTER."

GARDENERS.—JOHN LAING AND SONS, having filled many important places, can recommend with every confidence energetic and practical men of tested ability and first-rate character. Noblemen, Ladies and Gentlemen in want of Head Gardeners or Gardeners for first-rate Establishments, or single-handed situations, can be suited, and have full particulars by applying to us. No fees charged. JOHN LAING AND SONS, The Nurseries, Forest Hill, and Catford, Kent.

GARDENER (HEAD), or GARDENER and BAILIFF.—Middle-aged, married, no encumbrance; life of sound practical experience. Good references.—HAYNES, Hayes, Middlesex.

GARDENER (HEAD).—A. YOUNG, Gardener to J. P. C. Musters, Esq., Annesley Park, Notts, can with confidence recommend his Foreman, John Charlton, to any Lady or Gentleman requiring a good and trustworthy man. Good Fruit and Flower Grower.

GARDENER (HEAD), or good FOREMAN.—Age 26; fourteen years' good general experience. Excellent character; good previous testimonials. Total abstainer.—WELLS, The Grove Gardens, Streatham, S.W.

GARDENER (HEAD); age 35.—The Right Hon. The EARL of YARBOROUGH, Brocklesby Park, Lincolnshire, will be pleased to recommend his Head Gardener (Thomas Hobday) to anyone requiring the services of a first-class man, especially strong in Fruit Growing.

GARDENER (HEAD), or ORCHID GROWER.—Over three years in a well-known collection. Well up in all branches of Gardening. Highly recommended by past and present employers.—B. BOWYER, Annes Cottage, Manor Road, East Molesey.

GARDENER (HEAD), where one or two more are kept.—Age 28, single; good references from last and previous employers.—A. PLUMB, The Gardens, Fernacres, Fulmer, Slough.

GARDENER (HEAD), or ORCHID GROWER; age 39, married, one child.—W. MAY, Gardener to F. C. Jacomb, Cheam Park, Surrey, seeks re engagement with any Lady or Gentleman requiring the service of a thorough practical man, Twenty-four years' experience in good collections. Satisfactory reasons for leaving. Well recommended. Eight years in present situation.

£5 will be given for intimation that will secure a situation as HEAD GARDENER.—Thorough in all branches, Land and Stock. High character.—HORTUS, 34, Glycena Road, Lavender Hill, S.W.

GARDENER (HEAD); age 31.—WILLIAM HOVELL, Gardener to G. H. Morrell, Esq., Headington Hill Hall, Oxford, would be pleased to recommend his Foreman (Thomas Porter), who has been with him four years, to any Lady or Gentleman requiring a good practical man.

GARDENER (HEAD).—Age 44, married; long practical experience in the Management of good establishments. Highest references. Ten years last employer.—H. COOK, Box Hill, Dorking.

GARDENER (HEAD WORKING, or good SINGLE-HANDED).—Married; experienced in all branches, including Vines, Melons, Cucumbers, Tomatos, Fruit, Flower, and Kitchen Garden. Good references from present and previous places.—W. E., Tufton Road, Rainham, Kent.

GARDENER (HEAD WORKING); age 40, married, small family; five years good character; practical experience in requirements of good establishment, Forcing Hardy Fruits, also Mushrooms, Tomatos, &c.—HORN, The Lodge, Ceader Lawn, Hampstead Heath, N.W.

GARDENER (HEAD WORKING), where two or more are kept.—Nine years in last place as Second. Thorough character. Total abstainer. Small family.—C. WEBB, Elmhurst, Woodford.

GARDENER (HEAD WORKING).—Age 27; thoroughly experienced in all branches, including Growing and Staging Roses for exhibition. Excellent characters.—HENRY WELLER, Gardener, Loudwater House, Rickmansworth, Herts.

GARDENER (HEAD WORKING).—Age 42, married, no family; twenty-five years' experience, seventeen as Head. Vines, Cucumbers, Melons, Stove and Greenhouse Plants, Fruit, Flower and Kitchen Garden, also Forcing of Flowers and Vegetables. Good reference from present employer. Wife thorough Laundress, if required.—F. PAY, Barrow Point, Pinner.

GARDENER (HEAD WORKING).—Over twenty years' experience in all branches. Wife can do Laundry, if required. Excellent character.—RICHARDSON, The Lodge, Drinkstone, Mayfield, Sussex.

GARDENER (HEAD WORKING), where two or more are kept.—Age 25, married when suited; well recommended. Good experience in Stove and Greenhouse Plants, including Orchids, Flower and Kitchen Garden.—G. T., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

GARDENER (HEAD WORKING).—Age 27, married when suited. Thoroughly experienced in all branches of Gardening. Excellent character.—GARDENER, Home Farm Cottage, Langley, Slough, Bucks.

GARDENER (HEAD WORKING), where five or six hands are kept.—Age 33, married, two children. Earl STANHOPE wishes to strongly recommend a thoroughly practical man; five years his Foreman.—Mr. SUTTON, Chevening, Sevenoaks.

GARDENER (HEAD WORKING, or good SINGLE-HANDED).—Age 30, married. Thirteen years' good reference from late employer.—H. LAWRENCE, 7, Cockburn Street, Romsey Town, Cambridge.

GARDENER (HEAD WORKING).—Age 37, married; thorough practical all-round man. Ten and a half years' good character from last place. Six previous.—H., 48, Bedford Road, Ealing Dean, W.

GARDENER (HEAD WORKING).—Age 29, married; thirteen years' experience in all branches. Five years as Head. Good characters, personal if required.—W. P., Branch Hill Lodge, Hampstead, N.W.

GARDENER (HEAD WORKING), where two or three are kept.—Thorough good all-round general experience Inside and Out. Vines, Peaches, Melons, and Cucumbers, Stove and Greenhouse Plants, Flower and Kitchen Garden. Four years' excellent character.—GARDENER, Effingham Park, Crawley Down.

GARDENER (good WORKING, SINGLE-HANDED, or thorough KITCHEN GARDEN MAN).—Married; good experience. Willing to be useful; two years' excellent character.—W. S., 154, May Street, Basingstoke.

GARDENER (HEAD WORKING); age 42, no family.—The Hon. A. TALBOT wishes to recommend his late Head Gardener to any Lady or Gentleman requiring the services of a good practical man, experienced in all branches. Wife recommended to Poultry or Lodge.—H. G., 29, Langdon Road, Upper Holloway, N.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 33, married. Thoroughly experienced; ten years present situation.—ROGERS, 50, Newington Green Road, Islington.

GARDENER (HEAD, SINGLE-HANDED, or JOBBING).—Experience in Vines, Cucumbers, Stove and Greenhouse Plants, Flower and Kitchen Gardens. Four years and a half good character.—J. E. BULL, Tackley, OXON.

GARDENER (SINGLE-HANDED, or where help is given).—Age 30; thirteen years' experience. Can be well recommended from Head Gardener of late employer.—C. ALDER, Nutley Grove, Reigate, Surrey.

GARDENER (SINGLE-HANDED, or SECOND).—Age 24; good character. Abstainer.—A. CUTCHEE, The Gardens, Shalimar, Ewell, Surrey.

GARDENER (SINGLE-HANDED, or otherwise).—Age 25. Eleven years' practical experience Inside and Out. Well recommended.—W. HUNT, High Trees, Redhill, Surrey.

GARDENER (SINGLE-HANDED, or where help is given).—Age 26, single; experienced in Greenhouse, Flower and Kitchen Garden. Good character. Now disengaged.—T. B., 131, Dennett Road, Mitcham Road, Croydon, Surrey.

GARDENER (SINGLE-HANDED, or where help is given).—Age 28, married, one child; thoroughly experienced in all branches. Six years' good character. Disengaged May 13.—W. WISCOMBE, Hollandsfield, Chichester.

GARDENER (SINGLE-HANDED, or otherwise).—Age 20; five years' good character.—C. PARSONS, Kingston-by-Sea, near Brighton, Sussex.

GARDENER (SINGLE-HANDED, or good SECOND).—Age 24; abstainer. Well experienced in all branches, Inside and Out. Good characters from present and previous employers.—L. P., 28, Finchley Park, North Finchley, N.

GARDENER (good SINGLE-HANDED); well up in all branches. Highly recommended by Mr. J. R. Bird, Head Gardener, also present employer.—H. D., 32, South Croxted Road, West Dulwich, S.E.

GARDENER (SINGLE-HANDED or SECOND).—Single; experienced in Vines, Flowers, and Kitchen Garden. Good references.—D. NEWNS, 29, Mill Street, Aylesbury.

GARDENER.—Age 28, married, no family; good all round man; practical experience Inside and Out. Good character. Abstainer.—H., 7, Beaconsfield Road, Tolworth, Surbiton.

GARDENER, where two or three are kept.—Age 33; thoroughly understands Gardening Inside and Out, including Orchids. Nine years' good character from present employer.—A. CROUCHER, Grove House, Westgate-on-Sea.

GARDENER.—Age 25; good knowledge of Propagation of all kinds, and of Culture of Stovehouse Plants. Can be well recommended. Near London preferred.—H. S., 1, Paddock Road, Bexley Heath, Kent.

GARDENER.—Situation wanted, by a young Man (age 20) in the Garden, under a good Gardener. Good character.—F. BLISSETT, Road, near Bath.

GARDENER, where two or three are kept.—Age 24; understands Grapes, Cucumbers, Greenhouse, Flower and Kitchen Garden, &c. Abstainer. Three years' good character from present situation.—H., The Gardens, Laverstock Hall, Salisbury.

GARDENER (SECOND, or otherwise).—Age 26, unmarried; experience both Inside and Out. Eight years in present situation, three years previous.—FRANK LOVE, Gorringe Road, Bemerton, Salisbury.

GARDENER (SECOND), where six or more are kept.—Age 26; ten years' experience, principally under Glass, in good Establishments. Good character and testimonials from present and previous employers.—W. HILL, The Gardens, Mousehill Manor, Godalming, Surrey.

GARDENER (SECOND).—Age 24; eight years' experience Inside and Out. Good characters from present and previous places.—S. B., West End, Brampton, Hunts.

GARDENER (SECOND), where four or five are kept; age 22; two years' character.—The Gardener at Ickworth Park, Bury St. Edmunds, can recommend a young man as above.

GARDENER (SECOND), where three or four are kept, in a private Establishment, or good SINGLE-HANDED place.—Age 22; well up in Vines, Peaches, Nectarines, Melons, Strawberries, Cucumbers, Tomatos, Chrysanthemums, Stove, Greenhouse, and Bedding Plants. Eleven years' good character, five Out and In, and six Inside. Abstainer. State wages.—Mr. G. WELLS, Mrs. Rice, Selsfield, near East Grinstead, Sussex.

GARDENER (SECOND).—Age 25; nine years' experience Inside and Out. Good character.—L. TWIFF, The Gardens, Netherwitton Hall, Morpeth, Northumberland.

ARDENER (Second), where four or more are kept.—Age 24; ten years' experience in both Plant Fruit Growing, and Conservatory Decoration. Good ences.—E. R., 20, King Street, Chelsea, S.W.

ARDENER (Second), in a large Establishment.—Age 26; thirteen years' good practical erience, six in present situation as Second. Excellent rences and character.—Mrs. LLOYD, Caythorpe Hall, tham.

ARDENER (Under); age 20.—Mrs. Curteis Norwood can recommend the above. Emed with her two years.— The Hewitts, Willesborough, ford, Kent.

ARDENER (Under).—Age 22, single; four and a half years' good character from last situation. . ROBINSON, Queen's Road, Royston, Cambs.

ARDENER (Under).—Age 21. Eight years' experience Inside and Out. Good characters. tainer.—G. MILLS, Chapel Street, Llandaff, South Wales.

ARDENER (Under).—Age 24. Used to Kitchen Garden and Pleasure Ground. Help Inside if uired. Good character from last employers.—C. C., Street bham, Cobham, Surrey.

ARDENER (Under), in a Gentleman's Establishment.—Age 20; good characters. Four years' erience.—H. COTTERILL, Greenford Road, Sudbury, dlesex.

ARDENER (Under), Inside and Out preferred.—Three years' good character.—SMITH, Finchpstead Road, Wokingham.

ARDENER (Under), or otherwise.—Age 25, married when suited. No objection to Cows. Abstainer. n be well recommended. Disengaged.—W. H. W., Bishopurne, Canterbury.

ROOM, GARDENER, or UNDER GARDENER.—Age 21; understands Cucumbers, Tomatos, elons, &c. Can have good reference; five years' experience. tal abstainer.—A. DUDLEY, Quainton, near Aylesbury, cks.

MANAGER.—Advertiser, lifetime experience in Growing in quantity for Market, Grapes, Cucumbers, ushrooms, Tomatos, choice Cut Flowers, Palms, Ferns, &c., ilding Greenhouses, &c., is open to engagement as above. rst-class references.—FRUIT GROWER, 41, Wellington reet, Strand, W.C.

MANAGER.—Life experience in Growing large quantities of Fruit and Flowers for Market, as rapes, Tomatos, Cucumbers, Strawberries, and Mushrooms. ive years in last place; excellent references.—D. N., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FOREMAN, or SALESMAN and GROWER.—W. Wells, Earlswood Nurseries, Earlswood, Surrey, ishes to recommend his son, age 23, as above, in a Nursery. ine years' experience in all branches. State wages.

FOREMAN, Inside or General.—Age 27; eleven years' practical experience in Plant and Fruit rowing Inside and Out; two years Foreman in last situaion; excellent references.—F. DEAVES, Great Honkesley, Colchester, Essex.

FOREMAN, in a good establishment.—Age 27; twelve years' experience in all branches. Twelve months present situation. Can be well recommended.—J. CRANE, Hall Place, Bexley, Kent.

FOREMAN.—Age 24. Mr. Carr, Hawkstone Gardens, Shrewsbury, can with every confidence ecommend William Sutton as a painstaking and persevering nan.

FOREMAN, Inside.—Age 27; twelve years' experience in all branches. Good Decorator. Firstlass testimonials. Now disengaged.—GEO. WENHAM, 8, Castle Yard, Highgate, N.

FOREMAN, or FIRST JOURNEYMAN.—Age 23; has had good experience in Grapes, Peaches, Cucumbers, and in General Indoor Work. Highly recommended.—A. WEST, Glentworth Hall, Lincoln.

FOREMAN (age 25).—Charles Jennings, three and a half years Foreman to Mr. C. Blick, The Warren Garden, Hayes, Beckenham, Kent, seeks a situation as above. Good references.—37, North Road, Highgate, N.

FOREMAN, or good Second.—Age 26; ten years' experience in good places. Well up in House and Table Decorating, and general work of good place. Three and a half years Foreman in two good places.—J. G. R., The Gardens, Farnham Castle, Surrey.

NURSERY FOREMAN.—Used to Decorating, Making-up, and Table Decorations.—ADAMS, 3, Clark's Place, Bishopsgate, London, E.C.

FOREMAN.—Age 27. Twelve years' experience in all Branches. House and Table Decorations. First-class testimonials. — D., Mr. Dixon, 6, Priory Road, Kilburn, N.W.

FOREMAN, Inside.—Age 24; eleven years' experience, chiefly under Glass. Good testimonials.—E. T., Mr. Thos. Lecar, Husbands Bosworth, Rugby.

FOREMAN (Inside).—Age 27; ten years' experience in Plant and Fruit Houses, &c. Good references.—GEO. THOMPSON, Park Gatehouse, Westwell, Ashford, Kent.

TO HEAD GARDENERS.— A thorough practical FRUIT and PLANT FOREMAN offers his services. For references, &c., please apply to FRUITING, *Gardeners' Chronicle* Office, 41, Wellington St., Strand, W.C.

To Nurserymen.

PROPAGATOR.—Age 30; fifteen years' practical experience in Roses, Rhododendrons, Clematis, Conifers, Stove and Soft-wooded Stuff.—PROPAGATOR, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

To Nurserymen.

PROPAGATOR, or GROWER.—Age 26; eleven years' experience, six of which in London Market and Trade. Good references.—H. P., Low's Nurseries, Clapton, London, N.E.

To Nurserymen.

PROPAGATOR, or take Charge of set of Houses.—Age 23. Well up in Market Work. Good references.—H. O., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

To Nurserymen and Market Growers.

PROPAGATOR and GROWER, First-class.—Age 26; twelve years' experience in Ferns, Dracænas, Ficus, Genestas, Bouvardias, Poinsettias, Double Primulas, and other Soft-wood and General Pot Stuff. Good references.—C. H., 5, School Road, East Moulsey, Surrey.

GROWER of CUCUMBERS, Melons, Grapes, Tomatos, Flowers, &c., for Market.—Age 22. Used to turning off large quantities. Best testimonials and references.—E. EDWARDS, Grower, Chelmsford.

ORCHID GROWER or GARDENER (Head Working).—Age 29, married, no family; good all round experience. Can be well recommended.—L. N., 3, Pownall Road, Fulham, S.W.

To Nurserymen.

RAISER and GROWER of FERNS, PALMS, &c.—Age 28, married; thirteen years' experience in Market Nurseries.—WM. WRIGHT, 29, Fowler Street, Derby.

To Nurserymen.

GROWER, or good Second.—Age 28; sixteen years' experience in Soft-wooded Stuff for Market. Quick trade.—P., 7, Oxford Street, St. Thomas, Exeter.

JOURNEYMAN, in the Houses, in a good establishment.—Age 22; ten years' experienee. Good character from last situation.—W. CHUTER, Wellington, Chertsey, Surrey.

JOURNEYMAN, Inside, or Inside and Out.—Age 21; seven years' experience.—E. GOULD, 107, Whitehorse Lane, South Norwood, S.E.

JOURNEYMAN (First), in the Houses.—Six years' good character.—A. WEBB, Nork Park, Epsom.

JOURNEYMAN, in the Houses, in a good Establishment.—Age 20; seven years' experience. Good references from present and previous employers.—H. YEATES, Aylestone Hill, Hereford.

JOURNEYMAN, in the Houses, or Second, Inside and Out.—Age 23; ten years' experience.—Mr. Hutt, Gardener to Lord Ormathwaite, Eywood, Titley, Herefordshire, will be p'eased to recommend a young man as above.

JOURNEYMAN, Inside.—Age 20.—A. J., Courtlands, Esher, Surrey.

JOURNEYMAN, under Glass.—Age 23; nine years' experience. Mr. Calvert, Hallingbury Place, Bishop's Stortford, can with confidence recommend W. Sears as above.—W. SEARS, Whatton, Nottingham.

JOURNEYMAN, Inside.—Age 22; eight years' experience. Can be well recommended by previous and present employers. Bothy preferred.—T. B., 4, Pond Square, Highgate, London, N.

JOURNEYMAN, Inside or Out.—Advertiser can thoroughly recommend a strong active Youth as above. Five years' practical experience.—A. J. SANDERS, Gardener to Viscountess Chewton, Bookham Lodge, Cobham, Surrey.

JOURNEYMAN, Inside; age 23.—Mr. Selden, Gardener to Sir Guy Campbell, Bart., Coombe Cottage Gardens, Kingston-on-Thames, wishes to recommend C. Goodchild, who has been with him two years. Bothy preferred.

JOURNEYMAN (Second).—Age 19. W. Selley would like to recommend A. Turpin (who has been with him four years) to any Gardener requiring a persevering young Man as above, in a good place.—The Gardens, Delamore, Ivy Bridge, Devon.

JOURNEYMAN (German).—Age 20; six years' experience. Can be well recommended.—A. A., *Gardeners' Chronicle* Office, 41, Wellington St., Strand, W.C.

JOURNEYMAN, in the Houses; age 23.—Mr. Leach, Albury Park Gardens, Guildford, will be pleased to recommend a thorough good man as above.

JOURNEYMAN, Inside; age 21.—W. Douglas, The Gardens, Chilham Castle, Canterbury, very highly recommends A. Elgar, who has been with him two years. Four years previous character.

JOURNEYMAN, in the Houses, under a Foreman.—Age 21. Five years' experience. Good character,—W. B., The Gardens, Bridehead, Dorchester.

IMPROVER.—Age 17; situation wanted in a Gentleman's garden as above. Two years' experience.—E. P., The Cottage, Iping, near Midhurst, Sussex.

IMPROVER or ASSISTANT, in Nursery or Shop.—A young Man (age 20); tall and strong. Willing to be useful. Town or country.—B. K., 32, Finchley Road, N.W

IMPROVER, in a good establishment, where he could learn general routine of Gardening.—Age 18; bothy; good references.—41, Heath Street, Hampstead, N.W.

IMPROVER.—Age 17; strong and active. Previous experience in Houses. Good recommendation.—ALBERT COMBER, Lunch Gate, Balcombe.

IMPROVER, Inside and Out.—Age 19. Willing to pay small Premium. Three and a half years' good character. Bothy preferred.— H. J., Hook Green, Meopham, near Gravesend.

IMPROVER, in a private establishment, or Nursery.—Age 19; five years' experience. Good references. State wages.—S. HILL, Aspendon, Buntingford, Herts.

IMPROVER.—A young Man, age 22, requires a situation as above in a good Establishment. Would pay premium; near London preferred. Good references.—A. FLACK, Snelsmore Common, Newbury, Berks.

IMPROVER, In and Outdoor, in a good establishment.—Age 18; three years' experience.—J. FROSDICH, Stoke Hall, Norwich.

IMPROVER, in a good Nursery, to learn the Trade.—Situation required by a young man as above.—B. F., Glory Farm, Amersham, Bucks.

IMPROVER, in a Private Garden.—Age 23. Mr. Gibson, Draycot Gardens, Chippenham, Wilts, wishes to recommend a young man as above. Six years' experience Inside and Out. Total abstainer. Bothy preferred.

IMPROVER, in the Kitchen and Fruit Garden.—Age 21; good character.—HEAD GARDENER, Aldbro' Hall, Ilford, Essex.

TO GARDENERS.—Mr. Thomson wishes to recommend a young man, age 19, Inside, or Inside and Out. Abstainer.—Mr. THOMSON, Easneye, Ware, Herts.

TO GARDENERS.—A Young Man (age 19) requires a situation as IMPROVER. Inside and Out. Four years' good character.—ARTHUR HALLIDAY, Coxwell Road Nurseries, Faringdon, Berks.

TO GARDENERS.—A young Man (19) seeks situation in a Gentleman's Garden. Sixteen months' character from last situation.—E. FLEET, Chobham Road, Ottershaw, Chertsey, Surrey.

TO GARDENERS.—A Youth, age 17, seeks a situation under a good Gardener. Good reference from a Gentleman. Two years' experience.—GARDENER, Rowbarns Manor, Horsley, Leatherhead.

TO GARDENERS.—A Youth (age 16), desires to learn Gardening and Houses, under a good Gardener in a Gentleman's Establishment. Premium offered.—A. LINE, 64, Noyna Road, Upper Tooting, S.W.

TO GARDENERS, &c.—Situation wanted by a single man (age 28), in Kitchen Garden and Pleasure Grounds. Good character from last place.—J. OLDHAM, 21, Ferrers Road, Streatham, S.W.

TO FLORISTS and SEEDSMEN, &c.—A young man desires engagement at once. Has had over nine years' first-class all-round experience (North and South). Competent Salesman. First-class references.—Apply, stating wages given, to SEEDS, 6, Oak Street, Keighley.

ASSISTANT.—Age 20, requires situation in Seed and Florist's Shop, used to Wreath Making, &c. Good Salesman. Nearly six years last place.—BRADLEY, New Road, Peterboro'.

COWMAN.—Situation wanted by a respectable young man as above; willing to help in garden; age 21, single. Two years' highest reference.—COLEMAN, Marden Park, Caterham Valley, Surrey.

HANDY MAN, in Garden or on Estate, Painting, Glazing, Sash-lines, &c.—Age 27; good character. Country.—M. A., 5, Cheap Street, Newbury.

GLAZIER, PAINTER, REPAIRS.—Used to Old and New Greenhouses, Conservatories, and Showhouses. Job not objected to; any district.—BISNEY'S, 36, Cornwall Street, Moore Park Road, Fulham, S.W.

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HOLLOWAY'S PILLS.—In general debility, mental depression, and nervous irritability there is no medicine which operates so like a charm as these famous Pills. They purify the blood, soothe and strengthen the nerves and system, give tone to the stomach, elevate the spirits, and, in fact, make the patient sensible of a total and most delightful revolution in his whole system. They may be commenced most unreservedly as the very best family medicine in existence. Though so powerfully efficacious, they are singularly mild in their operation, and might be given with perfect confidence to delicate women and young children. They contain not a grain of mercury, or any other noxious substance, and cannot do harm. Delicate females and all persons of sedentary habits will find these Pills a blessing.

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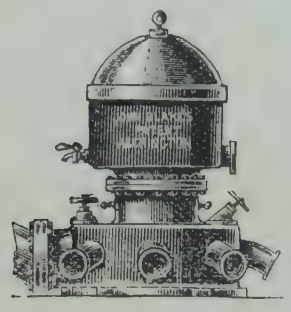
PATENT SELF-ACTING HYDRAULIC RAMS,

For Raising Water for the Supply of Towns, Villages, Irrigation, Railway Stations, Mansions, Fountains, Farms, &c.

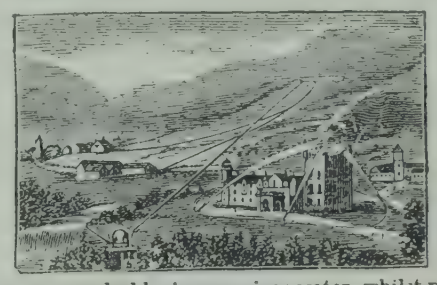
No Cost for Motive Power, which is obtained from the Stream of Water passing through the Ram.

NO OILING OR PACKING REQUIRED.

MADE IN SIZES TO RAISE FROM 300 TO 200,000 GALLONS PER DAY. WILL FORCE TO A HEIGHT OF 1500 FEET.



This ram works with no metal in motion.



This view represents a ram worked by impure river water, whilst pumping pure water from a well or spring and forcing it to a small reservoir on the hill, at an elevation of 295 feet, and a distance of 1 mile, from which reservoir the water is gravitated for fire extinguishing and general requirements of mansion, stables, farm, and village.

TESTIMONIALS.

From CHARLES HART, Esq., A.M.I.C.E., 3, Avenue Road, Leamington, March 13, 1893.

Brixworth Union Rural Sanitary Authority, East Haddon Water Supply.

DEAR SIR,—Since the opening of these works, in May, 1891, the two Double-acting "B" Rams supplied and fixed by you have done their work with a minimum of attention, uninterruptedly and satisfactorily. Pure spring water obtained from a gathering ground on the side of a hill is carried along iron pipes a distance of 548 yards, down to a cistern fixed in the ram-house. From this cistern it flows to the rams, which are driven by impure water—drawn from an adjacent brook, with an available fall of 12 feet—and thence by them forced along an ascending delivery pipe, a distance of 1520 yards, to an iron reservoir, at an elevation of 204 feet. From this reservoir mains are laid which supply the hall with its stabling, the rectory, six farm houses, two dairies, and twenty-four wall fountains for the villagers' use.

The average daily consumption exceeds 4000 gallons, which one ram easily delivers, thus exceeding your guaranteed quantity by more than 1000 gallons per ram per 24 hours. Generally the two rams are regulated to divide the work between them, but occasionally it devolves upon one only.

If more widely known, this means of supplying villages and small towns with a limited quantity of spring water, forced to a suitable elevation by means of your rams, driven by impure water, would most certainly be more generally adopted.—Yours faithfully,

CHARLES HART.

From the Right Honourable the EARL of HARROWBY, 44, Grosvenor Square, London, February 21, 1893.

SIR,—I have pleasure in stating that the two Hydraulic Rams, which you supplied and fixed for me last autumn, at Sandon, have proved so far most successful, and that the work gives every promise of durability, while the economy, compared with the former much smaller and intermittent supply by steam pump, will be considerable.

With a fall of about 14 feet from a previously existing mill pool, the rams supply reservoirs 168 feet above the brook whence the water is forced, through pipes of 1½ mile in length.

They sent up, as long as I required it, about 41,000 gallons per day.

I now generally work the two rams alternately (for a fortnight or so each), but can at any time work the two together, if the full supply of 41,000 gallons should be needed.

The business of this somewhat complicated water-supply was conducted by you with singular promptness and punctuality; and no local difficulties arose in the execution of the work, owing to the excellent and efficient men whom you sent from your works at Accrington.

I am, Sir, your very obedient servant, HARROWBY.

From Mr. J. A. RUTHERFORD, Agent to C. F. H. Bolckow, Esq., Estate Office, Marton Hall, Middlesbrough, September 26, 1883.

DEAR SIR,—I am glad to say that the Rams you put down on the Hambledon Estate, for Mr. C. F. H. Bolckow, are working very well. You undertook with 16 gallons per minute, to send up 1500 gallons a day, and with enough water to work the Rams at full power, 2000 gallons a day. With a supply of 11¾ gallons per minute they are lifting 2200 gallons, and when working full power, 3105 gallons per day are sent up to a height of nearly 400 feet. They made a clear start, and have gone well since. The delivery pipe in the above case is 9000 feet in length.

From THOMAS ROBERTS, Esq, Estate Surveyor to His Grace the Duke of Sutherland, K.G., Surveyor's Office, Trentham Hall, Staffordshire, April 13, 1886.

DEAR SIR,—I am pleased to say that the Hydraulic Ram you supplied and fixed at Tittensor (the residence of the Marquess of Stafford, M.P.), does its work very satisfactorily, with a fall of 9 feet 6 inches, raising 9000 gallons daily to a height of 150 feet. The Duke of Sutherland, K.G., inspected the working of the Ram, and expressed his entire satisfaction with it.

I am, yours faithfully, THOMAS ROBERTS.

From Sir S. M. MARYON WILSON, Bart., London, November 17, 1891.

SIR,—I have much pleasure in stating that the two "A" Rams you supplied and fixed for me at Searles, on my Sussex estate, have proved a great success, especially when the small supply of driving water is considered, as with a supply of 7 gallons per minute only, they have daily thrown 3000 gallons to a height of 96 feet, and through a service of pipes over a mile in length; and testing them recently (with plenty of driving power) found they lifted 7000 gallons per day.

The economy effected by their use is considerable, as they have entirely superseded a steam pump. S. M. MARYON WILSON.

From HENRY MORTON, Esq., Agent to the Most Honourable the Marquess of Ripon, K.G., Ripon, April 12, 1886.

DEAR SIR,—The Patent Ram, with 1½ mile of service pipe, a large galvanised tank, and other fittings, which you fixed for the Marquess of Ripon, for the conveyance of water from Hutton Moor Springs to Blows Hall and Copt Hewick Hall, are highly satisfactory to all concerned, both as an engineering success and the intrinsic merits of the materials supplied. About 6000 gallons of water per day are forced into the tank at Blows Hall, nearly a mile distant, and 127 feet above the Ram, the overflow falling into a 20,000 gallon underground tank, from which it gravitates through the 4-inch main 800 yards long, with a fall of 70 feet, to the service-cocks and fire-plugs at Copt Hewick Hall, where, in case of fire, two or three powerful jets of water can be thrown on to the roof of the Hall.

I consider your method of carrying out the work is everything that could be desired, and, whilst the waste-power water from the Ram is less than you specified, the quantity elevated is just what you guaranteed. I am, dear Sir, yours very truly, HENRY MORTON.

From T. H. SIDEBOTTOM, Esq., Etherow House, Hadfield, February 22, 1882.

Induced by the good report of my cousin, Mr. J. A. Sidebottom, as to the working of the Hydraulic Ram he had from you, I ordered the one you fixed here a year ago, which I am pleased to say has since worked well night and day. Yet the two Rams you fixed at Snow's Hill Manor, Gloucestershire, for my brothers and myself, are, I think, a still more remarkable example of your success. We had a Ram fixed by a well-known firm, which proved a miserable failure, and which your Rams displaced. They are forcing the water through three-quarters of a mile of delivery-pipe, a little in excess of the quantity you guaranteed, to an elevation of 340 feet, and without the slightest hitch to the time of the last report from our tenant.

From Mr. HENRY ROBINSON, Engineer to the Stockport District Waterworks Company, September 8, 1883.

DEAR SIR,—I can now report well of the two Hydraulic Rams we have fixed to your instructions for the supply of Disley village; 40,000 gallons per day was the quantity you promised they would force to a height of 68 feet, but, on testing them, I am convinced that 50,000 gallons is not the limit of their power, whilst the quantity of waste water used in driving them is not equal to half the capacity of the 6-*inch pipe by which they are fed, and I am inclined to the belief that a more simple and efficient pump cannot be found.*

JOHN BLAKE, PATENT RAM WORKS, ACCRINGTON, LANCASHIRE.

Editorial communications should be addressed to the "Editor;" Advertisements and Business Letters to "The Publisher," at the Office, 41, Wellington Street, Covent Garden, London, W.C.
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CONTENTS.

Acer Miyabei 582
Anthuriums, manuring and non-manuring ... 579
Apples and Pears, chemistry of 577
Aquilegias, hardy ... 572
Auricula, the 579
Boilers 578
Carnations, chemical constituents of the ... 570
Chiswick, flowers at ... 576
Cucumber disease ... 579
Dracæna Sanderiana ... 576
Erythea edulis 578
Forestry—
Platanus orientalis ... 582
Fruit trees, summer pruning of 578
Honesty 578
Landscape Gardening, English style of ... 587
Mushroom growing ... 578
Nursery notes—
Waterer, A., Knap Hill 581
Knowles, A., Woking 582
Orphan Fund, Gardeners' 575
Peach bud dropping ... 574
Plants for decoration ... 572
Plants, new or noteworthy—
Fritillaria zagrica ... 568
Richardia Lutwychei 568
Scilla Buchanani ... 568
Poplar, the Ontario ... 582
Societies—
Norfolk and Norwich Horticultural ... 581
Royal Horticultural ... 580
Sodium as a plant food 576
Spinach, round *versus* prickly 578
Strawberries 579
Sulfosteatite cuprique 576
Thorns in the Parks ... 576
Travellers' notes, a ... 578
Tulips, the 579
Turnip, early 579
Violas and Viola culture 570
Week's work, the—
Apiary, the 573
Flower garden, the ... 572
Fruits under glass ... 573
Hardy fruit garden ... 573
Kitchen garden, the ... 573
Orchid-houses, the .. 572
Plants under glass ... 572
Wheat, imports and consumption of 577

ILLUSTRATIONS.

Alocasia Watsoniana 569
Anthuriums, effect of manuring 579
Davallia Mariesii in grotesque forms... 571
Japanese garden 575

"GARDENERS' CHRONICLE."

LARGELY INCREASED CIRCULATION.

IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

Increased to the extent of 75 per cent.

Advertisers are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS *at home and abroad, and is preserved for reference in all the principal Libraries.*

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THE NEW FLOWER from SOUTH AFRICA.

NEMESIA STRUMOSA SUTTONI.—Mr. W. H. GOOD, The Gardens, Wonham Manor, Betchworth, says:—"The Nemesia Seed has come well—fully 60 per cent. It was sown on March 13, shaded for a few days, then exposed to the sun. I saw to-day (April 3) several more plants coming up. We lost three plants after being watered; it is now kept dryer."
Price of Seed, 2s. 6d. per packet, post-free. The seed germinates best when sown during the month of May. Nemesia strumosa Suttoni can only be obtained direct from—

SUTTON AND SONS, THE QUEEN'S SEEDSMEN, READING.

New Roses.—Princess May and Corinna.
WM. PAUL AND SON are now Booking Orders for the above. Plants, 10s. 6d. each, are expected to be ready at the end of May. Orders will be executed in rotation as received.
PAULS' NURSERIES, Waltham Cross, Herts.

WILLIAM POTTENS' CATALOGUE of BEDDING PLANTS is now ready, and will be forwarded, post-free, on application. His Stock is very large and healthy this season.—Camden Nurseries, Cranbrook, Kent.

NEW CATALOGUE (134 pages), of FORBES' CELEBRATED FLORISTS' FLOWERS and HERBACEOUS PLANTS for 1893, will be posted free on application.
JOHN FORBES, Hawick, Scotland.

ORCHIDS.—We have purchased the celebrated Collection formed by the late General Fytche, Bournemouth, Price List of which is now ready.
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FOREMAN, Stanmore Park Gardens, Middlesex.

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J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings. Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W.

THOMSON'S MANURE.—The sale of this Manure is steadily increasing, and it can be had as formerly of all the leading Nursery and Seedsmen in the United Kingdom.
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SALES BY AUCTION.

Wednesday Next.

A CONSIGNMENT of STOVE and GREENHOUSE PLANTS from Ghent, BEDDING PLANTS, &c.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, May 17, at half-past 12 o'Clock precisely, a Consignment of KENTIAS, LATANIAS, ARECAS, DRACÆNAS, OLIVIAS, and other STOVE and GREENHOUSE PLANTS from Ghent; 3000 Seedling PALMS from Belgium; 12,000 fresh Seeds of COCOS WEDDELIANA, also 12 Specimen LATANIAS, PHŒNIX KENTIAS, and other PALMS in fine condition; and a Collection of BEDDING PLANTS, including some nice Carnations, Pinks, &c., ANEMONE SEED, GARDEN SEATS and BARROWS, a quantity of GLASS for Decorative Purposes, &c.

On view morning of Sale, and Catalogues had.

Wanstead, E.

40,000 BEDDING and GREENHOUSE PLANTS, also several very fine PALMS and FERNS.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, on the Premises, the Woodbine Nursery, Wanstead, near Snaresbrook Station, on SATURDAY, May 13, at 2 o'Clock, by order of Mr. Richards.

May be Viewed. Catalogues had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, E.C., and Leytonstone.

Tuesday, Wednesday, and Thursday Next.

THE LANGTON HOUSE COLLECTION of ESTABLISHED ORCHIDS.

IMPORTANT UNRESERVED SALE of this Extensive and VALUABLE COLLECTION of ESTABLISHED ORCHIDS, which is especially rich in grand and rare forms of CATTLEYAS. By order of G. R. Le Doux, Esq. Absolutely without reserve.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, May 16, and TWO FOLLOWING DAYS, at half-past 12 o'Clock each day, the above highly-important and extensive collection of ESTABLISHED ORCHIDS, comprising about 4000 plants, the whole being particularly well-grown and in splendid condition. Amongst the principal plants the following may be specially noted:—

Cattleya Schroderæ alba, true, as figured in *Reichenbachia*, 5 strong plants
,, Trianæ alba, best varieties, 3 plants
,, Wagnerii
,, Reineckiana
,, exoniensis
,, aurea, Le Doux variety, as described in *Gardeners' Chronicle*, 3 distinct grand forms flowered on same spike
,, intermedia Faustina
,, Mendelii grandiflora, 5 plants
,, Mossiæ aurea
,, Trianæ atalanta
,, ,, formosa
,, ,, Veitchii
,, ,, Miss Florence Le Doux
,, ,, Backhousiana
,, ,, Miss Ada Le Doux, splashed sepals and petals
,, Warscewiczi, delicate, the true old form
,, Percevaliana, Le Doux variety, according to Mr. Sander, grandest form ever flowered
,, labiata autumnalis perfecta
,, amethystina
,, maxima, Le Doux var.
,, Harrisoni violacea, true
,, Loddigesii (Le Doux var.), a superb form
,, maxima peruviensis, 24 large plants; some rare forms
Dendrobium nobile nobilius, the finest var. [var.
,, ,, Cooksoni, the finest
,, ,, grandiflorum
,, ,, Wallichianum
,, ,, albens
,, cegnatum, 3 plan
,, Ainsworthii
,, Leechianum
,, splendidissimum
,, Cassiope
,, Veitchii, 2 plants
,, Brymerianum, 12 large well-grown plants of the long-bulbed type
Odontoglossum vexillarium, Le Doux variety
,, ,, leucoglossum
,, ,, rubrum verum
,, ,, rubellum
,, excellens aureum
,, Wilckeanum superbum
,, ,, albens
Odontoglossum Andersonianum superbum
,, Ruckerianum magnificum, immense bold, well-blotched flowers
,, Jonningsonianum superbum
,, Halli cristatum
,, hystrix lyroglossum
,, crispum, finest type
,, ,, roseum
Lælia anceps, in great variety, and most robust plants
,, ,, Dawsoni*
,, ,, Stella*
,, ,, Williamsii*
,, ,, Sanderiana*
,, ,, alba, unflowered best types, twelve plants
,, ,, Schroderiana
,, ,, Protheroeiana
,, ,, Barkeri
,, ,, grandiflora Morada, four splendid large plants
,, autumnalis alba, large plant
,, elegans Turneri, a grand form
,, Præsiata, very large plant
,, Schilleriana, large plant
,, purpurata, some grand forms
Lycaste Skinneri alba, the finest large-flowered variety
,, rubellum
,, Bacchante, from Studley House collection
,, aromatica majus, very rare
Cymbidium Devonianum
,, Mastersii, fine plant
,, tigrinum, in flower, 2 plants
,, eburneum, 3 plants
Cypripedium Morganiæ
,, javanico - superbiens (Bleu)
,, grande
,, Schroderii
,, Schroderæ splendens (Linden)
,, Mrs. Charles Canham, the red variety
,, barbatum, choice vars.
,, insigne montanum Le Doux variety
,, candidulum
,, Seegerianum
,, Veitch's Demidof's var.
,, Leeanum superbum
,, œnanthum superbum
Miltonia Roezlii magnifica

* Mostly large pieces, from twelve to forty bulbs.

The Plants will be on View each morning of Sale. Catalogues may be had of the Auctioneers.

FRIDAY NEXT.

BY ORDER of MESSRS. F. SANDER & CO.

A splendid Importation of the true old

CATTLEYA LABIATA,

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A fine importation of our famous type of

DENDROBIUM NOBILE,

from the Lang-tang Mountains, rich in pure white and delicate forms.

The lovely D. n. Ballianum and D. n. Amesianum, and other beautiful forms, came from the same district.

A fine Importation of the unrivalled
CYPRIPEDIUM INSIGNE MONTANUM.
DENDROBIUM FINDLEYANUM, in very fine condition.

A splendid lot of the new and free-flowering GRAMMATOPHYLLUM MICHOLITZIANUM, CALANTHE species from Cambodia, 20 plants of the charming HABENARIA CARNEA, and many other valuable ORCHIDS.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, May 19, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Roehampton, S.W., close to Barnes Station.

By Order of the Executors of the late H. L. Holland, Esq.
UNRESERVED SALE.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, Templeton Gardens, Priory Lane, Roehampton, on MONDAY NEXT, May 15, at 1 o'Clock, 2000 GERANIUMS of the best-named sorts, AZALEAS, CROTONS, CALADIUMS, EUCHARIS, a small Collection of ESTABLISHED ORCHIDS, a capital assortment of well-furnished Specimen PALMS and DECORATIVE PLANTS, several fine examples of KENTIAS and LATANIAS, DRACÆNAS, LAPAGERIAS, 300 STRAWBERRIES in pots, and numbers of other plants.

May be viewed. Catalogues had of Mr. J. P. KENDALL, the Head Gardener, on the Premises; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Esher. First Annual Sale.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, the Melbourne Nursery, Esher, on TUESDAY, May 16, at 1 o'Clock, by order of Mr. F. L. Batchelor, 7000 BEDDING and GREENHOUSE PLANTS.

May be viewed. Catalogues on the Premises; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Leytonstone, Saturday Next, May 20.

5000 BEDDING and GREENHOUSE PLANTS.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, on the Premises, Drayton Road Nursery, Leytonstone, on SATURDAY NEXT, May 20, at 2 o'Clock.

May be viewed. Catalogues had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, E.C.; and Leytonstone, E.

Tuesday, May 30.

SPECIAL SALE of ORCHIDS in FLOWER and BUD.

MESSRS. PROTHEROE AND MORRIS have arranged to hold a SPECIAL SALE on the ABOVE DATE, of ORCHIDS in FLOWER and BUD, and will be glad to RECEIVE ENTRIES not later than May 20. This Sale will afford Exhibitors at the Temple Show an opportunity of including their Plants, if they should wish to dispose of the same by Auction.

Clapham, S.W.—Preliminary Notice.

ABSOLUTE CLEARANCE SALE.
EXPIRATION OF LEASE.

By order of Messrs. Charlesworth, Shuttleworth, & Co., whose lease expires at Midsummer Day next.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, 213, Park Road, Clapham, S.W., near Clapham Road Station, on WEDNESDAY, June 7, at half-past 12 o'Clock, without the least reserve, the remainder of the Stock of ESTABLISHED ORCHIDS, in fine health, consisting principally of Cattleyas, Odontoglossums, Oncidiums, and Masdevallias; also the erections of six Greenhouses, 4-inch Hot-water Piping, Boilers, and Utensils in Trade.

May be viewed one week prior to the Sale. Catalogues may be had on the Premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Finchley.

IMPORTANT CLEARANCE SALE, in consequence of the Property having been let. Preliminary notice.

MESSRS. PROTHEROE AND MORRIS (having let the Property), are instructed by Mrs. Weatherills to SELL by AUCTION, on the Premises, Woodside Nursery, Finchley, N., the well grown STOCK of GREENHOUSE PLANTS, including 300 Azalea indica alba, the greater portion being large specimens; Camellias, 6000 Callas, 3000 Tea Roses in pots, extra fine market sorts, and many thousands of other plants.

Fuller particulars will appear next week.

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TO BE LET, a portion of a FARM, adjacent to Sarisbury, in portions suitable for above. Good roads and good aspect. Station adjoins. Apply to—
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Apply to G. E. KENT, Esq., J.P., Stubbington Lodge, North End, Portsmouth.

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KENT, 15 miles from London, Dartford district.—SMALL NURSERY, about half an Acre 700 feet run of Glass all in good order. Strawberries, Peaches, and Tomatos in splendid condition. Exceptional opportunity. Rent only £10, and £7 let off, reducing it to £3. Price for Glass and Stock, £550. Incomer can commence taking money at once, as Strawberries are now ripening.

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To Market Gardeners, Florists, &c.

In Bankruptcy. *Re* JOHN GOUGH, Kingston Court.

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GARDENIA HOUSE, by Foster & Pearson, 34 feet by 15 feet, with stage in centre, also side stages. Six rows of 4-inch pipes.

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EXHIBITIONS.

ROYAL BOTANIC SOCIETY, GARDENS, Regent's Park.
SUMMER EXHIBITION of PLANTS and FLOWERS, WEDNESDAY NEXT, May 17.
Gates open from 2 to 7 o'Clock. The Bands of the 1st and Life Guards will play, by permission of their Commanding cers, from 2 to 7.
Tickets to be obtained at the Gardens only by Vouchers from llows of the Society, price 5s., or on the day of the Exhibi-, 7s. 6d. each.

ROYAL BOTANIC SOCIETY OF MANCHESTER.
THE GREATEST ORCHID DISPLAY ever seen in the nals of Horticultural Demonstrations, will OPEN on IDAY NEXT, May 19, at 2 P.M., and close on May 25. Acre of Glass covered space, insuring the safety of the nts. First Day, 5s., remaining days, 1s. For further rticulars, apply to the undersigned—
Old Trafford. BRUCE FINDLAY.

ROYAL HORTICULTURAL SOCIETY,
117, Victoria Street, Westminster, S.W.
GREAT FLOWER SHOW,
MAY 25 and 26, 1893,
INNER TEMPLE GARDENS,
Close to Temple, Blackfriars, and Ludgate Hill Stations.
Exhibitors wishing their names to appear in the Show Catalogue must specify their exhibits and space required before Saturday, May 20, to the Superintendent, R.H.S. Gardens, Chiswick.
For Advertisements in Show Catalogue, address:—R.H.S. Advt, Manager, 168, Fleet Street, E.C., before May 20.

SHROPSHIRE HORTICULTURAL SOCIETY.
Schedules for the FLORAL FÊTE, SHREWSBURY, August 23 and 24, 1893, are Now Ready.
CASH PRIZES are offered in the Society's Schedule for 1893, amounting to nearly SEVEN HUNDRED and TWENTY POUNDS. Schedules sent post-free on application to—
Messrs. ADNITT AND NAUNTON, Hon. Secs., Shrewsbury.

FOR SALE, 1000 GENISTAS, in small 60's, at 10s. per 100, or £4 10s. per 1000. Cash with Order. Money Orders payable at Leyton High Street.—T. BALDWIN AND SON, Edith Nurseries, Burchall Road, Leyton.

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P. BOULTON, Beechenlea Nursery, Swanley.

GERANIUMS, Autumn Cuttings, Flower of Spring, 8s. per 100; Vesuvius, 8s. per 100; £3 10s. per 1000. HELIOTROPE, Autumn Cuttings, 7s. per 1000. MESEMBRYANTHEMUM CORDIFORUM, 7s. per 100. Very Good Stuff. Cash with Order.
THE GARDENER, Woburn Park, Addlestone, Surrey.

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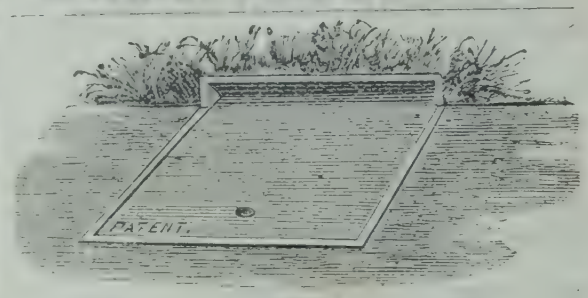

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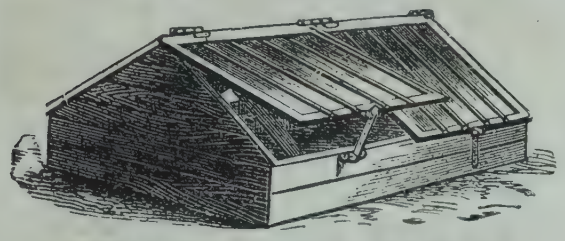

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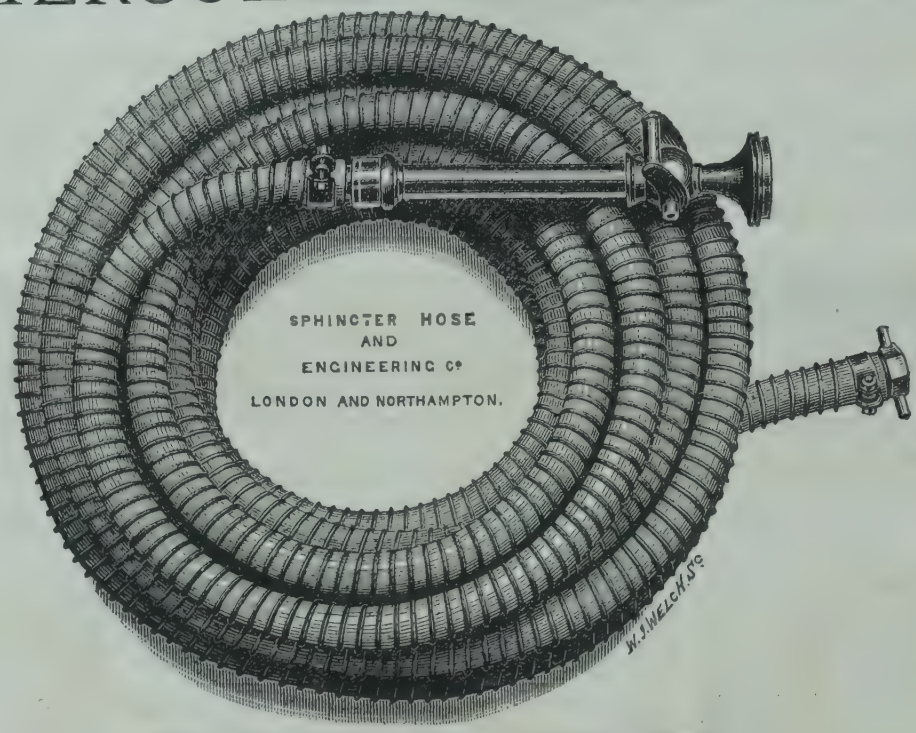

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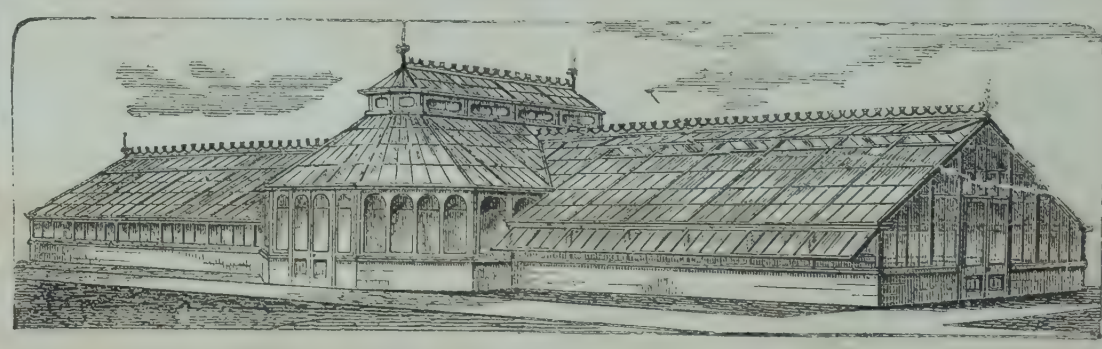

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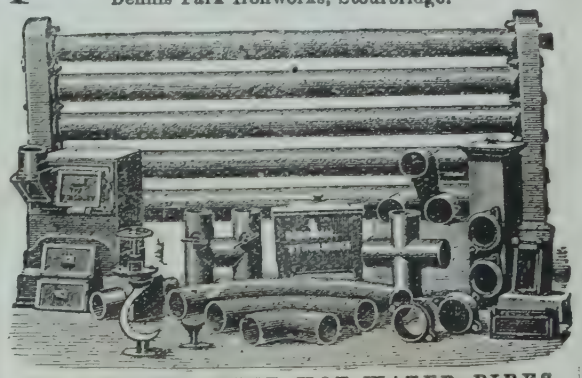

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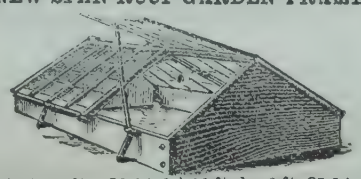

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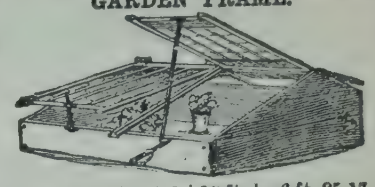

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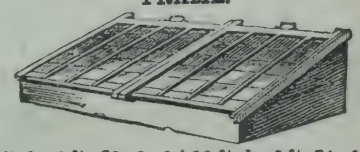

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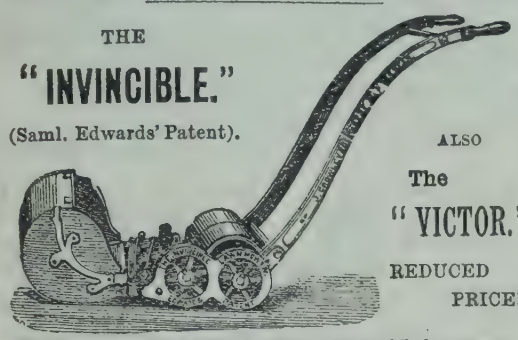

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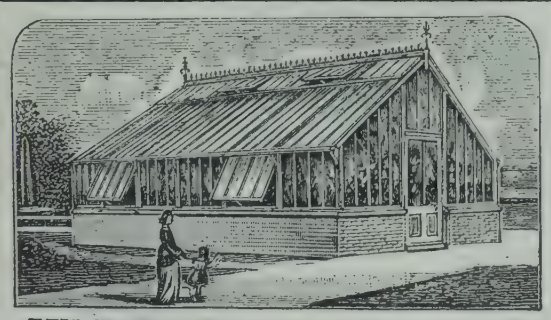

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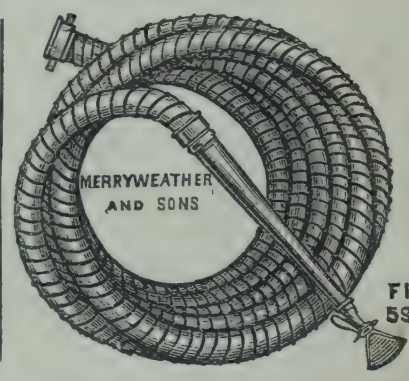

FIG 595.

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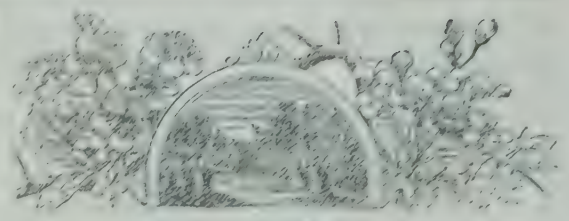

THE

Gardeners' Chronicle.

SATURDAY, MAY 13, 1893.

ENGLISH STYLE OF LANDSCAPE GARDENING.

SINCE the beginning of the eighteenth century the art of landscape gardening has made such strides, that not only is it now recognised as a profession having exponents other than architects, but also a distinct form of landscape gardening has been reached, called, and rightly so, too, "the English, or gardenesque style."

Up to the eighteenth century, this art was generally, if not entirely, practised by architects, and was characterised by formal art features, by the introduction of duplication of lines, by intricacy of design, and by treating the ground as a plane surface, and was called the geometrical, or formal style. The distinctive features of this style, besides what I have mentioned above, are, straight walks, or walks branching off at right angles; beds formed in circles, segments of circles, ovals, oblongs, angulars, or parallelograms, flights of steps, balustraded walls, terraced banks, raised platforms, sunken panels, exotic forms of vegetation, symmetry and gaiety of tone; while the forms of Nature, which are used in this style are those which are the most artificial in their appearance. This artificiality in laying-out gardens, which sometimes resulted in a feeling that Nature had been dragged into the effect, was due, no doubt, to, firstly, the influence of the exponents of architecture; and secondly, to the love of the wealthy, in courting the admiration of the spectator by the costliness, design, and labour bestowed on the garden, and showing in every possible way the presence of art, in contradistinction to the natural scenery around.

Then there came a revolution in landscape gardening, about the period that "genre" painting in art, and the modern novel in literature became fashionable, and out of it arose a style called the "natural or picturesque," the chief feature of which was to copy Nature in the garden as closely as possible, and to sacrifice utility and convenience to glorious wildness, which recognised no kind of symmetry or order, but dealt with broken ground, curious and bold forms of vegetation, rushing water, sham ruins stained as it were by time and age, and which possessed an indescribable wild grace, very pleasing to the eye.

After the beginning of the nineteenth century, however, newer influences began to be felt, the freedom of continental travel, peace at home, and the accumulation of private as well as public wealth, resulted in a broader conception of the art of landscape gardening, called, as above said, the gardenesque or English style.

Before proceeding further, I would ask my readers this question, viz., What was the agent by means of which Nature formed her hills, her valleys, &c.? The answer is, "Water." [ED. Frost?]

Water, by its constant yet gentle action, or by its sweeping violent force, has been, without

question, as a great landscape gardener writes, a principal agent in forming the natural surface of our earth. Therefore, it is right in forming a restricted landscape to bear in mind Nature's grand agent in the formation of her greater landscapes, wherein are presented endless varieties of form, of line, and of colour, far-stretching level plains rich with herbage, hill-sides and tops covered with foliage, as well as swelling downs with their great sweeping curves.

The English or gardenesque style then has, as one of its most characteristic features, curved or serpentine lines; smoothness and freedom from angles are among its numerous indications, while the beauty and variety of its lines is its object. This style, however, does not entirely forbid the use of straight lines, but they must be in connection with the house or some subordinate building, such as a greenhouse or conservatory.

It is a style that blends and interfuses art with Nature, which prunes nature of its roughness by means of art, drawing from each their most appropriate and agreeable elements, the grace of nature without its roughness, the refinement of art without its stiffness.

Turning to the general principles of this style, one almost wonders whether it is possible to tabulate any given rules for one's guidance, for it is a recognised fact, that a student in this art with a truly artistic spirit feels more than he can describe.

There are, however, certain principles which should always be borne in mind, viz:—

Simplicity with some degree of intricacy is perhaps the first point to be aimed at in laying out a garden. A design can be essentially simple without being crude and bold, intricate without being mazy. Simplicity is an element of pure beauty, and of the highest taste. A garden should be more or less simple in its arrangements, according to its size and position, the lines all graceful, the decorations elegant. Intricacy brings into play a something beyond, a something more to explore, a newness of scenery brought about by the clever grouping of plants, whether in masses or specimens, thus giving a charming variety of aspect, that entices one on to higher beauties, from "Nature on to Nature's God."

Convenience, again, is another principle which should be carefully studied and thought over. However tastefully a garden may be laid out, it loses all its charms, if comfort and convenience have not been provided for. Compact composition of its various parts, seclusion, and agreeable transition from one part of the garden to another, without any decided break to disturb the harmony of the design, are further principles which should always be borne in mind in carrying out successfully this English style of landscape gardening. There is, however, one principle which must be remembered by designers of a garden, and that is adaptation, for without adaptation no rules, no principles that can be given, will be of any real value. Every plot of land, whether it be half an acre or whether it be a hundred acres, has its own peculiar characteristics, which should influence the disposal of its various parts, and give colour and variety to the whole design. It is, in fact, the delicate adaptation of the various rules, styles, and principles of treatment to the peculiarities and existing objects of each place, that brings credit to the landscape gardener and satisfaction to the owner.

It is all but impossible to do anything more than merely touch upon the chief principles of this all-interesting style in a short paper like this, but I hope in future papers not only to write more fully about these principles, but also with the help of diagrams to treat of planting, water, and other highly-important materials connected with landscape gardening in general, and especially with the English or gardenesque style. *Arthur M. Kettlewell, Southsea.*

New or Noteworthy Plants.

SCILLA (LEDEBOURIA) BUCHANANI, *Baker, n. sp.**

This new species of Scilla has just flowered at Kew. The bulbs were obtained in Nyassa-land by Mr. John Buchanan, C.M.G., who has sent home very large collections of dried plants from that region, which have been widely distributed. The Scillas of this section are very numerous, both in tropical Africa and at the Cape.

Bulb globose, 1 inch in diameter. Produced leaves three, lanceolate, bright green, unspotted, erect, the largest 1 foot long, under 1 inch broad. Scape green, flexuose, 6 to 8 inches long. Raceme dense, oblong, about 2 inches long; pedicels spreading, ½ inch long, the upper pale mauve, the lower cernuous. Perianth oblong, green, ⅛ inch long, the segments reflexing from below the middle. Stamens rather shorter than the perianth; filaments dark purple; anthers small, globose, yellow. Ovary shortly pedicellate, globose, truncate and dilated at the base; style dark mauve-purple. *J. G. Baker.*

FRITILLARIA (AMBLIRION) ZAGRICA, *Stapf* in *Verhand Zool. Bot. Ges. Wein*, 1888, p. 351.†

This is a new species of Amblirion, which has been imported by Leichtlin from the Rashand Mountains in western Persia, where it was gathered by Dr. Polak, in a collection that was worked out by Dr. Stapf. It is nearly allied to F. tulipifolia and F. armena, both of which have been figured in the *Botanical Magazine.*

Bulb small, globose; leaves about 8, alternate, glaucous, the lower oblong, 2 inches long, the upper growing gradually narrower, the central lanceolate, the uppermost linear; stem one to three headed, a span long; perianth oblong, ⅝ inch long, dark lurid untesselated purple, glaucous outside; segments ⅛ inch broad, the inner with a small green oblong nectary at the base; stamens ⅓ inch long; filaments pubescent; anthers small, dark purple; style entire, as long as the ovary. *J. G. Baker.*

RICHARDIA LUTWYCHEI, *N. E. Br., n. sp.*

This is the fine and distinct Richardia that has been in cultivation during the past few months under the name of "Pride of the Congo," and is now flowering with Mr. S. G. Lutwyche, of Oakfield, Eden Park, Beckenham, after whom I have the pleasure of naming it. It is stated to have been imported from the region of Lake Nyanza in tropical Africa, and is one of the much-admired yellow-spathed kinds, allied to R. Elliottiana and R. Pentlandii, but is abundantly and easily distinguished from them and every other known species, except R. melanoleuca, by its setose petioles; other well-marked differences may be found in the mottled coloration of the petioles, and in all the adult leaves having the basal lobes overlapping one another in the sinus. The following is a description of the plant:—

The petioles are 12 to 16 inches long, terete, pale green, densely marked with longitudinal lines, and, on the basal part, with indistinct, irregular, transverse bars of a darker green, the basal half beset with numerous stiff hairs or bristles; the blade is 8½ to 13½ inches long, 4 to 7½ inches broad, triangular-sagittate acute, the basal lobes broadly ovate, very obtuse, overlapping one another in the sinus, the midrib with about six or seven primary veins on each side; the colour is bright green on both sides without spots; the scape is about 1 foot long, terete, light green, with darker green lines like the petioles, but not mottled; spathe 3½ inches long, convolute, forming a deep cup obliquely truncate at the top, shortly and abruptly subulate-pointed, bright yellow, slightly tinted with green outside, and having a large purple-black blotch at the base inside; the spadix is about half as long as the spathe, the male and female parts about equal in length; ovaries dense, angular-globose, with a short conical style, light green; anthers of a rich deep yellow, emitting pale yellow pollen. Native of tropical Africa.

Of all the genera of Aroideæ, Richardia is, beyond a doubt, the one that has the greatest popularity, even the various richly-coloured and highly-esteemed species of Anthurium are not such general candidates for public favour as the familiar Arum Lily (R. æthiopica) is, the pleasing shape and purity of its flowers, and the ease with which the plant can be cultivated, causing it to be a favourite with every one. Richardia æthiopica was introduced into cultivation by the Dutch in 1687, and remained in sole possession of the field for one hundred and seventy-two years, since it was not until 1859 that another species became known to horticulturists, in which year R. albo-maculata and R. hastata were simultaneously introduced into cultivation. Now, however, there are no less than eight species in our gardens, namely, R. æthiopica, R. hastata, R. albo-maculata, R. melanoleuca, R. Rehmanni, R. Elliottiana, R. Pentlandii, and the present novelty. Judging from the eagerness with which the yellow-spathed species have been sought after, in all probability the three last-named species will become plants of great popularity, and in the immediate future are likely to figure largely at our horticultural shows. But besides the above, there are others yet to come. On the western side of Africa there is a species, in Angola, awaiting introduction, which I think is distinct, and appears to have yellow spathes; whilst on the south-eastern side there is R. macrocarpa yet to come, and, in all probability, there remain some others to be discovered in that vast and little-explored area extending from the Equator southwards to the latitude of the Orange River. I know of a yellow-spathed species, which may, however, be the same as R. Elliottiana, and one that has the margins of the spathe more or less tinted with rose, this I have reason to believe is just being introduced into cultivation, but I have not seen an actual specimen of it, unless it should prove to be R. Rehmanni, which was sent to the Cambridge Botanic Gardens some years ago as a rosy variety of R. æthiopica, although under the English climate no rosy colour was developed, at least in the only specimen I have seen. Looking at the improvement that has been achieved in the development of the spathes of Anthurium Scherzerianum, there would seem to be equal possibilities for the future of these plants in the hands of horticulturists, especially when hybridisation has been made to play its part; and we may perhaps at no distant time see plants with bright yellow spathes as large and showy as those of a fine R. æthiopica, for at the present time the spathes of these yellow-flowered species appear to me too convolute and too cup-shaped to be entirely satisfactory, but possibly by crossing them with R. æthiopica something very desirable from a florist's point of view may be obtained. *N. E. Brown.*

* *Scilla (Ledebouria) Buchanani*, Baker, n. sp.—Bulbo parvo globoso; foliis productis tribus lanceolatis erectis pedalibus immaculatis; scapo flexuoso foliis duplo breviori; racemo denso oblongo pedicellis elongatis; bracteis deltoideis minutis; perianthio parvo oblongo viridulo; filamentis styloque saturate purpureis; ovario breviter pedicellato basi truncato dilatato.

† *Fritillaria (Amblirion) zagrica*, Stapf. in *Verhand Zool. Bot. Ges. Wein.*, 1888, p. 351.—Bulbo parvo; caule brevi 1—3 cephalo; foliis 7—8 alternis glaucescentibus, infimis oblongis superioribus angustioribus; perianthio parvo oblongo atropurpureo haud tesselato, segmentis interioribus basi foveolatis; staminibus flore brevioribus; stylo integro.

A TRAVELLER'S NOTES.

(*Continued from p.* 387.)

Yokohama, April 22, 1892.—Whilst at Tokio, I was able to visit some private gardens, two of which belonged to the Emperor. They were both pretty, though not large. The first-named contains a large

pond, over which stretches a wooden bridge, shaded by flat-trained Wistarias. The Oaks, Pines, Maples, Podocarpus, Sciadopitys, and Camellias formed by far the greater part of the vegetation.

Tokio.—One of the prettiest gardens I saw at Tokio belonged to a friend of Mr. Tashida, a young lawyer. The whole of the centre was occupied by a pond surrounded by uneven sloping banks, on which were trained Pines, clipt red Maples (just sprouting), Retinosporas, whilst on the highest points were stone lanterns. The whole arrangement was very effective. These lanterns (see fig. 85, p. 575)—corresponding to the mandarin's umbrella of China, and still in use there—were a sign of nobility, and were also borne in front of Daimios in former times. Each bears the crest of its owner, and it was customary for wealthy men to present stone images of their family lanterns to temples and shrines. The temples in Shiba have many hundred such, standing in rows, about 7 feet high.

A horticultural exhibition in Uyeno Park was rather interesting. Amongst the most noteworthy objects was the cultivation of the Acorus gramineus. In low flat trays, from 6 to 24 inches long, are small stones covered with water to represent a lake and rocks; in this is a big piece of stone, often red or white, though more usually of a greyish tinge. On this big piece are one or two clumps of Acorus, of the brightest Pea-green, living and growing thick and straight in the barest film of soil. The stone chosen is often of varied and curious shape, heightening the effect.

Another curiosity, which promises to be pretty later on, is Davallia bullata (see fig. 84, p. 571). The roots of this Fern are bound together by wire into all sorts of shapes—balls, anchors, ships, birds, &c. These shapes are strong solid masses of living root and moss, tightly and firmly held by wire. I am told, when in leaf, nothing is seen but the image in Davallia foliage. Pyrus spectabilis is very pretty, and much cultivated in porcelain pots; it flowers with the greatest freedom, as does Pyrus japonica and its fine varieties, though I do not fancy the Japanese have any finer than we have.

European flowers, Petunias, Mimulus, Hyacinths, Primulas, Polyanthus, Pansies, Geraniums, Cinerarias, &c., are comparatively new, and much admired. The first two named are extremely well cultivated, and produce enormous flowers, but the remainder of those named are not over bright. Hyacinths, single bulbs, fetch a good price—wretched varieties, imperfectly grown, 1*s.* to 1*s.* 6*d.* Rhapis and Cycas are both largely and well grown—the way the former is done could well teach us a lesson. It is kept closer, many more shoots are obtained, the foliage is reduced in size and rendered more graceful, and all in a smaller pot than with us—which is possibly the cause. Clipped Retinosporas and miniature Pines are, of course, in great force, and cheap. One Pine I saw, about 18 inches high, was startlingly like a real tree growing wild. It was thought a good deal of, and placed apart from others—it was one of the most successful bits of training I had seen. Of course, chance has a good deal to do with these things. Magnolia Soulangeana nigra is very fine; I recently saw two rows flowering profusely. Some of the Camellias in nurseries are also good, particularly a large red and white one—the ground beneath the trees was almost hidden by the large number of flowers fallen. The single red form grows wild, often forming largish trees, though I do not remember to have noticed any above 30 to 35 feet.

Aska-Tama is the name of a public garden on the outskirts of the city. It is situated on the top of a hill, from which a fine view of the country beyond is obtained. The landscape chiefly consists of a few large factories, with regular tall smoking chimneys; fields of Rice, now fallow, and many large patches of Rape, now flowering well in solid yellow patches. The Rice is annually sown, but the old stumps are left in after the harvest—a thing I have not seen before, probably because in the tropics another crop is put down as soon as one is off.

Tokio is a huge place, the distances are great, and the means of locomotion slow, and by no means cheap. For long distances one must have two men to a rickshaw, costing nearly 5*s.* per day. As a rule, however, one can manage with one man, though if the day be hot and the journey long, the pace is very slow.

Round the imperial palace, legations, the hotel, and one or two of the principal streets, it is fairly easy to find one's way, but once in the side streets one soon gets lost—they all look exactly the same, and there is in reality very little difference between them. One curious thing is how all eastern nations, amongst themselves, are like each other. I have to meet a Jap at least twice or three times before I should know him again amongst others; with Chinamen it is still worse, and the same in India.

White men, on the other hand, equally resemble each other to Easterns—they rarely recognise a European until they have seen him several times. The other day a Jap told me I was in his place only on the day before—a startling assertion, as I had never been near the place. All Englishmen find the same thing, unless they have resided some time in a country, and got to notice more trifling details about persons than casual visitors are able to do. One cause of the difficulty is that all young Chinese and most young Japs are clean-shaven, only elderly men wearing, especially in China, even a moustache.

In this district I saw no Abies. Sciadopitys and Retinosporas, nearly always obtusa, and perhaps aurea, pisifera, and filifera are to be seen; in one place were some fine rows of the latter genus, well filled with plants 10 to 12 feet high. I may here mention R. pisifera is here wild, sometimes reaching 35 feet, its stem is straight and looks strong. Cryptomeria japonica is also cultivated, and much used for hedges, when it forms a thick strong mass; old plants in the parks and temples, &c., are very fine, often 120 feet, and higher. Cryptomeria elegans, so common under cultivation in hedges, &c., at Yokohama, I have not noticed represented by a single specimen at or round Tokio. Small Rhapis are much grown in jars for decoration, though other Palms are seen occasionally; this is the only one I have noticed in general cultivation or in quantity. Amongst some of the prettiest variegated plants are a very finely silver variegated Illicium religiosum, and a yellow varie-

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Fig. 83.—Alocasia watsoniana.

(See New Plants from Hort. Sander, *Gardeners' Chronicle*, April 15, 1893, p. 442.)

gated Ilex latifolia. A double pink Plum, the colour of Paul's Thorn, is now extremely pretty, if not so useful for forcing as Cerasus Watereri, it would yet make a fine grafted standard. Corylopsis spicata is very fine in flower. I recently saw a large round bush, some 10 feet high, covered with its pendulous yellow flowers; it does well round Tokio. An elongated form of Citrus japonica looks to me good, though it does not make the neat little plants the small Oranges we now sell do. The fruit is long, of this shape, ○; I think distinct, but the foliage is the foliage of the ordinary Orange. Pæonies, both planted out and in pots, are coming on fast, having now attained a height of from 6 to 9 inches. Stauntonia hexaphylla is common, and grows freely; it is often trained along fences, which it sometimes does not fail to hide. Camellias in the nurseries, clipped plants, are good, the ordinary red one is mostly seen. In one place I saw several rows of neatly-clipped pyramidal plants, some 10 to 12 feet high, covered with flower.

The price of Rhodea japonica, selected varieties, is surprising. Young Mr. Tashida told me good varieties fetched 500 yen—a yen being equal to 3*s*. (£1 = 6½ yen, is a fair estimate). I was much interested, and with an introductory aid, called on Mr. Shino, a well-known grower of only this plant. The place did not look like a nursery, and was quite enclosed from public view. On entering, I was received by a very superior-looking Jap, who lived in a house far above the ordinary state, and who was evidently well-to-do. Immediately behind the house was a long case of wood, the sides being of wire. In this were three rows, one above the other, of small Rhodea japonica, in the neatest and prettiest little porcelain pots. The plants were small, some green, and some curiously variegated. The soil was in very small lumps, not bigger than the smallest beads, and had been lightly and carefully pressed down round the plant, looking very neat; the whole, pot, soil, and plant, looked like a toy. One very pretty variegated form had the tips of the leaves for about 2 inches of the purest ivory-white—not a suspicion of green in it; there were four leaves about 9 inches long—price 50 yen = £7 10*s*. Another had an irregular bar of the purest white across the leaf; but this was of no great value. A fine yellow variegated form was also for sale at only 3 yen. On my asking to see the best variety, I was shown a plant streaked with white. The plant had eight leaves, and one small off-shoot; it was a dwarfed form, some 5 inches high and 12 inches wide—price 2000 yen. Of course, this may have been a prohibitive price for an exceptional variety. I heard afterwards that the prices were fair. Another handsome variety, but not dwarfed, was variegated with white, and had four stiff, upright leaves, 15 inches high—price 100 yen = £15 at the present rate. Some of the dwarfed forms had very broad foliage, quite oval, such as I had not seen in England. I tried to stop and watch a man potting, but he promptly stopped, and I was marched off to tea—doubtless, very polite, but there was considerable method in the politeness. I, however, noticed the plants were watered by immersion—doubtless, so as not to disturb the neat appearance of the soil. It is curious that a plant on which we set so little store is so highly prized here. There were many score of plants besides those in the case mentioned, all in neat rows in the same blue-and-white porcelain pots, all spotlessly clean and neat.

Curiously-trained Pines, a small pond, paths formed of stone slabs, a few inches above the soil, that one might always walk cleanly; small undulating grass banks; two sheds of Rhodea, the costly case referred to in front of the open-matted floor of a large room; the whole certainly within half an acre—all far away from the town, in absolute stillness and tranquillity, was very delightful the evening I was there, but brought forcibly to my mind what I had recently read about—the monotonous, uneventful life of the average Jap.

On my way back, I passed a high bank covered with Bamboo—the same species I had seen in a garden at Yokohama, but different to anything I had seen elsewhere. It makes apparently but one long, strong, straight shoot, no offshoots, as in other Bamboos here and in the tropics. It is very handsome, but looks peculiar.

The Cherries are magnificent. Tinted photographs, which I will forward at the termination of my visit, will give you a most complete idea of their beauty; one looks up, and walks under a ceiling of the softest pink. At Mukojima, a row along the river bank, a mile long, in some places faced by a row on the opposite side of the road, is a sight it will be difficult to forget.

Most temples, and they are legion, have a row, and so have many private houses. Cherries are to be seen everywhere in and around Tokio. It would be difficult to find anything more beautiful for the few days they are in flower.

Thiba and Uyeno Park have several avenues and open spaces planted with these Cherries, now thronged with many thousand people daily to see them. Thiba is chiefly famous for its temples built by the Tynwoga Shoyums, full of wonderful lacquer and carving-work. The Pines and Cryptomeria japonicas are very fine in this park, especially immediately in front of the temples. In front of one is a much finer, though possibly not so old, Weeping Sciadopitys, than in Uyeno.

Kerria japonica is a very fine thing here, quite different to what I have seen it in Europe. It is by no means uncommon, many gardens having one or several good bushes, the ends of the long shoots bearing many flowers each, of a rich golden-yellow. It is here freer-flowering and more showy than I have seen it in England.

April 25.—Three days later. Things have much changed since I was last at Yokohama. The grounds of the Gardeners' Association are now pretty with young Maples and other plants. Wistarias, both the blue and the white, are just commencing to flower freely in pots, though those outside will require some weeks more. Daphne Genkwa, Amelanchier canadensis, and Enkianthus japonicus, are now very good, the two latter forming nice bushes covered with flower. Pæonies will now soon open; those in pots in about seven days, those outside in about three weeks. I have seen a few out; they were not striking. *James H. Veitch.*

(To be continued.)

CHEMICAL CONSTITUENTS OF THE CARNATION.

At least one carefully-made analysis of the Carnation has been given already, including separate analyses of the root, stem, leaves and flower. It was made by Rudolph Andreasch in the laboratory of R. Maly, at Graz. The flowers were taken from two and three year stocks of a full, red-flowered variety of the Carnation (D. Caryophyllus); the roots and stem were taken about the middle of March, just when the leaves were budding out; and the leaves and flowers at the beginning of June; of the flowers only the petals were taken. The roots were one-tenth to three-tenths inch in diameter, and the stems 5 to 6 inches high. Of the flowers, 10,000 were required, giving 180 grammes of air-dry matter. Unfortunately, the data given do not enable us to compute the ash contents of the whole plant, the analyses having been made with a different end in view. However, they may be of interest, so give the figures (per cent.).

	Root.	Stem.	Leaves.	Flower.
Pure ash	5·64	5·26	4·44	5·59
Potash	23·33	23·00	35·51	49·41
Soda	0·85	...	...	...
Lime	45·26	45·16	27·69	5·85
Magnesia	4·43	5·48	8·27	3·68
Oxide of iron ...	3·83	7·95	6·42	7·19
Oxide of manganese	...	...	Good traces.	
Alumina	2·56	Traces.	...	...
Phosphoric acid ...	11·22	10·25	10·91	14·84
Sulphuric acid ...	2·59	6·46	4·59	4·04
Silica...	5·34	0·61	3·71	4·25
Sodium chloride ...	0·59	0·44	0 71	2 35
Potassium chloride .	...	0·65	2·16	8·39
	100·00	100·00	100·00	100·00

So that the flower has much more potash, iron, phosphoric acid, sulphuric acid and alkaline chloride than the rest of the plant, and very much less lime.

However, this knowledge is not enough to tell us what fertilizer we should apply.

In the first place, the soil will supply a portion of these needed foods, and the amount supplied will depend upon the nature of the soil, and its treatment.

In the second place, there is no doubt that under identical conditions of soil and climate, two different plant species will exhibit different powers of taking up from the mineral and other soil constituents what they need.

In the third place, a difference in the excess of food supplied, and especially in that of the several ingredients supplied, often exerts great influence on the development of special organs, both as to the rate, earliness and extent of their development.

You will at once perceive that while the average composition of a plant may enable us to judge of its exhausting tendencies, and what plant elements must, in the end, be most rapidly removed, it will not serve to inform us exactly what is needed for the present growth of the crop, outside of the supply that is already provided by the soil.

To determine this for given soils will require exact experiments, and experiments having in view the peculiar needs of the plant, and the special developments required. *Wm. Frear, in The American Florist.*

VIOLAS AND VIOLA CULTURE.

The wonderful popularity of the flower has been the direct result of the labours of such workers as W. Dean, John Baxter, Mr. Jas. Grieve, Dr. Stuart, M. G. McLeod, Mr. W. Cuthbertson, and also in a great measure on account of the unanimous advocacy of the horticultural press.

The Viola has many qualities to commend it to the great flower-loving public. It is of easy growth; it is moderate in price; it is effective in lines, masses, or clumps; it is charming in a cut state; and it appeals to all classes. The Viola is used in tens of thousands to adorn the great public gardens and parks of our country. It is equally suited, and very largely used, to beautify the villa and cottage homes in the suburbs of all our large towns. For such purposes as we have just mentioned, the most suitable varieties are the self-coloured ones, like Archie Grant, Bullion, Countess of Hopetoun, Ardwell Gem, Lord Elcho, Holyrood, Duchess of Sutherland, Wm. Neil, and to them may be added Bluecloud, Countess of Kintore, and The Mearns. These are varieties which will grow anywhere, and almost under any conditions, provided they are planted out early in the season. Of course, the number could be very largely extended, but we select these meantime, as illustrating our argument. It has always appeared to us, and doubtless to many others, that the more chaste and fancy varieties have not the same remarkable strength of constitution as is characteristic of the selfs. This can, no doubt, be accounted for by their being removed further from their original progenitors, and by many of them having been too much crossed with V. tricolor and its descendants—the show and fancy Pansies.

Culture.—On the Alps in Central Europe, as well as in our British fields and hedgerows, Violas of many species grow and flourish—true "wildlings of Nature;" and many of our modern garden varieties retain a robustness of constitution and a regardlessness of extremes which they must have acquired and inherited from progenitors who were wanderers by flood and field. This will almost serve to show that their culture is an easy matter. In any good ordinary garden soil which has been enriched with manure, Violas will grow, and grow well. They are not particular as to situation or exposure, provided they are planted out early, and get thoroughly established before the warm weather sets in. Autumn planting is very much practised in England, and with very good results. Even in Scotland, it is a capital plan if a proper regard be had to the selection of varieties for the purpose. The grower who is anxious to have perfect individual blooms for the purposes of exhibition or table decoration will naturally take more pains than he whose sole object is to have telling and effective masses or borders, and he will also work with many different varieties requiring more careful culture. Such varieties should not be planted out in autumn, but should be wintered in a cold frame, and carefully planted out in prepared beds in March. A site for such beds should be selected in the autumn—one, if possible, which is sheltered, and slightly shaded from the noon-day sun. The ground should be deeply dug in autumn, and in January or February it should be dug over again, and a liberal quantity

of well-decomposed manure incorporated with the soil, and also a quantity of soot—say, a spadeful spread over every 10 square yards. Just before planting, the surface should be broken up with a rake, and made firm and fine, a good dry day being chosen for the work. After planting, unless slugs or green-fly attack the plants, they will not want much attention. They will be improved by having a top-dressing of old manure or leaf-soil, which has been passed through an inch sieve, worked in among the plants by the hand. The beginning of June is a good time to do this. From the beginning of May, they will be in continuous bloom for months. All Violas are easily propagated by cuttings, and nearly all varieties seed freely.

Exhibiting.—For this purpose, large, clean, perfect blooms are requisite, and such can only be obtained if the plants are in good health and have not been allowed to exhaust themselves by over-blooming. Should wet weather precede the day of the show, the plants will require to be covered to keep the flowers from getting soiled. This can be done, as it is only a temporary expedient, by placing sashes or even bits of board over the plants on which the best flowers are, and, strange though it may seem, the dark self varieties are the first to be injured by excessive damp, and should, therefore, be the first protected, although heavy rains spoil light-coloured flowers by splashing dirt upon them. The art of making sprays for exhibition can only be learned by experience. The number of blooms required — usually six or nine—should be selected, all of one variety, of course, and each individual flower should have a fine wire carried alongside the stalk, the upper end being pushed into the spur or calyx of the flower, and the wire itself bound gently to the stalk by means of a piece of knitting cotton soaked in water. This much being done, no great difficulty will be experienced in making the blooms into a spray and working in some small pieces of foliage. The best way to learn the process is to get a well-made spray from an exhibitor after a show, and when at home, take it carefully to pieces; or, what is better still, get a practical lesson from one who is an experienced hand. Endeavour always to have every spray neatly named, and all arranged on a nice stand. This goes a long way oftentimes to secure the prizes. Another hint which should prove of some value to beginners is—do not have too many sprays of dark-coloured varieties in one stand.

Selections of Varieties.—We can only go into this in a comparatively limited way here:—

The best bedding varieties.—Whites: Countess of Hopetoun, large pure white flowers, free blooming and of good habit; Crofthouse, a remarkably hardy and free-flowering variety, pure white medium-sized flowers. Lady Dundonald, clear white, delicately pencilled with light purple, remarkably free blooming—the earliest white. Yellows: Ardwell Gem, sulphur-yellow, dwarf habit, profuse bloomer. Bullion, bright golden-yellow, one of the best for any purpose; very early. Grievei, pale yellow, a remarkably good bedder; hardy everywhere. Lord Elcho, deep orange-yellow, with beautiful glossy-green foliage. Dark Blues: Archbald Grant, rich indigo blue, large flowers on long stalks; indispensable for bedding or exhibition. Holyrood, dark blue, free-blooming, compact habit. Max Kolb, bright ultramarine blue, pleasing and distinct, also early and free. Mrs. C.

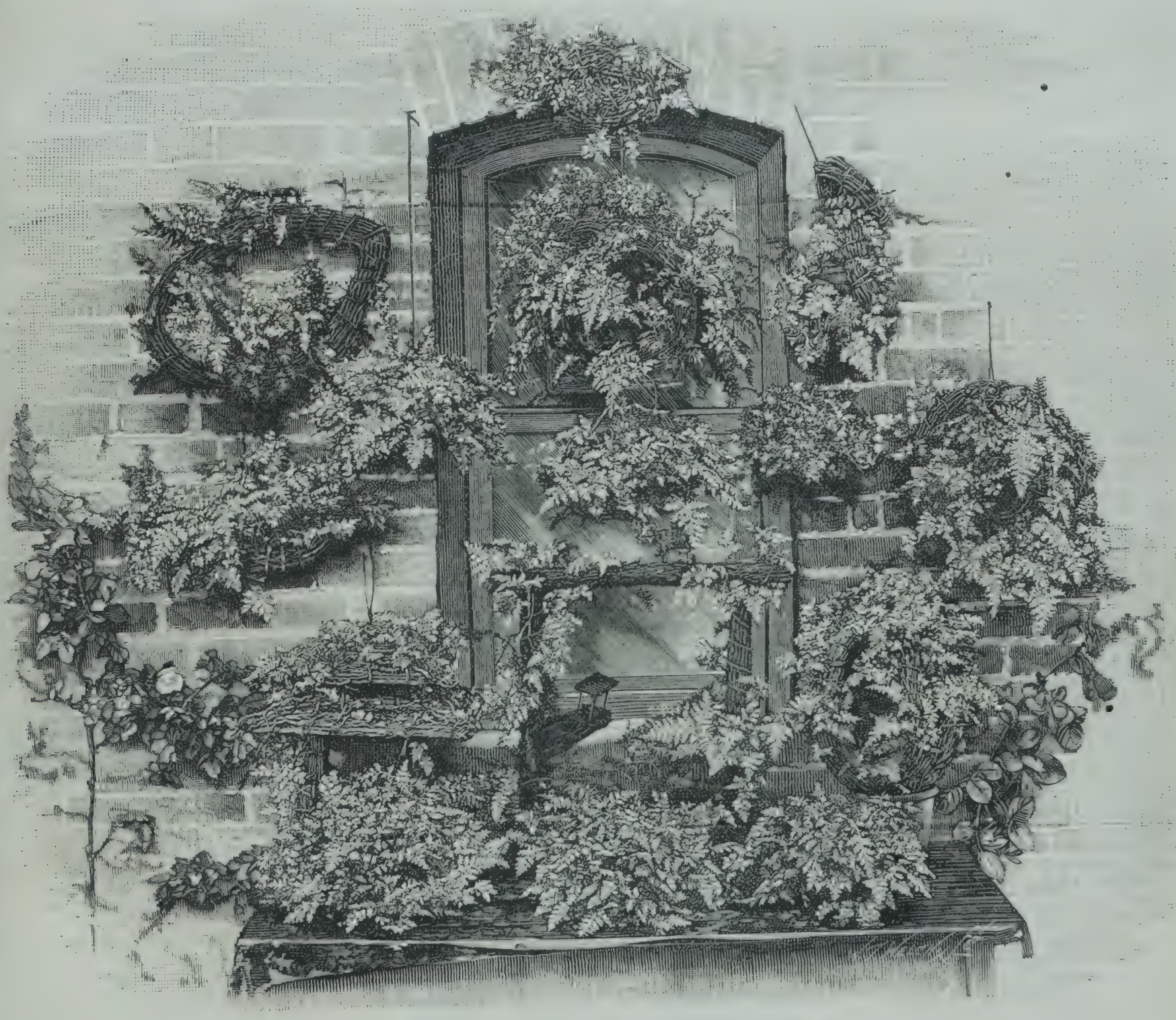


FIG. 84.—DAVALLIA MARIESII, IN GROTESQUE FORMS.

(Previously figured in *Gardeners' Chronicle*. See p. 568.)

Turner, purple self, a most effective bedder. True Blue (Deans), unsurpassed for bedding, the plants being usually smothered with blooms. Light Blues: Duchess of Sutherland, bluish-mauve self, free and useful for bedding or cutting. Favourite (1893), a new variety, a light blue bedder. William Neil might more correctly be described as pale rose than pale blue; a very free, beautiful, and distinct variety.

Varieties of Recent Introduction.—Edina (Dobbie), a dark Countess of Kintore, finely-formed flowers, very free; effective in all sorts of weather. Favourite (Dobbie), a light-blue bedder, of first-rate habit; very early—a decided acquisition. Laverock (J. D. Stuart), a vastly improved Blue Cloud; pure white ground, laced with blue all round. Lemon Queen (Dobbie), a very large lemon-coloured self, with a good habit; extra fine. Mrs. Hay (Hay), ground colour lavender, striped with rich purplish-crimson. Peter Barr (Barr), the most distinct Viola ever introduced; yellow, with broad margins of pale violet. Rob Roy (Dobbie), a large yellow flower, with chocolate-coloured blotches on the upper petals. White Duchess (Baxter), white, distinctly edged with blue; after the style of the Duchess of Fife, but an improvement even on that fine variety. White Flag (Baxter), large pure white flowers, produced on very long stiff stalks; fine for cut flowers. Sylvia (Dr. Stuart). Described by the raiser as the finest cream-coloured bedder out. This we can cordially corroborate; every one will want it after it has been shown. Violetta (Dr. Stuart). This charming miniature Viola gives its name to the new section, and is the best that has yet appeared. It is very hardy and almost truly perennial. The foliage grows into great tufts of glossy dark green, and the blossoms, which are white, are raised above it on short, stiff footstalks; it is truly a joy to behold when in good bloom. The perfume is very sweet, resembling V. odorata. *Dobbie & Co.*

SELECT DECORATIVE PLANTS.

(*Continued from p.* 477.)

COCOS FLEXUOSA.—Where tall plants are required, and the space does not admit of the use of more-spreading Palms, this is a most useful subject. Perhaps it can hardly be recommended as a single specimen, but it is most effective in groups, and deserves to be more extensively grown than it is. In the culture of all Palms it is very essential that the roots should be kept in a healthy state; the drainage should be good, and the plants potted firmly in the best kind of fibrous loam, to which plenty of sand and a small quantity of rotted stable manure are added. The manure should be well dried, and freed from worms, &c., as should all the rest of the soil used. If the loam be of a heavy kind, some peat or leaf-mould may be used with it, but I like it best without peat, it being a substance which gets soured from the frequent syringing that is necessary. I have alluded to the desirability of keeping Palms in pots of moderate size, and this cannot be too strongly insisted on. Plenty of atmospheric moisture will assist growth, and it goes a good way towards keeping the plants free from insects.

It is now the custom to use many of the stove Palms in the summer beds, and although they will stand such treatment for a considerable time without any apparent harm, mischief will be seen later, when, after a little bad or wet weather, they are taken indoors, the new leaf will come up weak and sickly, and frequently be much disfigured. *O.*

CULTURAL NOTES.

HYBRID AQUILEGIAS.

FROM a packet of seeds of the above I have raised plants of several shades of colour, some of which are really very pleasing. There are few flowers which when sparingly arranged in vases have a better effect than Aquilegias. If the purpose is to have plants that will flower next year, the seed should be sown during the present month in pans, or in the open on a sheltered border. I prefer pans, pricking the seedlings off when large enough to be well handled, and transplanting them on to well-prepared beds, as by this method one may make sure of a good strong lot of plants. Aquilegias are hardy, and look well in beds or in patches in the borders of herbaceous plants. *H. Markham.* [They are excellent for brightening up Rose beds, and incommode the Roses but little. ED.]

THE WEEK'S WORK.

PLANTS UNDER GLASS.

By BAILEY WADDS, *Gardener, Birdsall Gardens, York.*

CLETHRA ARBOREA (Lily of the Valley tree).—This interesting evergreen produces racemes of pure white sweet flowers, somewhat resembling those of Lily of the Valley. They are useful for cutting purposes, and the trees grow well in pots or tubs in a compost of peat, loam and sand. It is a strong grower, and requires plenty of air and water during the summer, and it is easily increased by seeds or cuttings. It requires to be well pruned-in at times after flowering, and it flowers best on short well-ripened shoots.

PITTOSPORUM TOBIRA.—This bright foliaged sweet-flowering Evergreen is worth growing for cutting purposes. It produces clusters of white flowers resembling Orange blossom, and is very easy to cultivate in pots, or planted out against a wall or pillar. A mixture of loam and leaf-mould is all that it requires, and cuttings strike freely in heat.

THE FERNERY.—The plants will need careful attention in the matter of watering, syringing, and ventilating, and the bright weather of the past month having caused rapid growth, much water will be necessary by those plants which are growing in pots, as well as in a somewhat lesser degree by those planted out. Care should be taken that the drainage is efficient, and that specimen plants in large pots do not get too much water. If possible, use only soft water, and that at the same temperature as that of the house. It is well to have a basin in some part of the house for the cultivation of aquatic plants, and for immersing baskets and pots when dry. This basin is useful for softening unsuitable water by exposure; moreover, the vapour arising from it has a beneficial effect on the Ferns. The floors should be sprinkled twice daily, but heavy syringing of the Ferns should be avoided. Afford air to the inmates in the early morning if the weather be fine, and shut them up in the afternoon with a slight damping overhead. All ferneries facing either north or south will require to be well shaded, span-roofed houses needing a heavier kind of shading than others. If the collection of Ferns is large, two houses should be devoted to them, one for the tropical or stove species, which succeed best in a temperature of from 45° to 65° during the winter, and from 55° to 75° during the summer; the other for the temperate or greenhouse varieties, with a temperature of from 45° to 55° in winter, and 55° to 75° in the summer.

LYCOPODIUMS and SELAGINELLAS that are growing vigorously should be afforded a good supply of water at the root, which will demand good drainage of the pots, &c. They do well with the same treatment as Ferns. Avoid crowding specimen plants, and afford the panfuls of plants plenty of room to show off their natural beauty. A sharp look-out must be kept for woodlice, cockroaches, and slugs, which devour the young fronds of Ferns and mosses, especially the Birds-nest Ferns, which, if injured at starting, remain unsightly. Place pieces of Carrot about the fernery, and visit them at night with a light, destroying all that can be caught by this means. Phosphorus-paste is likewise an excellent means of ridding the house of cockroaches. Aphis can be kept under with Quassia-water, and thrips and scale by judicious syringing, or dipping in solutions of petroleum or Lemon-oil insecticide. Avoid fumigating ferneries. Suitable plants for growing with Ferns in the exotic-house are the Rex or ornamental-foliage varieties of Begonias, which, if planted out on rockwork at the foot of a wall, in rustic-work, or in pots on brackets, are very attractive. Attend to hardy and British Ferns in pots, and those planted out in houses, potting any that may require it in a compost consisting of peat, leaf-mould, and sand. The evergreen varieties are indispensable for winter decoration in cold rooms. Do not over-water the deciduous species, but afford them plenty of air, and shade them from bright sunshine. Where no hardy fernery exists, these species should be grouped during the summer under the climbers in the conservatory or the greenhouse. Ferns planted in baskets will need almost daily attention, and when they are not too large, they should be dipped in the water-tank, instead of being watered with a water-can, sprinkling them overhead in the afternoon. Blank spaces in baskets amongst Selaginellas should be filled as they occur, and strong-growing species not allowed to push out the more delicate ones.

THE ORCHID HOUSES.

By W. HOLMES, *Gardener, Pickering Lodge, Timperley.*

GENERAL HINTS.—The greater number of the plants are making growth, and from now onwards the following temperatures may rule, viz., East India-house, 70° at night, and 75° to 80° by day; Cattleya-house, 65° at night, and 70° by day; Dendrobium-house, 70° at night and 75° by day, running up at closing time, which should be early in the afternoon to 80° or 90°, with the atmosphere well charged with moisture. Some difficulty will have been experienced in keeping the cool Odontoglossum-houses cool enough for the past month, even with plenty of air afforded at the top and bottom, the roller-blind let down, and the floors, &c., well damped three times a day. I do not fear any ill-consequences if the thermometer should reach 70° at mid-day, provided the houses are well looked after. Should the weather become colder, a few degrees less will do no harm, but fire-heat must still be used in some of the houses. Blinds should be let down early in the forenoon over Phalænopsis, Cypripediums, Odontoglossums, Vandas, Aërides, and, in fact, all Orchids with tender leaves. Aërides odoratum, A. crispum, A. Lobbii, A. Fieldingii, A. Veitchii, also some of the Saccolabiums, such as S. ampullaceum, S. Blumei, S. præmorsum now showing bloom-spikes, are apt to suffer from the attacks of cockroaches, and need careful watching, the insects devouring these whilst still small, and in the axils of the leaves. Vanda tricolor in flower or approaching flowering, needs similar treatment to that afforded the Aërides, and should have a good supply of water at the roots, and the house kept well moistened. Vanda Denisoniana, a plant just pushing up its flower-spikes, is not often seen in good health, but if it be grown along with V. tricolor, it does fairly well. Vanda teres, V. t. Andersoni and V. t. alba, if they were suitably treated last season and well rested afterwards, will be approaching the flowering stage, needing to be well watered and syringed three times a day, and have full sunshine. Our plants never get any shading whatever. Vanda t. Andersoni is a freer bloomer than the type. Vanda Hookeriana, V. Kimballiana and V. Amesiana grow well under the same kind of treatment as V. teres.

THE FLOWER GARDEN.

By T. H. CRASP, *Gardener, Canford Manor, Wimborne.*

ROSE GARDEN.—Examine at regular and short intervals the young shoots upon the Roses, destroying all caterpillars and injurious insects found thereon. Even at this early date many young shoots will be found which are "blind," that is flowerless, especially on Tea Roses trained to walls, &c. Should the Rose-mildew appear on the leaves, dust the plants with flowers-of-sulphur, or syringe them with Gishurst's Compound-soap in solution with water, at the rate of 2 to 3 oz. per gallon. The Rose-aphis also, if not quickly destroyed by dusting the shoots with tobacco-powder, does much harm. When the shoots get longer and more pliable, they can be dipped into a weak solution of tobacco-water, or any other approved insecticide. The application of strong manure-water to the roots of outdoor Roses at this season has a beneficial effect, particularly if exhibition blooms are wanted.

HINTS ON WORK IN GENERAL.—Now that most of the beds of spring flowers are past their best or finished, the beds may be cleared in preparation for their summer occupants. Plants of Arabis, Myosotis, Primroses, Daisies, &c., should be lifted, divided, and planted on a piece of well-prepared ground in a half-shady situation, copious supplies of water being afforded whilst the weather continues

dry. By this means good plants are obtained for next year's spring bedding. Previous to bedding-out anything, the Box and other edgings should be put in order, then the ground may be dug and otherwise prepared for the summer bedders, the planting out of which may be begun in about the third week of this month, first planting the hardier kinds and holding tender ones back for a week or two longer.

HERBACEOUS BORDERS.—These have begun to be gay, plainly showing the value of such hardy perennials as Pyrethrum roseum and its varieties, Pæonies, Doronicums, Papaver nudicaule, P. orientale, Asphodels, Iris germanica, Erigeron, &c., which are now making a fine show in southern gardens in spite of the trying weather. All plants which have made tall growth should be neatly staked before they come into bloom, and Pæonies which have heavy heads of flowers should have each flower-stem separately staked and secured; but Pyrethrums, and similar weak growers, may be secured by means of two or three twiggy pieces of Birch stuck round each clump. The herbaceous borders will stand in need of being occasionally heavily-watered with weak manure-solution. Where hardy annuals have been sown where they are to flower, thinning out the weaker plants, and giving them plenty of space in which to grow, will need early attention. If slugs are troublesome, make use of a mixture of soot and quick-lime. The blooming season of spring-flowering bulbs is drawing to a close, with the exception of a few Narcissi poeticus and p. fl.-pl., and the proper labelling of bulbs that are to be left in the soil should at once be done.

FRUITS UNDER GLASS.

By M. TEMPLE, *Gardener, Carron House, Stirlingshire.*

PINES.—Those plants which were started at the beginning of the year will be approaching the ripening period, and till they show signs of changing colour, will require a judicious application of moisture at their roots; especially will this be the case if the pots are undersized; and liquid manure may be given at every alternate watering. A check to the fruit when swelling, causes premature ripening and very inferior quality. Shut up with 95° to 100° with bright sunshine, and moisten every part of the beds and floors—but heavy overhead syringing should be avoided. As soon as the fruit is cut, let the soil be well moistened, in order to keep suckers unchecked. Not more than one or two should be allowed to remain on each plant. A liberal shift may be given to young stock at this season when well rooted, as they have the growing season before them; be careful that the balls of soil are moist when potted, and afterwards but little watering will be required till the roots have got well into the new soil. Bottom-heat need not exceed 85°; ventilate early in the morning, and the maximum temperature need not exceed 85° by sun-heat. Reduce fire-heat as much as is practicable. In span-roofed houses more attention to atmospheric moisture is necessary than in flat-roofed brick-pits. If strong suckers only are potted, it will tend to maintain a regular succession of fruit.

VINES.—Those canes in pots which have grown to their full size, and are to supply early fruit next season should be carefully stopped, and exposed freely to the sun and air, and watered regularly till the rods are brown and hard. The foliage must be maintained in good health. Newly-planted Vines may have a high moist temperature till growth is free and vigorous, then an increase of air. Allow laterals to grow freely till the space is filled, but do not let them become crowded. The thinning of late Grapes must be done severely, so that when the fruit is ripe, the berries will not press against each other. Large varieties, like Gros Colman, should be severely thinned; we never think 1½ inches apart too much for those which are to keep till March. Crowding of foliage prevents proper maturation of the fruit, and is attended by bad keeping. Dustings of soot at shutting-up time over the surfaces does much to check red-spider, and seems to nourish the foliage. Watering at the roots now requires special attention, especially if the soil is light, and the position elevated.

FIGS.—Attend well to stopping and thinning the shoots; expose the ripening fruit well to the sun and air; and water the soil moderately at this stage. Moderate cropping is essential to fine fruit of high flavour. Syringe later crops freely after bright sunshine, and shut them up with a temperature of 85° to 90°; give liquid manure liberally to trees which have their roots confined. Mulching may do much to keep roots healthy, and to draw them upwards, but gross unfruitful growth must be avoided.

THE HARDY FRUIT GARDEN.

By T. TURTON, *Gardener, Maiden Erlegh, Reading.*

PEACH AND NECTARINE TREES.—Those trees which have been kept free from aphis, and are making a healthy growth, will require early attention in the matter of securing leading shoots to the walls; and disbudding should be completed, as well as the pruning-back of gross-growing shoots to a lateral growth at the base of the shoot, so as to throw vigour into weaker shoots. All trees should be encouraged to make early growth by watering the soil and syringing the tops daily when the weather is genial. Early growth in any kind of season has a better chance of being matured than late growth. These remarks apply to young trees which may not have come into full bearing. Old trees which have set heavily should now have the crop lightened by thinning out, first the badly-placed fruits, and then the gradual removal of others. The use of the syringe or garden-engine will clear the trees of yellow leaves, &c. For the present, defer the finishing of the disbudding of these fruit-bearing trees till growth is freer. In the south, coping boards which have been used to ward off frost may now be removed, and so long as the nights remain cool, as at present, the syringing of the trees should only be performed in the morning. The weekly syringing of the trees with soap-suds and tobacco-juice should not be omitted where either green or black aphis are present.

PLUMS ON WALLS.—All Plum trees which I have observed this season have set heavy crops of fruit, and timely thinning of the fruits will be much required, especially the free-bearing Denyer's Victoria, Pond's Seedling, and Early Orleans. Early thinning is always a benefit, those fruits left growing to a good size before they commence to stone. A strong pair of grape-scissors is a suitable instrument for thinning all kinds of fruit, but it must be a strongly-made pair—the ordinary Grape-scissors obtained from the seedsmen are not strong enough for this purpose. Prune back gross shoots not required to be laid-in, and examine the trees carefully for grubs or any chrysalids which may still be left on them, afterwards affording the trees a heavy syringing with a weak solution of soft-soap 2 oz., tobacco-juice half-pint, to a gallon of water, and keep the soil of the border moist. By-and-by, the trees that are heavily cropped should have a few applications of liquid manure.

PRUNING AND TRAINING YOUNGER TREES should have early attention in the matter of securing the leading shoots, but avoiding overcrowding. The few shoots trained in from each branch when forming the framework should now be reduced to one, except where space admits of two shoots being taken from a branch here and there. Prune back the remaining shoots to two or three leaves, at intervals of about a week, first taking the strongest of these, and encourage a kindly growth in the trees by keeping aphis in check, as advised in the case of older trees.

BUSH APPLE TREES.—Look over these regularly for grubs and caterpillars, examining each truss carefully; also removing all dead bloom or that which has failed to set, thus depriving the insects of their hiding-places. It is only by labour being thus spent in a season like the present that a crop of perfect fruit is likely to be obtained.

THE KITCHEN GARDEN.

By H. C. PRINSEP, *Gardener, Buxted Park, Uckfield.*

GENERAL HINTS ON CURRENT WORK.—One of the most time-consuming tasks of the gardener during the summer, when the family goes to town for the season, is packing produce for town consumption. Those who have to send long distances by goods train are often hard pressed to be in time, if the train starts at an early hour. And one likely consequence of this is, that the packing does not get the proper amount of attention, and the various items do not arrive in town in the most satisfactory condition. Green vegetables are often cut in the heat of the day, when their leaves are flabby and warm. They are then taken to a shed, where perhaps they lie for an hour or two, and lose still more of their juices. Where supplies have to be despatched by evening trains, Cauliflower, Cabbage, Lettuce and Spinach should be collected in the early morning, whilst the weather is warm, and taken to a cool cellar or shed, with an earthen floor, sprinkled lightly with clean water and covered with a mat. These kinds of vegetables should be gathered with a few outside leaves, and slightly bound together with bast. Peas are likewise better eating if gathered before the pods get heated by sunshine, whilst such things as Turnips, Carrots and small salads should be reserved till the very last. In packing, be careful to place bundles of Asparagus, Cauliflowers and Cucumbers, and the like, so as to avoid their being crushed by the harder kinds. Take particular care to have the hampers well filled, so as to prevent displacement in transit, for they are often dropped down, or turned over and over by the porters without the least regard being paid to their contents. It will be seen that unless the packing be well done the contents of the hampers will not arrive in a condition creditable to the gardener. Packing may seem a simple performance, but much unpleasantness so often arises through supplies not arriving in a satisfactory manner, that it would be well if all gardeners would give the matter their best attention.

VEGETABLE MARROWS.—The Custard and other varieties of Vegetable Marrows are much in demand in some places, and those who know this would do well to make preparations for obtaining a continuous supply for as long a time as possible. Plants which were raised in March, and grown in frames, will now be in fruiting, and others later raised should be in readiness for transplanting. If no heaps of warm manure are available for giving the plants a start, a trench can be taken out on a piece of ground, filled with manure, which may be covered to a depth of 6 inches with soil, and on this the Marrows may be planted, one or two under a hand-glass. If space be limited, the plants may be trained to rough lattice-work, where the flowers, being exposed to the sun, will set freely. Seed may now be sown in the open ground, or in any sunny corner where the plants may have room to freely ramble. Copious supplies of water are needed in dry weather, to keep the plants when strong and growing fast in a flourishing state.

TOMATOS.—Owing to the warmth and sunshine, plants raised with a view of being grown against walls out-of-doors have grown apace, and the space allotted to them seems to be insufficient. It is not yet safe to transfer them to the open, and it will be better to repot them, still keeping them in the frames or houses till all danger from frost is passed. Heavily-cropped plants will be benefited by liberal supplies of manure-water at the roots, the foliage and the atmosphere of the houses in which they are growing being kept dryish.

SUCCESSIONAL CROPS.—The unusual weather conditions have greatly interfered with work in the kitchen garden, and seeds of Carrots, Parsnips, Beet, and the like do not germinate unless the ground be watered, and if rain does not soon fall, there will be gaps in the supply. Celery, Cauliflower, and other vegetables that have been well supplied with water, have grown fast, and are ready for planting before the ground is prepared for them.

THE APIARY.

By EXPERT.

THE EARLY SEASON.—The extraordinary forwardness of this season will be long remembered by the number of swarms in the month of April. The earliest that has been recorded was at Cole Green, Hertford, on the 9th of that month, others being reported at various places on the 20th and subsequent days. Honey has been literally pouring into the hives lately from Apple, Horse-Chestnut, and Hawthorn blossom, and supers are in many cases full, and ready for removal. It will be well for bee-keepers to examine the brood chambers of hives, and remove from them as much honey as possible, as it will be found in many instances that the brood combs are so full that the queen is crowded out, and has not sufficient space for depositing eggs. There at present appears to be every indication of a good season for honey, the only immediate danger being that if rain does not come soon aphides and the consequent honey-dew will be in the ascendant. Weak stocks have had every chance this year, owing to the splendid weather and abundant natural stimulation, to get at full working strength by the time white Clover is in bloom, and may be expected to yield a profit.

EDITORIAL NOTICES.

LETTERS FOR PUBLICATION.—*All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for contributions, or to return unused communications, or illustrations, unless by special arrangement.*

PLANTS, &C., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be carefully packed and numbered, and not more than six should be sent at one time.*

LOCAL NEWS.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

NEWSPAPERS.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Advertisements should be sent to the PUBLISHER.

APPOINTMENTS FOR THE ENSUING WEEK.

SHOWS.

SATURDAY, MAY 13—Opening of the Gardening and Forestry Exhibition, at Earl's Court.

WEDNESDAY, MAY 17—Royal Botanic Society's First Summer Show.

THURSDAY, MAY 18—Orchid Show, at Earl's Court.

FRIDAY, MAY 19—Royal Botanic and Horticultural Society of Manchester Grand Orchid Exhibition, from 19th to 25th inclusive.

SALES.

TUESDAY, MAY 16—Langton House collection of Orchids at Protheroe and Morris' Room, (three days).

FRIDAY, MAY 19—Orchids from Messrs. F. Sander & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—54°.8.

The Dropping of the Buds of Peaches, &c.

THIS is a calamity to which the Peach tree, as raised and grown in gardens in this country, is particularly liable, and as to which the best gardeners are at variance in regard to the cause and the remedy. It will occur in trees in a forcing-house, in pots in the orchard-house, and on open walls. The mechanical conditions of the soil, apart from its special nature, may, and do seem to offer a probable cause, in so far as at one time the soil may become exhausted of its humus by the previous heavy draughts on its store of food supplies by a tree in luxuriant growth, or from an inadequate amount of water present in it, especially when the buds are nearing their full development in the autumn.

To go into the woods and forests for an illustration, we see something of this kind of effect in the sickening of, say, Oaks in a plantation that have been greatly thinned out, where previously the trees have grown healthily and well. The excessive thinning has let in the sun; there is no dense canopy of foliage to prevent rapid evaporation of moisture from the soil, and the exposure hastens the decay of the covering of leaves and leaf-mould, and other soluble plant-food on and in the soil, with the effect of hastening growth at the top. After a few years the vigorous growth of the crown and stem-growths has exhausted the stores of plant-food in the soil, the upper layer being without sufficient protecting covering, dries out quickly in the summer season; and then follows a course of starvation, with the subsequent result, if there is no undergrowth coming on to supply the shade that has been lost, that the trees die back at the top, and sometimes a whole plantation will die out.

Is there not in the case of our Peach trees something that in its initial stages resembles the unfortunate results of inordinate tree thinning? In the case of trees on a wall, or those exposed to the full blaze of the sun in a Peach-house, we have something that is analogous to the over-thinned trees with an uncovered soil, exposed to the fierce rays of the sun, evaporating its moisture, and causing a rapid decrease of the manurial portions of the same, at the same time that a large amount of growth of shoot and stem is encouraged, and an exhausting crop of fruits taken.

The gardener who considers all these points, can, and does try to mitigate the evils that are likely to arise from his special, and we may say unnatural, or at least artificial, proceedings; for he copiously waters the soil, not only during the season of growth, but afterwards, when the trees are about to enter their winter's rest; and if it be a light soil, and therefore readily parts with its moisture, he mulches it with stable manure in sufficient quantity to prevent undue loss by evaporation, but not to seal it against the entrance of air.

Loss of buds may arise from a crowded state of the shoots, in which case only those shoots which are least crowded, such as those at the extremities of the longer branches, would develop good fruit and wood buds. The crowded shoots would produce buds small in size, deficient in vigour, and certain to be ill-matured at the end of the season, and this would be equally true of trees in houses and on walls. It will be obvious to anyone that crowding the shoots cannot pay, and the best growers have for many years past advocated a judicious thinning of the shoots, and an early commencement of the operation, together with its gradual performance. This year the lessening of the number of shoots on a Peach tree was begun, owing to the extreme earliness of growth, so early as the second week of April in southern parts of the country, and a finish will be made of the heavier portion of the work before the end of the present month. Of course, there is some thinning and cutting back of over-strong shoots to be performed even so late as the beginning of August.

Another cause we may advert to as affording a reason for bud-dropping, is a soil with inefficient drainage, or none at all. There, the excessive moisture present prevents the ingress of air, consequently keeps the soil cool, tends to prolong growth to a late period, and prevents its attaining to full maturity. In such soils the Peach seldom pays to grow, for unfruitfulness is sure to intervene when the roots have penetrated to any depth; and in such cases, nothing short of thoroughly draining the border and replanting the trees, perhaps renewing some of the staple, is of any use.

There is one aspect of the case which we may here say a few words about, and that is the stock on which the Peach and Nectarine should be budded when the tree is to occupy a place on a south wall on warm dry land, or in the peachery. The Peach and Nectarine differ from most other kinds of fruit in being "worked" on a plant which in many points differs greatly from themselves. In the case of the Apple, we make use of the crab, the progenitor of all Apples, or of the Doucin, the Burr Knot and seedling Apples taken from all sorts of sources, without regard to suitability, because, perhaps with the exception of the Doucin, a "dwarfing stock," it does not much matter, they being all of them Apple trees, and, therefore, nearly related. It is the same with the Plum, only Plum stocks are employed; and the Pear, with the exception of some score or two of varieties which grow on the Quince, is not happy if not united to another Pear. With the Peach this is different, for in this country it has become the mode, because found the best adapted to our climate in general culture, to work it on the Plum stock, a near relation probably some long ages since, but now widely dissimilar in fruit, foliage, root-formation, and many other points.

The usual stocks for the out-of-doors culture of Peaches, &c., are the Muscle, which comes pretty true from seed, but is best raised from stools, the St. Julien and the Damson, this last the worst. As is well known, the Plum stock tends to fruitfulness in the Peach or Nectarine, and in our moist climate is preferred to the Almond or the wild Peach stock. It is, however, not so certain that in our Peach-houses, where artificial conditions necessarily prevail, that the Plum stock is as well suited as those stocks that are found to suit the plants in countries with climatic conditions, closely resembling those we maintain in our forcing-houses. And may not this, under certain conditions of soil and treatment, account for the untimely fall of wood and fruit-buds?

In the Plum we have a plant that possesses abundance of small roots, but these naturally lie in the greater number near to the surface, and good fruit-growers endeavour to have them there, and transplant or lift the trees at intervals of three or four years with that intent. So far so good, but the bringing up of the roots of the Plum near to the surface of the ground where any drought prolonged for only a few weeks might act injuriously on the roots, and, consequently, on the stepchild drawing its nourishment from them, seems to be a practice that is not without some element of danger. It is a question whether the Peach or Almond would not, at least for trees in forcing-houses, and very warm porous soils in the open air, be the more suitable stocks to make use of. Both of them are found to succeed better as stocks for the Peach in France, where the hard-shelled sweet Almond, *Amandier doux a coque dure*, is preferred; the warmer parts of the Peach-belt in the United States of North America, Austria, Hungary, and south-eastern Europe generally, all of them countries in which the Peach is grown as an orchard tree.

The roots of the Peach and Almond are few in comparison with the Plum, and have a natural tendency to stretch downwards in search of moisture, hence their greater adaptability for countries with warm dry summer climates. In all of these the trees are cropped to their utmost capacity whilst they are young and vigorous, and last but a few years, say, ten to twelve; in the United States of America, not so long, on account of that much-dreaded disease, the yellows. At about that age the fruit crop becomes smaller, and the trees are cleared out, young plantations taking their place. Here, there are often qualms about destroying old trees, and in spite of the obvious incurability of the weakness of old age, trees are kept alive long after they should have found a place on the rubbish-heap. In fact, the retention of old and worthless fruit trees amounts, in some gardens, to a superstition, and if any one who reads this note has doubts of its correctness, let him visit the old gardens in his neighbourhood, and judge for himself.

The roots of the Peach and Almond must not have their natural downward tendency curtailed by cutting off tap roots, as is practised with the Plum stock, or its capacity to support a tree in the comparatively dry soil and dry air of the Peach-house would be reduced below that of the surface-rooting Plum, and ill-health follows; nor should it be done when these stocks are used in dry soil and sites out-of-doors, for the same reason. At the most, the tap roots whilst at a pliable age, may be bent as much in a horizontal direction as may be without breaking them; but this will not effect much, and the points of these roots—of which there are always several on a tree, will again soon take a downward direction. This fact will determine the depth of the Peach border. It should not be less than 3 feet where the trees stand; although there is no reason that it should be so deep over the whole area, and it may slope off to 18 inches at the sides or front, or the top may be nearly level, and the bottom of the border slope downwards towards the wall, or that part where the trees stand, and be provided with a drain at that side to carry off the water. In fact, in making borders for Peaches and Vines, there are good reasons for elevating the artificially made border-bottom at the point farthest from the plants, and placing the drains where the soil is the deepest, not where it is, in most cases, shallowest. By so doing, the extending roots, instead of ever tending downwards away from warmth and air, would be kept at a short distance from the top of the border, a part in which gardeners mostly like to find them.

Fig. 85.—Japanese garden. (see traveller's notes, p. 568.)

Linnean Society.—At the meeting of this Society, held on Thursday, May 4, Professor Stewart, President, in the chair, Messrs. W. B. Bottomley, John Percival, and R. S. Standen, were admitted, and the following were elected, John Buchanan, C. H. Nicholls, and as Foreign Members, C. Claus and C. de Candolle. Professor J. B. Farmer exhibited under the microscope some preparations showing attraction spheres in Hepatic spores, and gave the results of his recent researches on the subject. Mr. Thomas Christy exhibited some curious variations in foliage in plants of Sterculia from Brazil, reared from the same pod; and showed also a specimen of Erythroxylon coca in fruit. Mr. W. B. Hemsley showed two British plants which were interesting on account of the localities, namely, Empetrum nigrum from Dorset, where Mr. C. B. Clarke had seen it growing on Poole Harbour Spit, though it had not been included hitherto in the county flora.

Royal Botanic Society.—The first of a series of summer lectures on botanical subjects was given on Friday, May 5, in the gardens of this Society by Professor Groves, F.L.S. Taking the subject of "Ferns and their Structure," the lecturer dealt, in a popular way, with the peculiarities of growth which separate this family from other plants, and enable us to combine the three thousand, or more, species known, into an easily-recognised and distinctive natural group. The succeeding lectures will be given on the Fridays in May and June, and are free to all visitors to the gardens.

The Gardeners' Orphan Fund.—The monthly meeting of the committee took place at the Horticultural Club on the 5th inst. The chairman, Mr. William Marshall, presiding, there being as usual a good attendance. The hon. secretary announced that the dinner receipts amounted to £492 6s. 6d., in addition to the promise of £100 from the directors of

the Gardening and Forestry Exhibition at Earl's Court. Hearty votes of thanks were passed to Baron F. de Rothschild, M.P., for presiding at the dinner, also to Sir Trevor Lawrence, Bart., Sir J. T. D. Llewelyn, Bart., and N. N. Sherwood, Esq., and to those who furnished flowers for the decoration of the dinner-table—Messrs. Wills & Segar, B. S. Williams & Son, H. Cannell & Sons, J. Walker, J. Laing & Sons, J. Smith (Mentmore), G. Wythes (Syon), and W. G. Head (Crystal Palace).

DUNDEE HORTICULTURAL ASSOCIATION.—The monthly meeting of this Association was held in the Y.M.C.A. Rooms on Friday evening, May 5, Mr. JAMES MOIR, Vice-President, in the chair. A paper was read to the meeting by Mr. ROBERT GROSSART, Binrock Gardens, on "Cool Orchids." At the close of an excellent paper, Mr. GROSSART received a hearty vote of thanks. A variety of flowers in season were shown, including some Orchids from Mr. GROSSART, the gardener at Binrock.

HOW PLANTS ADAPT THEMSELVES TO CIRCUMSTANCES.—The forms of vegetable life are capable, just as animals are, of adapting themselves to a greater or less extent to altered circumstances or conditions. A curious experiment illustrative of this fact has recently been made by J. BOKORNY (vide *Chemiker Centralblatt*, 1892, ii., p. 80), who has shown that plants which have been deprived of starch, and placed in an atmosphere that contains no trace of carbonic acid gas, are capable of forming considerable quantities of starch if they are fed with the sodium hydrogen sulphite compound of formaldehyde. In order, however, that this experiment may succeed, the plants must be placed in a strong light; in the dark no formation of starch takes place. A detailed account of this work is given in the *Landw. Jahrbuch*, xxi., pp. 445—465.

SCOTTISH HORTICULTURAL SOCIETY.—At the examination held at the close of the lectures in science and hardy fruit, held by the Scottish Horticultural Association, the leading prize for science was gained by Mr. ERNEST WALLER, of Messrs. METHVEN & SONS, Leith Walk Nurseries, Edinburgh; Mr. OSWALD CLARK, Halliburton Gardens, Cupar-Angus, being the winner of the 1st prize for hardy fruit. Mr. E. WALLER also gained the Silver Medal given by the Scottish society to Dr. WILSON'S horticultural class at the Heriot-Watt College.

BRESLAU BOTANIC GARDEN.—Dr. PAX, hitherto engaged at the University of Berlin, will assume the Directorship of the Botanic Gardens at the University of Breslau, rendered vacant by the death of Professor Dr. PRANTL.

SODIUM AS A PLANT FOOD.—In pure chemistry the properties of sodium and potassium are very closely related, but in the practical application of compounds containing these elements great differences are observed. However, some recent researches by A. ATTERBERG (*Expt. Stat. Rec.*, iii., p. 554) show that in regard to the food of plants, sodium and potassium, though not capable of mutual substitution with equal advantage, possess some properties in common. In short, sodium compounds may be of considerable advantage where potassium is deficient. This observation has an important commercial consequence, since the large amount of sodium present in many of the standard manurial salts can now no longer be considered as useless.

THE EARLY SEASON.—We have received from Mr. WILLIS, of Hollowmead Gardens, Bishopsteignton, Devon, some Peas, William the First, rather over than under ripe. Also a shoot from a Peach tree on outside wall with fruits stoning, and several other indications of the unusual character of the season. Mr. ELY NITTLEBED, Henley-on-Thames, also sends very fine samples of Pea, Sutton's Ringleader, with a few notes which we hope to publish next week.

M. LINDEN'S PROTEST.—We have received a copy of the letter addressed by the President and by the Secretary of the Société Royale d'Agriculture et Botanique of Ghent to the Managing-Director of the "Horticulture Internationale" of Brussels, with reference to the protest against the unanimous decision of the jury at the late Exhibition at Ghent. The official reply to M. LUCIEN LINDEN states, that the decisions of the jury are beyond appeal. A copy of this letter has been sent to each member of the jury in the section in question, and M. LINDEN'S protest has been deposited in the archives of the Society.

DRACÆNA SANDERIANA.—We are requested to publish the following letter relating to this plant:—"Will you have the kindness to publish, as soon as possible, the following notice on Dracæna Sanderiana."—The Professor of the Royal Botanical Garden, A. ENGLER.

"In 1888, Mr. JOH. BRAUN was sent by the Imperial German Government to explore the flora of the German Cameroon boundary. He gathered several specimens of a Dracæna named provisionally Dracæna thalioides, a specimen with green leaves, and a single specimen with variegated ones, which he succeeded to bring home alive. By the contract made with the Imperial Government, Mr. J. BRAUN could reclaim one specimen as his legitimate portion of every species he had gathered in several specimens; all the 'Unica' were in possession of the Government, which charged the Royal Botanical Garden at Berlin to cultivate all the Cameroon plants. The Dracænas were doing so well, that some time later cuttings were made which grew very quickly. Mr. BRAUN, then returning from his journey to the Comoro Islands and Madagascar, asked and obtained, in exchange of other plants, several of the cuttings, which he could dispose of as he liked, which he sold to Mr. FRANZ BLUTH, nurseryman, Steglitz, Berlin, who sold on his part the whole stock to Mr. F. SANDER & Co., St. Albans. Some time afterwards, Mr. BRAUN demanded for a second time a few specimens of the variegated Dracæna in exchange for a collection of leaf-funguses and Mushrooms from Madagascar; also these specimens were purchased by Messrs. F. SANDER & Co. In this manner, and only by the mediation of the late Mr. J. BRAUN, and only in exchange of objects of our scientific collections, specimens have found their way in private collections. That these plants were purchased by Mr. SANDER, and that these plants were named Dracæna Sanderiana, were not known to the officers of the Royal Botanic Garden before May 1. After the last Ghent Exhibition, where Mr. F. SANDER obtained the 1st prize for a little collection of new plants (one of which was the said Dracæna thalioides fol. variegat. = D. Sanderiana hort.), a traveller of Mr. M. LINDEN, who had visited our Botanic Garden, asked fifteen different species (including our Dracæna), and offered to pay 500 marks for the whole. I declined to take money, because it is use [the custom] that the Royal Botanical Garden takes plants for plants, and I mentioned several plants, the acquisition of which is of some interest for the Royal Botanical Garden; and I declare that as far as such a transaction can be made without assuming the character of trade, the exchange of the said plants has been made. The traveller of Mr. LINDEN wished to take the Dracæna with himself, and I allowed it harmlessly. Some days afterwards I was informed by Dr. F. KRÄNZLIN, who has been at Ghent, that the plant in question, of which we possess still several specimens, was of the same kind as those of Mr. SANDER'S novelties, and that Mr. SANDER had purchased the plant believing that Mr. BRAUN had the right of possession for the whole specimens. Indeed, Mr. BRAUN had not any right of possession. But not wishing to hurt Mr. SANDER, and as I in my official position, never take part in questions of merely mercantile interest, I demanded Mr. LINDEN—

"1. To set right his advertisement in the *Gardeners' Chronicle*, April 29, concerning Dracæna Sanderiana, where he says, 'We have *purchased* at Berlin,' &c.

"2. To send back the plants. As Mr. LINDEN refuses to do so, I am obliged to publish the matter-of-fact."

DR. JANNICKE, second librarian and Professor of Botany at the Senckenberg Institute, Frankfort-on-the-Maine, is recently deceased. Prof. MOBIUS, of Heidelberg, has been selected to succeed him at Frankfort.

THE IMPERIAL INSTITUTE.—This gigantic Institute, which was commenced in 1886 to commemorate the Jubilee of Her Majesty's reign, was successfully opened on Wednesday, the 10th inst., by the QUEEN in person, in the presence of the greater part of the Royal Family, and a very large and distinguished company.

VIOLAS.—We have received from Mr. JNO. FORBES, of the Hawick Nurseries, Roxburghshire, N.B., a box of beautiful Violas, in the most unaccountable variety. Mr. FORBES says that through absence of rain, the blooms are rather smaller than usual, but the plants are flowering in the greatest profusion. The shades of colour in some of those we received are quite charming, and perhaps more striking than usual through the presence of abnormal amount of sunshine.

FLOWERS AT CHISWICK.—The Violas at the Royal Horticultural Society's gardens are now very good, but the dry weather is all against their continuing in fine condition for any considerable time; climbing Clematis also present a special feature. The dwarf French Cannas, so brilliant in the colour of their flowers and generally dwarf in growth, were noted in many varieties. Primula Sieboldi laciniata-rubra, brilliant purple-rose; and P. S. Mrs. Ryder, a blush; P. S. grandiflora, interior French white, exterior deep rose—large bold spikes, a great favourite; P. S. Elysée, of a rich purple-violet tint, are admirable varieties. Some showy alpine Auriculas were noted in flower. The early Irises observed in bloom were I. Chamæiris, I. biflora, and I. pumila.

SULFOSTEATITE CUPRIQUE.—We have received from M. JEAN SONHEUR a circular with numerous testimonials from well-known directors of large gardens and nursery firms on the Continent, setting forth the virtues of the above invention in the treatment of vegetable and animal parasites on garden and farm plants. According to the inventor, it can be employed efficaciously against mildew on Roses, Peaches, and Vines, the species of Peronospora attacking Tomatos and Potatos, the rust on Asparagus, and Peach-blister or curl; and against the Asparagus-beetle and fly; aphis of all kinds, Turnip-fly, &c.; besides other purposes to which it may be put. The circular certainly does not err on the side of want of universality of the uses of the powder. In this country it is not much known, the Bouillie Bordelaise having as yet had the preference. The powder, which is harmless to mankind and animals, is applied by means of a pair of bellows, with a long nozzle attached or not, a reservoir containing a supply. The only competitor which Sulfosteatite has at present is the aforesaid Bouillie, than which it is cheaper to buy, and easier of application. Its other advantages are, that it can be used at once, being ready prepared, needs no stirring about, and is cleaner and easier in use than any other preparation for the same, and, in consequence, it costs but little in labour. Moreover, a powder-distributor is much cheaper than a syringe or water-distributor. Have any of our readers experience of the efficacy of the remedy?

THORNS AT RICHMOND AND GREENWICH PARKS.—The Thorns are very beautiful in these parks, and the show of bloom seems even more profuse than last year, which was noteworthy in this respect. Both parks possess many fine specimens, but those in Greenwich Park are more conspicuous, as they are planted in large groups on the brow of the more hilly portion, so that a cloud of colour is got by this arrangement. Little damage is inflicted, although the park is frequented by thousands, and each specimen is full of health and vigour. It is to be hoped that good care will be

taken of these fine old trees, remnants of former times, when this was a royal park. It has been many years dedicated to the use of the public, and commands a wide view of the Thames. One of its chief glories, however, are the Thorns.

FRUIT GROWING AT DUNKELD.—A correspondent writes enthusiastically of Mr. FAIRGRIEVE'S methods of disbudding Peach trees, well known to Scotch gardeners, and when I saw the trees in the middle of last month, the trees in the houses were covered with healthy foliage and bore a fairly heavy crop of fruit. Mr. FAIRGRIEVE does not heavily crop his trees. Out-of-doors on walls, which are furnished with canvas blinds fixed to rollers, the trees were pictures of health and promise. The Apricots, of which he is an easy first as a cultivator, were likewise in the finest condition, with fruits as a large as a Hazel-nut. Round about the trees are placed slates or a circle of large boulders, to keep the ground moist and tempt the roots to the surface.

THE CHEMISTRY OF APPLES AND PEARS.—In a recent investigation by P. KULISCH, on the chemical composition of fruit, he observed that where Apples are detached from the tree, cane-sugar continues to be produced in the pulp at the expense of the starch, and finally this sugar becomes almost completely converted into another form known as invert sugar. He considers that no relation exists between the fertility of the tree and the percentage of sugar in the fruit; although the number of Apples borne by any given tree has a great influence on the weight of single Apples. Large Apples, however, contain a greater percentage of sugar than small Apples gathered from the same tree. KULISCH also found cane-sugar in Pears that had been stored away to ripen. He states that Currants, Gooseberries, Blackberries and Mulberries contain only traces of cane-sugar, whilst most stone fruits contain much. The paper in which KULISCH deals with this subject may be consulted in full in BIEDERMANN'S *Centralblatt*, xxi., pp. 700—702.

SOUVENIR DE LA MALMAISON CARNATION.—In Lord ROTHSCHILD'S garden, at Tring Park, a magnificent show of this fine flower has commenced, and a large quantity of succession plants in all stages will keep up the show for some time to come. The large early-flowering plants, which fill several houses, are well furnished with flowers and flower-buds, the lateral growths being more profusely furnished with the latter than usual. The annual production of such large quantities of this variety with unerring success is not an easy matter, but Mr. E. HILL, the gardener at Tring Park, accomplishes it in fine style.

PÆONIES.—The curator of the Botanic Garden, Cambridge, desires us to inform our readers that he would be glad to receive specimens of any Pæonies, grown under popular names, for the purpose of determining the species to which they belong, but cares least for those that are easily referred to P. albiflora, P. Moutan, or P. officinalis. He would also be glad of any specimens of known wild origin.

EARLY STRAWBERRIES AND CHERRIES.—Messrs. WHITE & Co., writing from Covent Garden to the *Pall Mall Gazette* of May 3, state that "on May 7 they received from the growers of Saltash, Cornwall, their first consignments of Strawberries grown in the open, being the earliest on record. The first consignment last year only reached Covent Garden Market on June 4, and some years they have known it to be June 10 and 12 before they came forward. They consider the season to be five weeks earlier than usual. They also on Monday, May 8, received the first large supply of French Cherries in flats, which did not come forward last year until May 16."

COLLECTIONS OF BRITISH PLANTS.—We note in the catalogue of a Birmingham bookseller, two items, which will be of special interest to our readers. The more important of the two is an extensive collection of British mosses, carefully preserved, and either mounted on superior paper, or between sheets of paper doubled. It comprises between 400 and 500 species, and contains a nearly complete set of types, from the late W. WILSON, author of the *Bryologia Britannica*. This collection was formed between 1839 and 1891, and the former owner estimates that the number of specimens exceeds 10,000, mostly named and made into cloth-covered books, which are labelled at the back, and enclosed in fifty-three cardboard boxes of neat design and octavo size. This superb collection of mosses is believed to have cost its late owner in various expenses, at least, £1000; but its value is now placed at forty guineas, which certainly cannot be said to be excessive. The second collection possesses a much less circumscribed interest. It includes Ferns, grasses, seaweeds, and flowering plants to the number of upwards of 1400 choice specimens, named, excellently preserved, many being mounted in sheets of paper, mostly tabulated, interleaved, and protected between sheets of paper doubled; the packages are distributed in eighteen large cardboard boxes made for the purpose. For this collection fourteen guineas are asked.

THE ROOT-NODULES OF ELEAGNUS ANGUSTIFOLIUS.—In 1891 a series of experiments were commenced by a committee of German experts, viz., F. NOBBE, E. SCHMID, L. HILTNER, and E. HOTTER, with the object of ascertaining the physiological meaning of the root-nodules of various non-leguminous plants. Of these plants Eleagnus angustifolius was taken as a type. The investigation lasted until the autumn of last year, and the deduction from the observed results has just been published in the *Landw. Versuchs-Stat.*, xli., pp. 138—140. The committee are of opinion that the possession of root-nodules enables the Eleagnus to utilise free atmospheric nitrogen. These nodules are really produced by an organism, which, however, is not of the same species as Bacterium radicicola.

PUBLICATIONS RECEIVED.—*Essays on Rural Hygiène*, by G. V. POORE, M.D. (LONGMANS.)—*Chicago Exhibition: Official Catalogue, British Section.*—*Semer et Planter, par* D. CANNON. (Paris: ROTHSCHILD.)—*The Thyrsos of Dionysus*, by CHARLES DOLBY.—*Les Orchidées Rustiques, par* H. CORREVON. (Paris: DOIN.)

PLANT PORTRAITS.

CYMBIDIUM LOWIANUM, *Reichb.*, Burma, *Reichenbachia*, t. 53.

CYPRIPEDIUM CHAMBERLAINI, *Garden*, April 15.

CYPRIPEDIUM (HYBRID) GALATEA, *Gard. Magazine*, March 4.

CYPRIPEDIUM ROTHSCHILDIANUM, *Garden and Forest*, March 29.

DENDROBIUM PHALÆNOPSIS SCHRODERIANUM, *Garden*, March 25.

GLEDITSCHIA JAPONICA, *Garden and Forest*, April 12.

HÆMANTHUS LINDENI, *Gard. Mag.* April 22.

LÆLIO-CATTLEYA RIDOLFIANA.—*Bull. Soc. Tosc. di Ortic.*, t. 3, 1883. A cross from L. purpurata var. aurorea by Cattleya Mossiæ pelta.

LYCASTE MACROBULBON, *Lindenia*, t. 366.—Flowers uniformly yellow, sepals spreading flattish ovate lanceolate, petals revolute, lip oblong three-lobed, central lobe crispate.

MITCHELLA REPENS, the Partridge-berry.—*Meehan's Monthly*, April.

ODONTOGLOSSUM INSLEAYI, *Le Moniteur d'Horticulture*, March (vars. leopardinum and xanthinum).

ONCIDUM LOXENSE, *Reichenbachia*, t. 54.

PELLÆA GRACILIS, *Meehan's Monthly*, March.

PHALÆNOPSIS LUDDEMANNIANA, *Lindenia*, t. 366.

PRUNUS CERASIFERA VAR. PISSARDI.—Fruiting specimen. *Bulletin d'Arboriculture*, &c., March.

SENECIO BONIN SIMÆ, sp. nov. Yatabe.—The Tokyo *Botanical Magazine*, February 10, t. 2. This is a Groundsel-like plant, "cultivated in the Botanic Garden of the Imperial University from Bonin Islands, where it is one of the esculent vegetables."

STUARTIA PSEUDO-CAMELLIA, *Garden*, March 4.

HOME PRODUCE, IMPORTS AND CONSUMPTION OF WHEAT.

A most comprehensive and valuable contribution to our knowledge upon this extremely important subject has just issued from the able pen of Sir J. B. Lawes and Dr. J. H. Gilbert. The data extends over a period of forty harvest years, 1852—3 to 1891—2. The significance of the decline in the area under Wheat that has taken place in our own country during the last forty years, and the rapid increase in the imports from foreign sources of this staple food of the population of the United Kingdom, will be understood and appreciated from the following table, which shows the proportion which the imported Wheat bears to the total amount available for consumption.

Table showing Total Wheat (Home and Foreign) available for Consumption:—

YEARS.	Average annual total Wheat available for Food, Home and Imported. 72 flour = 100 Wheat, 60 lb. per Bushel.	Per Cent. of Total. From Home Produce.	From Imports.
Average for:—	Quarters.	Per Cent.	Per Cent.
8 yrs., 1852-3 to 1859-60	18,223,556	73·1	26·9
8 ,, 1860-1 ,, 1867-8	20,777,282	59·5	40·5
8 ,, 1868-9 ,, 1875-6	22,729,501	52·0	48·0
8 ,, 1876-7 ,, 1883-4	25,229,177	35·3	64·7
8 ,, 1884-5 ,, 1891-2	27,334,255	31·9	68·1
40 ,, 1852-3 ,, 1891-2	22,864,754	50·4	49·6

The figures in the first column show that the average annual aggregate amount of Wheat available for consumption in the United Kingdom was almost exactly one-and-a-half time as much over the last eight as over the first eight of the forty years.

The last two columns show in what proportion the increased demand has been met from home and foreign sources respectively.

Thus, whilst over the first eight-yearly period the home producer provided about 73 per cent. of the total requirement, over the last eight years he provided only about 32 per cent. In other words, over the earlier period he provided nearly three-fourths, but over the later less than one-third of the total requirement. On the other hand, whilst over the first eight years imports supplied only about 27 per cent., over the last eight they supplied about 68 per cent. of the requirement, or more than two-and-a-half times the proportion of the total over the last than over the first eight years; in fact, little more than one-quarter of the total over the first period, but more than two-thirds of the total over the last period. This was the case, notwithstanding that the last eight-yearly period gave a higher average yield per acre of the home crop than either of the four preceding periods. The truth is, that the less dependence on home, and the greater on foreign supplies, has been largely due to the increase of the population overcoming our capability of production; but, of course, largely also to the reduction of area under the crop at home as a consequence of greatly increased production for export in other countries, and coincidently great increase in our imports, and great reduction in price.

We know that the question is frequently asked and discussed, if it were not possible for our farmers to produce all the food-stuffs we require for home consumption? But the authors show most conclusively that with the rapid increase of population that has taken place, it would be impossible for our own country to produce all the Wheat required for consumption; and that should the increase in the number of people continue, it will be in a greater degree impossible in the future. It is pointed out, that the area under Wheat in the United Kingdom has during the last eight years averaged rather less than one-eighth of the total arable area; and that to produce all the Wheat required for consumption, more than one-third of our existing arable area would be required; or that, if the area devoted to other rotation crops were to continue to bear about the

same relation to that under Wheat as in recent years, the total arable area would have to be increased nearly three-fold, making in all much more than our present total arable and grass areas put together; or that if Wheat were to be grown on a larger proportion of the existing arable area, it could only be by the exclusion of the growth of other grain crops and stock goods, which would then, in their turn, have to be imported in larger quantities; or our stock must be reduced, and our imports of live animals, dead meat, and dairy produce be very much increased.

We refer those of our readers who may wish to study this important question more fully, to the complete paper, which may be found in the last issue of the *Journal of the Royal Agricultural Society*. *J. J. Willis, Harpenden.*

HOME CORRESPONDENCE.

UNDER THE APPLE BLOSSOM AND WHITE-THORN IN CAMBS, APRIL 25, 1893.—For nearly a week the white and purple Lilacs, Wistarias, and Cherries have been in full bloom; the cuckoo and nightingale in full-throated song; and now the Apples have pinked the landscape over so heavily that the White-thorn has rushed out to flank down the pink along every hedge-row with a broad spread of white in lieu of shadow. Assuredly, what with uninterrupted golden sunshine for months, and the fading of the Plum blossoms into fruitlets, the May is specially welcome. But it is its date rather than its ever-welcome purity and fragrance that makes it notable at the present time, fully a month ahead of its average time of blossoming. There is also not a little mystery, as well as precocity, about the fruit blossoming of the season. At first blush, it seems more a product of this sunful spring than the legitimate product of the last summer and autumn. Be the facts of our precocious fruit prospects what they may, there is no question about the prodigal—almost wanton—profusion of the blossoming. Apricots, Peaches, Plums, Pears, Cherries, bush fruits, and Blackthorns have been crowded full of fruit-blossoms. From whence and how came the prodigality of fertility? Out of the sunless summer, the dripping autumn of 1892? If not out of these improbable environments or fosterings, then from whence came or cometh this blossoming time so full of beauty, so rich in promise? I wish our Editor, to whom we are all so much indebted, could come and ponder over and crack this nut for us in the Apple orchards, and beneath the shadow of May-wreathed hedges in this April, which so far has only given us one shower throughout this sungirt spring, 1893. *D. T. Fish.*

MAY-DAY, 1893, IN EAST ANGLIA.—The sunshine and the long almost unbroken drought of two months between them, have pulled vegetation ahead of the calendar by a month or more. Hence the Lilacs, Wistaria, and the earlier Honeysuckles, and the Pyrus are all over and gone, as well as the Plum, Pear, and Cherry blossoms, Apples, Crabs, May, single and double Chestnuts, the earlier Clematis, all the Laburnums—unless the late Scotch; and even some early Roses are in blossom on this May-day, 1893. Let us hope that this abnormal precocity may not lead to a flowerless summer and an autumn bare of fruit. It is certain that neither hedgerows nor fields can be wreathed again with spotless garlands in May, or fields or orchards pinked anew with Apple or Crab blossoms this season. A few trees, including the Mulberry and the Oak, seem disposed to go by calendar instead of the forcing express of drought and continuous sunshine. As I write, on May 4, the sky is densely overclouded, and the symptoms point to a break up of the long drought at last, which so far may be said to have lasted two months with only a few drops in the long interval. *D. T. F.*

SUMMER PINCHING OF FRUIT TREES.—This is an opportune moment to discuss the question: "Does summer pinching of fruit trees conduce to their forming fruit buds in the manner generally understood?" I say emphatically, no. I have tried the plan extensively on all sorts of trees during the past few years. Pinching the surplus shoots in June, July, and again in September, and now that the same trees have been winter-pruned, I fail to see that the pinching, or summer pruning as it is sometimes called, has increased the production of flower-buds in the slightest. I know this experience is not in accord with the doctrine taught by some writers, but it is a fact, nevertheless, that there is far too much faith placed in the summer pinching of fruit trees to induce fruitfulness. The idea is broadly this, pinch off surplus growths to within 2 or 3 inches of the base, this will check the flow of sap, induce the base buds to plump up, and thus form spurs for future fruit bearing. Some go further than that, and say, if there is no sign of the formation of the fruit bud in September, cut off the shoot again, this time lower, and fruit buds will then form. I am afraid this teaching is a long way from being practical. Shoots that are pinched to within, say, 2 inches of their base in June or July, sometimes make a second growth, though more often on Pear trees than upon Apples. In that case a second pinching is necessary when the additional growth has advanced a few inches. Sometimes no growth following the first pinching takes place, but in its place the bud nearest the extremity swells, and does form what would develop perhaps another year into a fruit bud. The point then is, if all the surplus shoots were pinched to the eye at base, would the buds there be lost for future use by making at once a second growth the same year, instead of plumping up the eye simply with a view to future fruit-bearing? The system of pinching to two and three eyes is undoubtedly wrong with the object of forming fruit buds from the base eyes. I do not advocate, though, the retention of these surplus growths, they should be cut away by all means for another object, that of admitting the free penetration of sun, air, and wind to mature the branches, and to assist in the formation of future bloom buds. These latter are quite distinct from wood growths purely. It is difficult indeed to induce fruit buds to form from purely shoot buds. It has long been thought that the summer pinching advocated favoured this, but by no means is it effectual. If it were not for excluding light and air to the innermost parts of the trees, especially bushes, I would allow them to remain until September, and then give the trees all the pruning they need. It is not necessary to wait until December to complete any pruning operations. The removal of surplus growths from all kinds of trees is quite correct for the assistance in colouring of fruit, whether it be Apples or bush fruits. Where time admits, these latter are much improved in colour and cleanliness by a removal in June of the surplus shoots, not with the idea, however, of inducing fruit spurs to form at the base of the summer shoots. *E. M.*

BOILERS.—Great improvements have been made in the heating power of our garden boilers during late years, thereby saving considerable fuel; but many boilers are complicated in shape, and they are nearly all made of wrought iron, which will not last nearly so long as cast iron. Some twenty-five years ago, I had occasion to put in several cast-iron saddle-boilers, and they are still doing their work as well as ever; but in an unhappy moment I bought a boiler—strongly recommended—of the wrought-iron type, setting it to heat three houses. Judge of my disappointment when, after some eight years' wear, I found this boiler at banking-up time the other night leaking at a hopeless rate, and there was nothing for it but to move all the plants in a temperature many degrees below freezing-point. In examining the boiler, I find that quite as much damage is done in summer, when not in use, as during the winter season; whereas if the boiler had been made from cast-iron, all this upset would have been avoided. *J. Rust, Eridge Castle.*

ROUND *versus* PRICKLY SPINACH.—I am glad you have invited seedsmen to try and clear up this matter in relation to the variety of Spinach which some gardeners have recently so much praised over the old Prickly variety, commonly known as Winter Spinach. As you have quoted from Mr. Vilmorin's admirable book, *The Vegetable Garden*, permit me also to do so in furtherance of my original suggestion, that this Round Spinach was not only round-leaved, but round-seeded, and the variety commonly sown as Summer Spinach. The book says, "Some growers prefer the Flanders for autumn sowing, on account of its large fleshy leaves and hardy constitution." That shows that the common Flanders round-seeded form has long been used for winter work, and the reference is to British cultivation. In addition to the seedsmen, I hope those gardeners who have grown Round Spinach with such satisfaction during the past winter, will also say whether they have really grown the Round-seeded variety, which they ordinarily sow in the summer; or whether they have sown a round-seeded, roundish-leaf form of the Prickly sort. But I would point out that gardeners almost invariably order Spinach under the common appellations of Round or Summer, and Prickly or Winter, and that what is sent out by seedsmen as the former, is what we have grown as such for many years, the Flanders; whilst the Winter or Prickly is the Epinard d'Angleterre, which it is now found to be much less useful or hardy than is the old Round summer variety. *A. D.*

APOSPORY: A CORRECTION.—I observe in the notice of my Aposporous Lastrea that the common crested male Fern is stated to be "frequently, if not constantly, produced from a sexual bud upon the prothallus," instead of from asexual buds. As this gives a directly opposite meaning to the one intended, perhaps you will kindly correct to save misapprehension. In line 2 of column 3, "toral" apospory is printed instead of "soral." I may add that the prothalli in question are throwing young plants freely while still attached to the parent, and in one case without being pegged down. *Chas. T. Druery.*

ERYTHEA EDULIS.—We have had E. edulis in cultivation at Kew since 1883. Neither this species nor E. armata (Brahea Roezlii) can be called good garden Palms in England. On the Riviera, E. armata is fairly plentiful in gardens. See *Kew Bulletin*, 1889, p. 294. *W. Watson.*

MUSHROOM-GROWING ON LAYERS OF LOAM AND HORSE-DUNG.—I fear Mr. Cheshire has found a "mare's-nest" in his new system of growing Mushrooms. I knew the same system tried thirty years ago. Mr. Cheshire, in common with many writers on Mushroom culture, assumes that large masses of manure are considered necessary to their production; whilst the fact is, the deep bed is used to give the requisite warmth to cause the spawn to run, and it is well-known to many of us old stagers that, given the requisite top-heat, 4 inches deep of fresh sweet dung is ample for their most successful cultivation. If the longer continuance of the bed-bearing is a fact, it might be of value in places where a small supply is needed; but I venture to doubt the fact, from a very considerable experience in Mushroom-growing. *John Bester, Manager, Myatt's, Hextable Horticultural Co., Swanley.* [It is a fact known to many of our older readers that the method of making Mushroom-beds in layers of loamy soil and stable-dung was practised at a more distant date than our correspondent mentions; but it did not find general acceptance, because from the small quantity of manure used it was not always possible to get up the heat required to start the spawn. Once in bearing, the beds would produce Mushrooms for a longer period, other conditions being suitable, than a bed put together in the usual way. ED.]

HONESTY.—Probably no spring flower is standing the long-continued drought better than the common Honesty, Lunaria biennis. It throws its large fleshy roots deep down into the soil, and they, acting as feeders at a considerable depth, enable the plant to withstand the heat and drought, which injures the more surface-rooting subjects. It is astonishing, the growth and wonderful head of bloom made by plants standing well apart from each other, in good soil. A thick plantation of Honesty operates to starve the plants, but, when isolated, the remarkable beauty of a well-grown specimen is amply demonstrated. Plants of Honesty do not bear removal, unless it is when they are quite young. It is therefore best to sow the seeds where the plants are to bloom, dibbling in the seeds at ample distances apart, and if they are plump, they are sure to germinate. The white variety forms an admirable contrast to the purple-flowered type. That newer selection, the Early Crimson, is decidedly deeper in colour, and of dwarfer growth, and makes a fine subject in the spring garden. Honesty is one of the hardiest of plants, though liable to be injured by long-continued frosts, and especially when frost follows heavy rain. But plants apparently dead, revive with the influences of spring, and develop into unexpectedly fine examples. *R. D.*

CHRYSANTHEMUMS ALL THE YEAR ROUND.—At the meeting of the Scottish Horticultural Association on Tuesday, the 2nd inst., Mr. McMillan, of Trinity Cottage, exhibited about a dozen of large substantial Chrysanthemum blooms. He said in his

letter, which was read by the secretary, that like Tennyson's brook, he could maintain the supply every month of the year. The other day I called, and received a hearty welcome. Walking through the houses with him, I saw tall Chrysanthemums in flower, and some equally tall in bud, while in the frames this year's cuttings, from 1 to 2feet high, were showing flower-buds at the end of nearly every shoot. Mr. McMillan claims to be quite open about his method of culture, but I could see that he kept something up his sleeve. Mr. McMillan exhibited some of his finest blooms at Earl's Court long before the proper season that were quite a new feature of the show. Mr. McMillan has another hobby besides Chrysanthemums, viz., Rhododendron growing and raising hybrids. He has a fine specimen of the shy-flowering R. Edgeworthii, and some of the young seedlings have the downy-brown underleaf of Edgeworthii. *C. A. M. C.*

EARLY TURNIPS.—On March 6, I made small sowings of Carter's Early Purple Top Strapleaf, Early White Strapleaf, Dobbie's Model, and Snowball Turnip on a wide south border. From the time the plants have been thinned out, water has been daily applied to the soil, with the result that we are now (May 9) drawing excellent Turnips of the first-mentioned variety. The other varieties indicated will give a good succession. Had we not kept the crop well watered, the plants would have certainly bolted. *H. W. Ward.*

EARLY STRAWBERRIES.—I gathered to-day a ripe fruit of the variety John Ruskin growing on a south border in the kitchen garden, and several others will be ripe in a day or two if the weather continues warm. Last autumn I planted 200 young plants of this variety on a border, together with 500 of Noble, to test their earliness outdoors. John Ruskin proves to be decidedly the earlier of the two, but it is not to be compared with Noble as regards cropping. I can only find two berries beginning to colour of this latter kind, whereas of John Ruskin a small dish may be gathered in a few days. The continued drought is beginning to be seriously felt in this district. *C. Herrin, Dropmore, Bucks, May 9.*

EARLY ACTIVITY OF WASPS.—I have had brought to me, by one of my boys, a small wasp's nest containing about twenty maggots. The nest was found hanging to a bush. This (May 6) is the earliest date that I remember to have met with a colony. Last year I found a nest on June 7. I may say that we have killed more queen wasps this spring than ever before, and they are still very plentiful. *John Wilkes, The Gardens, Creswell Hall, Stafford.*

APPLE PESTS IN FRANCE.—There is a great amount of ignorance displayed in the Consular Report noticed at p. 540. The grub in the Apple bloom is that of the weevil, Anthonomus pomorum, see Answers to Correspondents, p. 554, in same No.; it has nothing to do with the winter moth. Mytilaspis pomorum is a "scale," and is probably the "cochineal" insect referred to lower down. There is evidence of a "confusion of epitaphs." *R. McLachlan.*

CUCUMBER DISEASE.—I wish to ask your numerous subscribers, of whom I am one of long standing, the cause and the remedy for the above disease. Having had this gum-disease in the fruit and the foliage in two previous seasons, I thoroughly cleaned the house in the autumn, and again this spring, fresh-painted the woodwork, cleaned the walls with clear water, white-washed with hot lime, dusted while yet wet with dry lime, covered floors with new lime, made the hot-manure beds the required depth, and planted a month since, and the first fruit that set showed the dreadful gum-disease in the skin. Now the plants could not possibly look more healthy than at the present time, yet as soon as the fruit is set, I can see the disease. Is the soil in fault, or what is the cause? Having grown Cucumbers for twenty-five years, I am greatly disappointed, and wish to ask if there is any cure for same, without destroying the plants? I may say, the roots are very healthy, so far as I can see. If you can help me in this, I shall feel for ever thankful. *Market Grower.* [Kindly send specimens of fruit, leaves, and roots. Ed.]

Fig. 86.—Anthurium Scherzerianum: showing effects of manuring and non-manuring.

No. 1.—Plant supplied with Potash; 2, Plant supplied with Phosphoric Acid; 3, the test plant—no manure.

EFFECT OF MANURES ON THE GROWTH OF ANTHURIUM SCHERZERIANUM.

It is a matter of great importance that the precise effects of various manures on the growth of sundry garden plants should be studied as carefully as in the case of agricultural plants. Hap-hazard procedures, if they lead to success, as they often do, also lead to many failures, and almost invariably to great waste of material, and to needless expense. For this reason, we are highly pleased to see that M. Georges Truffaut, son of the well-known nurseryman of Versailles, and a pupil of Professor Dehérain, is devoting his attention to this subject. Object lessons are more instructive to the many than detailed chemical analyses; such lessons were presented at the recent show at Ghent, and this week we give an illustration (fig. 86) copied from the *Revue Horticole*. The illustration and its legend tell their own tale, and we shall have shortly an opportunity of adverting again to the subject when discussing a memoir of the same author on the effects of various manures on the Azalea, and cognate matters.

FLORISTS' FLOWERS.

THE AURICULA.

I wrote, at p. 445, upon the promising character of Auricula bloom in our garden, and it certainly was a very fine show in the Auricula-house; but the leading growers, naturally desirous of getting their flowers ready for the National Auricula Society north and south on April 25, had to use close shading to retard the flowers, with the result that the leaves were flabby, and the plants required very careful inuring to full light and ventilation. Half of our stock of specimen plants were repotted before the close of last month, the leaves and roots having been freed from parasites. The most dangerous-looking insect is the Trama Auriculæ, the woolly aphis of the growers; but it really does not do half so much injury to the plants as the common green aphis. Slugs and maggots can easily be caught and destroyed, but the woolly aphis injures unseen the roots of the plant, and the aphis the young leaves; the latter may be kept under by fumigating with tobacco, and the former can be cleared off the roots at the time of potting, and kept away from the neck of the plants afterwards by dusting with powdered tobacco. If possible, the plants should now be placed on the north side of a wall. The new Auriculas did not generally show their true characteristics, but a notable exception was remarked in a good green-edged variety named Shirley Hibberd (Simonite), exhibited by the Rev. F. D. Horner; there are but two plants of it in existence, but as shown, it is certainly superior to the Rev. F. D. Horner, by the same raiser. Monarch is a good green-edge, which has been shown in better form. Charmer (Horner) is a remarkably distinct and handsome red self, far superior to Lord of Lorne, or even Mr. Simonite's Ariel. Grayling (Horner) gives evidence of being a really handsome and constant grey-edge flower.

Mr. A. J. Sanders exhibited Engineer, a good dark self; it was only a small seedling plant, but it won the 1st prize at the Auricula show, and a Floral Certificate at the Royal Botanic Gardens; the flowers are of a rich dark colour, and well-proportioned, circular, pure white paste.

Mr. Charles Turner, of Slough, exhibited Winifred, a first-rate white-centred Auricula, with plum-coloured shaded edge; this, and Toujours Gaie, from Mr. J. Douglas, a variety of the same type, obtained Floral Certificates at the Royal Botanic Gardens. The progress in the raising of seedling Auriculas of high-class quality is slow; a high standard of excellence has been reached, and every new variety that obtains first-class honours makes it more difficult to improve flowers of the class to which it belongs. There is yet plenty of room for improvement, but it can only be done by taking the very best varieties now in cultivation, and working from them.

The Tulip.

Not long after the bloom is over, it will be time to dig up the bulbs. When the petals drop, the seed-pods should also be broken off; if this is not done, the stem would remain green until the seed approaches the ripening stage, and the bulbs would thereby be much exhausted. Whenever the stem becomes so limp that it can be bent double without breaking, the bulbs may be lifted; this should be done when the ground is dry and the day fine, but the bulbs should not be left lying in the sun, as this is supposed to be injurious to them, but I have not observed any ill-effects of it when they have been left for a few hours only, or during the time of lifting the bulbs. I have observed that most of the Tulip fanciers are growing a larger number of breeder Tulips, that is, the self-coloured form of the Tulip. Messrs. Barr & Son had long beds of selfs in their grounds at Long Ditton, and Mr. Barr senior believes that the self form of the Tulip will be the more popular type with the general public. The beautiful tracery of flame and feather requires careful inspection, and flowers with these markings do not

so promptly arrest attention as the selfs do; but those who take first to the selfs will soon be lost in admiration of the finely-feathered and flamed Bizarres, Byblœmens, and Roses. Mr. Barr has in his grounds representatives of every class, and it gives great delight to the fancier to study the intermediate gradations of flame and feather, between, for example, the feathered form of Bizarre, Masterpiece and the heavily flamed Duke of Devonshire and George Hayward. The breeder form of the Bizarre is in some instances a rather dingy-looking flower; but Goldfinder, a Lancashire breeder, is very lovely. Again, we have in the Byblœmen class, some very fine rectified varieties, and I think even a better range of colour than in the Bizarres. Mrs. Jackson, with snow-white flowers and purple-black feather and flame, is the most distinct in the class; although Talisman (hardy) has the properties of form and marking dear to the florists in greater excellence than any other. The lovely rose and rose-scarlet selfs are dazzlingly beautiful. Lord Derby and Annie McGregor are two of the best rose selfs. They are also beautiful in the feathered and flamed state. Those intending to form small collections of Tulips, should have a few of each of the classes. There are really nine well-marked divisions. The feathered and flamed Bizarres and the self state, the other two divisions of Byblœmens and Roses being defined in the same way. *J. Douglas.*

Societies.

ROYAL HORTICULTURAL.

May 9.—The show on Tuesday last was again a very fine one, and a large number of Certificates and Awards were given to new and interesting plants, which were present in greater quantity than usual.

Floral Committee.

Present: W. Marshall, Esq., in the chair; and Messrs. J. Fraser, O. Thomas, H. B. May, H. Herbst, C. F. Bause, C. T. Druery, G. Stevens, J Jennings, H. C. Leach, G. Nicholson, T. W. Girdlestone, G. Gordon, P. Barr, T. Baines, J. D. Pawle, G. Paul, H. Cannell, R. Dean, C. E. Shea, E. Mawley, H. H. D'Ombrain, J. Walker, C. Noble, C. E. Pearson, and H. Turner.

A nice miscellaneous group of plants was staged by Messrs. Cutbush & Son, Highgate, N., including a number of very well-flowered Heaths, some Caladiums, Genista Scoparius var. Andreana, a very fine pan of Leschenaultia biloba-major, some plants of Saxifraga pyramidalis, Palms, &c. (Silver Flora Medal).

Messrs. P. Barr & Sons, King Street, Covent Garden, had an extensive collection of hardy herbaceous cut flowers, and a collection of May-flowering Tulips. Both sections were exhibited well and in great variety, the collection taking up one side of the entire hall. Two Silver Flora Medals were granted, one for the Tulips, and another for the collection of herbaceous flowers.

A fine collection of new Roses in pots, and some boxes of cut blooms, were staged by Messrs. William Paul & Son, Waltham Cross, Herts. In pots were included Crimson Queen, Clio, Spenser, Danmarck, and Duchess of Albany (Silver-gilt Flora Medal).

A miscellaneous group of hardy flowering shrubs came from Messrs. James Veitch & Sons, Chelsea, including Rhododendrons and Azaleas in variety, Spiræa confusa, Prunus Pissardii, the best varieties of Acers, Cercis siliquastrum, Chionanthus retusus, Cytisus scoparius Andreanus, and some sprays of Viburnum plicatum. The cultivated form of this plant, in which all the flowers are sterile, was figured in our columns for July 29, 1876, p. 141. Both plants are beautiful flowering shrubs, and very decorative (First-class Certificate, and a Silver-gilt Flora Medal for the collection).

Messrs. E. D. Shuttleworth & Co., Limited, Peckham Rye, had a large miscellaneous group of greenhouse, stove, and hardy plants, including noticeable plants of Lilium Harrisii, Lælia purpurata, Hydrangeas, Ferns, Caladiums, Cypripediums, Dracænas, &c. (Silver Banksian Medal); also a collection of alpine and hardy flowering plants, including Pyrethrums, Centaureas, Narcissus, Ranunculus, Irises, Auriculas, &c. (Bronze Banksian Medal).

A fine collection of cut blooms of Rhododendrons and Azaleas were from Messrs. Paul & Son, Old Nurseries, Cheshunt. Some pretty seedling Rhododendrons, obtained from a cross between R. Fortunei and R. Mrs. C. Butler were shown, but received no award; also a number of Cannas in pots, one of which, Sophie Buchner, a very large-flowered variety, of intense scarlet, and of dwarf habit, received an Award of Merit (Silver Banksian Medal).

A very pretty group of Cannas, well grown, and edged with Spiræas, Ferns, &c., were sent by J. C. Tasker, Esq, Middleton Hall, Brentwood, Essex (gr., Mr. P. Perry), including Victor Hugo, F. Benary, fine dark crimson; Admiral Courbet, &c. (Silver Banksian Medal).

Two large boxes of cut Roses of excellent quality, and representing Tea varieties, were again sent by Mr. Frank Cant, Colchester (Silver Banksian Medal).

Another exhibit of cut Roses came from Mr. George Mount, Exotic Rose Nursery, Canterbury. Very good were The Bride, La France, Niphetos, Jean Ducher, and Catherine Mermet.

Mr. Charles Turner, Royal Nurseries, Slough, showed a plant of his new Polyantha Rose, Turner's Crimson Rambler; also sprays of bloom. This is a very free-growing and free-flowering variety of this section.

Messrs. Sander & Co., St. Albans, exhibited Dracæna Sanderiana, figured in these columns (p. 445), and received a First-class Certificate for same. It was also shown grouped together in a large pot or pan, in which it is a very graceful and decorative subject. Messrs. Linden, of the Horticulture Internationale, also showed a specimen of this plant under the name of D. thalioides foliis variegatis. A green specimen of the Sanderiana type was also shown under the name of D. thalioides, but the committee did not recognise this name, and a First-class Certificate was awarded to the variegated plant, subject to the plant being known by its correct name.

A First-class Certificate was awarded to Ulmus Wreedi aurea, some sprays of which were exhibited by Mr. Leach, gr. to the Duke of Northumberland, Albury Park. This is a very pretty and distinct variety. Some bloom of Pæonia Emodi came from Mr. Moore, Superintendent of the Botanical Gardens at Glasnevin, and received a Cultural Commendation, also a spike of Crinum latifolium.

H. J. Elwes, Esq., Colesbourne, Gloucestershire, sent blooms of Cyclobothra pulchella, a pretty yellow species; C. alba, and C. amœna, for which latter a First-class Certificate was awarded, subject to name being verified. The flowers are rosy-lilac, sepals and petals rather long and narrow, petals very much twisted, and are very hirsute; anthers white, and therefore conspicuous.

Mr. C. G. van Tubergen, Haarlem, Holland, sent flowers of Fritillaria Biliacea, F. biflora, F. montana, F. pyrenaica, and F. recurva. This last is a very pretty and distinct form; the flower is scarlet and orange, and the end of the petals recurve.

Some blooms of new Tree Carnations were sent by Mr. Wm. Smythe, Basing Park Gardens, Alton.

Mr. W. Gilbert, 1, Albert Terrace, Bishop's Waltham, sent a new Zonal Pelargonium, Beauty of Waltham, white with orange eye; and some Aquilegia Pearl Blancher. No award was made.

Messrs. H. Cannell & Sons, Swanley, showed some new Begonias. An Award of Merit was granted to B. R. B. Parsons, a large double Pink of good habit; and to Hector, a bright double scarlet. There was also a large number of cut blooms of both double and single varieties.

Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, had a dozen blooms of the fine new yellow Carnation, Pride of Great Britain, noticed in these columns last week; and E. A. Kirby, Esq., Kelsey Park, Beckenham (gr., Mr. Mark Webster), had a group of Myosotis in pots (Vote of Thanks).

Mr. J. Miller, gr. to Lord Foley, at Ruxley Lodge, Esher, brought a plant in flower of Hippeastrum solandræflorum. The scape was from 3 to 4 feet high, and the flower of this species is white, with a very long and narrow tube (Vote of Thanks).

Messrs. Jas. Veitch & Sons, Chelsea, obtained an Award of Merit for Phyllocactus Plato, a very showy and pretty variety, flowers very large, and bright scarlet. The plant was in a 7-inch pot, and had several buds upon it. Also a First-class Certificate for Tillandsia leodiensis, a good pan of which was bearing five spikes of bloom. The base of the bracts is bright scarlet, falling to greenish-yellow at the apex; it is a very showy species. Also a First-class Certificate for Magnolia hypoleuca, a single white species.

Messrs. Charlesworth, Shuttleworth, & Co., Heaton, Bradford, were granted a First-class Certificate for Bilbergia sanguinea.

A First-class Certificate was also awarded to a single white Rhododendron named Helène Schiffner, exhibited by M. J. T. Seidel, nurseryman, Striesen bei Dresden. The blooms are not large, but the trusses are very compact, and the plant has a nice habit; the flowers are pure white.

The Hon. E. H. Ellis, Bucks, sent two plants in flower of Kæmpferia rotunda.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. J. O'Brien (Sec.), De B. Crawshay, T. Statter, S. Courtauld, T. B. Haywood, F. Sander, H. Williams, A. H. Smee, J. Douglas, J. T. Gabriel, C. J. Lucas, W. H. White, E. Hill, J. Jaques, C. Pilcher, Hugh Low, H. M. Pollett, and H. Ballantine.

A small group of select Orchids was contributed by Messrs. F. Sander & Co., St. Albans, among the things specially noteworthy being the fine forms of Cattleya Mossiæ, some new Cypripediums, including C. Victoria Mariæ of the C. Chamberlainianum section, but lacking the rose spotting on the pouch; Oncidium leucochilum nigrum, a nearly black-spotted form of the type; a grand plant of the crimson Aërides Savageana; the violet Utricularia longifolia, the members of which family are usually staged with the Orchids; a noble purple Sobralia macrantha, Epidendrum atro-purpureum Randii, Scuticaria Hadwenii, Lælia elegans, Odontoglossums, &c.

W. F. Darnell, Esq., Devonshire House, Stamford Hill (gr., Mr. W. Davies), showed a group of Orchids, tastefully arranged with light foliage plants, and made up chiefly of varieties of Lælia purpurata, Cattleya Mendeli, C. Skinneri, Miltonia Roezli, Dendrobium thyrsiflorum, &c. (Silver Flora Medal).

Messrs. Pitcher & Manda, The United States Nurseries, Hextable, Swanley, Kent, staged an extensive group of Orchids, in which the great variety in the forms of Cattleya Mossiæ, of which there were many, was remarkable. Among other Cattleyas was the pretty C. Luddemanniana concolor, almost wholly of a soft rose-pink, and there were also several good examples of Lælia purpurata, Phalænopsis, Odontoglossums, &c. (Silver Banksian Medal).

Thos. Statter, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson), showed a splendid form of Dendrobium Bensoniæ album, much longer in the flower than any hitherto shown (First-class Certificate).

Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr., Mr. Murray), showed Cattleya × Harold (Warscewiczii ♂ × labiata Gaskelliana ♀). It bore distinct traces of C. Warscewiczii, which in many respects it resembled (Award of Merit).

Messrs. Hugh Low & Co., The Nurseries, Clapton, exhibited Lælia purpurata Lowiana, in which the labellum is of a dark purplish-maroon, and very fine and distinct (Award of Merit).

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr., Mr. S. Cooke), showed Odontoglossom crispum var. De Barri Crawshay; a noble flower, heavily spotted with reddish-brown, and well worthy to rank with the best (Award of Merit). Mr. Crawshay also showed two other fine Odontoglossums in O. crispum Miss Florence Bovill and O. c. guttatum.

Major-General Berkeley, Bitterne, Southampton, showed the fine old Dendrobium sulcatum, D. transparens album, D. hercoglossum, and Galeandra nivalis.

Charles Rickman, Esq., Springfield, sent Cypripedium × Charles Rickman (barbatum var. × bellatulum), a variety closely resembling C. × Lawrebel (Award of Merit).

Messrs. Jas. Veitch & Son, Royal Exotic Nursery, King's Road, Chelsea, showed Dendrobium × Mentor (superbum ♂, primulinum ♀), with pretty light rose flowers; and a plant of their beautiful Lælio-Cattleya Hippolyta (Lælia cinnabarina ♂, C. Mossiæ ♀), with fine Indian-yellow and crimson flowers.

T. B. Haywood, Esq., Woodhatch, Reigate (gr., Mr. Salter), sent a spike of Epidendrum Schomburgkii.

W. Thompson, Esq., Walton Grange, Stone, Staffs. (gr. Mr. W. Stevens), sent spikes of two fine and dissimilar forms of Odontoglossum triumphans.

Messrs. Charlesworth, Shuttleworth, & Co., Heaton, Bradford, showed Oncidium macranthum, Charlesworth's variety, in which the fine flowers had brownish sepals and violet lip; also O. serratum, and a curious little Odontoglossum from Peru.

Chas. L. N. Ingram, Esq., Elstead House, Godalming (gr., Mr. T. W. Bond), showed Cypripedium

striatum×, and a C. niveum× resembling C. Tautzianum.

A. J. Hollington, Esq., Forty Hill, Enfield (gr., Mr. E. Ayling), exhibited a fine form of Cypripedium×Evenor (Argus ♀, bellatulum ♂), with pale yellow flowers, profusely dotted with purple. Stephen White, Esq., Oakwood, Crayford, Kent (gr., Mr. A. Tomlin), sent a fine spike of Cyrtopodium Andersonii var. cardiochilum; and R. Brooman-White, Esq., Arddarroch, Garelochead, N.B., sent a curious form of Cypripedium concolor, with purple-striped sepals and petals.

Fruit Committee.

Present: Philip Crowley, Esq., in the chair; and Messrs. Jno. Lee, W. Wilks, T. F. Rivers, Harrison Weir, G. Bunyard, G. Taber, T. J. Saltmarsh, G. T. Miles, J. Wright, A. Dean, J. A. Laing, W. Bates, G. Reynolds, G. H. Sage, J. Hudson, G. Wythes, F. Q. Lane, J. Smith, R. Hogg, H. Balderson, and J. Cheal.

There was but little fruit exhibited on this occasion. Mr. E. Gilman, gr. to the Earl of Shrewsbury, Ingestre Hall, near Stafford, sent a dozen fruits of a seedling Melon named Ingestre Hybrid, the result of a cross between Hero of Lockinge and Countess. The fruits were all of good average size, of very decided yellow, and slightly netted; flesh white, and flavour good. This very pretty Melon received an Award of Merit, being the only award made by this committee.

Mr. Wythes, gr. to the Duke of Northumberland Syon House, Brentford, had a couple of dozen fine Brown Turkey Figs (Cultural Commendation). Also some bunches of Tomato Old Red, to show its free-fruiting and its early properties.

Mr. Leach, gr. to the same nobleman at Albury Park, had a collection of Lettuces, Leach's Winter White Cos and Tennis Ball, which were Culturally Commended. Mr. Leach also exhibited some varieties of Peas in the bine, to show their degrees of earliness. Autocrat, sown January 25, was a month later than Duke of Albany, and is just in bloom. Duke of Albany, put out of 3-inch pots on January 25, and has had no protection, had the Peas just formed. Chelsea Gem, sown on January 25, was ready for use on May 9, without any protection, but the pods shown were not particularly full.

Mr. E. Beckett, Aldenham House Gardens, Elstree, sent a box of Strawberries, British Queen, a very good sample; also a basket of good Tomatos, Reading Perfection. A few fine tubers of Potato Snowdrop were from the same exhibitor (Cultural Commendation).

Mr. T. W. Bond, gr. to C. Ingram, Esq., Elstead House, Godalming, Surrey, sent three Cabbages, Veitch's Earliest of All, with a note to the effect that they were sown on January 22, and were ready for use during the first week in May.

Mr. W. Iggulden, gr. to the Earl of Cork, Marston House, Frome, Somerset, sent a box of Strawberry Laxton's Noble, labelled outdoor Strawberries. The fruits were quite ripe, and highly coloured.

Lecture.

In the afternoon a lecture, entitled, "How to Solve Chemical Questions concerning the Soil," was delivered by Professor Cheshire. The lecturer commenced by pointing out the essential constituents of plants, but as oxygen and hydrogen are supplied in the form of water, and carbon, sulphur, magnesia, iron, &c., are generally present in sufficient quantities in the soil, it was generally nitrogen, potash, or phosphorus that were deficient, and it was always desirable to know exactly what the land stood in need of before applying any form of manure. Farmyard manure, the lecturer said, had been found to be exceedingly good, and it contained all the necessary elements, and was therefore a good manure to apply when in ignorance of what was really wanted; but, after all, as the land would probably be deficient only in one or two elements, it was not the most economical method to always apply the same manure, especially when that manure may contain other ingredients in far larger proportion than the desired ones, and which in some cases were actually harmful to the soil, because it contained that constituent in large proportion already. The best way was to determine just what was required by certain soils to grow certain crops, and then to supply that manure in as pure a form as possible, and not in association with other substances which would be equally valuable in lands that required them. The lecturer spoke of the solubility of the different elements of the soil, and said that in the past, when farmers or gardeners sent samples to the analyst the samples were subjected to strong acids, and everything in the soil was made soluble, the report to the gardener afterwards sent, stating not the amount of matter in the soil available to the plants, but the entire quantity contained in the soil, some of which would require fifty years of weather and tillage to bring it into a soluble state. However, chemistry had advanced since then, and the analyst would now send his report as to the amount of available matter, and also as to the amount of dormant matter which may possibly become available in the future. The lecturer then went on to speak of the difficulty of supplying land with nitrogen, and said that combined nitrogen could not be bought much less than £20 a ton, and then explained the discovery that has of late been made as to the capacity of leguminous plants to abstract nitrogen from the atmosphere by the agency of the nodules on the roots. The lesson which was to be learned from this was, that the cheapest and best way of keeping land supplied with sufficient nitrogen was to grow frequently crops of some Leguminous plant, and the part of the plant which is not required for the crop should be afterwards turned in, thus securing the combined nitrogen that has been taken from the atmosphere. The haulm of Peas and of other such plants should never be thrown away or burned.

Professor Cheshire afterwards gave some practical hints how to test a soil in order to see what constituent necessary to the crop desired is lacking. If a leguminous crop was intended, some French Beans could be sown in four pots. In one pot would be ordinary soil without any added manure whatever, and in another the same soil with potash added, and another with phosphorus added, and another with both of the manures added. It might easily be seen from the result of this which ingredient the soil was short of. It was not likely that a member of this order would require anything else in greater quantity than is possessed by most soils. In regard to plants belonging to any other order, they could be tested in a similar way, but nitrogen would also have to be tried in this case. Each manure should be tried separately, and in conjunction with each of the others, and the whole together also, when the result would be scientifically correct.

NORFOLK AND NORWICH HORTICULTURAL.

May 4.—The above Society, which claims to be the second oldest in the kingdom, having been established in 1830, held its spring show on the above date in St. Andrew's Hall, Norwich. In the Anemones and Narcissi the flowers were, owing to the season, pale in colour; and as to Narcissi, varieties which one looks for in the middle of May, were staged to make up a box of twenty-four varieties, notable among which were N. poetarum, Rev. J. B. M. Camm, and Bessie.

The Orchids were a fairly flowered collection, the 1st prize for six being taken by Canon Ripley, whose gardener, Mr. Reed, staged well-flowered plants of Dendrobium infundibulum, Masdevallia Harryana, Phaius Wallichii, Cattleya Mendeli, Odontoglossum triumphans and O. Pescatorei. The 2nd was secured by Col. Rous, who had two varieties of Chrysis, Odontoglossum cordatum and O. crispum, a fair Dendrobium thyrsiflorum, and a Cattleya Mossiæ, with a finely-coloured lip.

In the class for three, the 1st fell to E. F. Trafford, Esq., Wroxham Hall, the most noteworthy plant being a well-done Lælia purpurata; while Canon Ripley came a good 2nd.

Purely spring flowers were not largely shown; indeed, with the exception of a fine collection of Auriculas, not for competition, staged by the Borough member, J. J. Colman, Esq., which contained some good green-edged and self-flowers, and a large tableful of good seedlings, contributed by Mr. G. Daniels, there was nothing worthy of special notice. Tulips were bad and rough—indeed, nothing but early Dutch kinds; but two exhibits of species were very good, viz., T. retroflexa and T. monstrosa, shown by Mr. Carder. Narcissi, twenty-four varieties, Mr. Edmonds, of Caister, a good 1st; Miss Spurrell, 2nd; the latter lady securing 1st in the smaller class for six varieties.

The only remarkable lot of foliage plants was staged by Mr. H. Trevor, who had clean well-done plants of Cycas revoluta, C. Normanbyana, and Pandanus utilis, crowned by a grand piece of Phœnix reclinata on the upper stage.

Flowering plants are very mediocre, but a good Trachelospermum jasminoides, shown *au naturel*, was a very graceful and pleasing object, and deserved the premier award, which Mr. J. G. Snelling secured with it. A feature in one stand of cut flowers, which secured an extra prize, was the Streptosolen Jamiesonii, not often exhibited.

Primulas in variety were shown in pots and as cut flowers, the lovely Japanese section, Cortusoides, and Sieboldi varieties, being very attractive, T. Barrett Lennard, Esq., taking an extra prize with a small but well-done collection.

Vegetables were good, especially the Asparagus and early Potatos, and the hard fruits, in good condition. The Strawberries, as might be expected, were noteworthy, especially so some examples of new varieties raised by the gardener at Gunton Park, Mr. Allan, the best being a fruit resembling Waterloo in colour, but of Pine shape, named Lord Suffield; the other two kinds being Empress of India and Gunton Park, already certificated by the Royal Horticultural Society. Mr. Allan also staged a vase, which was unique in the blending of autumn and spring, containing cut flowers of Anemone Alboroughensis and Chrysanthemums, two late-flowering Japanese varieties.

NURSERY NOTES.

MR. A. WATERER'S, KNAP HILL.

A few days since we embraced the opportunity of calling upon Mr. Anthony Waterer at Knap Hill Nurseries, near Woking, so well known as a grower of Rhododendrons, Azaleas, Conifers, and all kinds of ornamental and forest trees. Had it been a fortnight later the show of bloom Mr. Waterer would have been able to have shown us would have been very much more abundant than at present, for, speaking generally, the Rhododendrons had not commenced to flower, although exceptions to this were occasionally met with, which were literally alive with colour, and served to enable one to picture the general effect produced in the long avenue when the many thousands of plants will be equally as gay as are the few that are blooming now. It was, nevertheless, quite easy to realise what kind of a show will be seen by the visitors to the nursery at Whitsuntide, or shortly afterwards, for the buds are plump, and on the point of bursting, and the greater part of the bushes have a wealth of such that is not often surpassed. In addition to this, they present a most healthy appearance in foliage and stem, and there is little doubt but that this season they will be quite equal to the average.

The Azaleas are more forward, for they had already created a wonderful variety of colours and shades. Some of the hybrids that have been raised at this establishment are of the most delightful tints, and many of them show a decided advance in size of flower, and also in the substance of the petal. Particularly pleasing to us were some of the yellow and orange-yellow varieties, a section which appears to be very largely represented. Then there are the double varieties, and these in most colours, but particularly in pink, yellow, and white. These hybrid Azaleas are a family of themselves, whose origin has been in the garden, for the hybridiser has freely crossed the A. mollis, A. pontica, and the Ghent Azaleas, with each other, until all that can be said of them is that they are hybrids. Some scarlet crosses of good colour and large blossoms will undoubtedly become very popular. None of these crossed Azaleas raised at the Knap Hill establishment receive names, Mr. Waterer holding rather strong opinions as to the practice of naming crosses of any plant, which through extensive hybridising is constantly being surpassed, and which are not sufficiently distinct to be readily recognised by the ordinary gardener. He, therefore, prefers to sell them as seedlings.

Apart from the Rhododendrons and Azaleas, there are plenty of attractive trees and shrubs in these

large nurseries. Many of the species of Coniferæ are represented by large and handsome specimens, and some of the oldest and seldom-seen flowering shrubs find a place amongst those more generally met with.

Close to the office we were interested in a double Wistaria sinensis, which has been planted at the foot of a tree of Laburnum alpinum, and which it has climbed over. The Laburnum was in full bloom, and the yellow racemes were hanging amidst a profusion of Wistaria racemes. This double form has racemes quite as long as the single one produces, and the flowers are of the same colour, and equally fragrant. The Thorn was also very pleasing, and appears to be more than usually floriferous this season, as well as being a month earlier than usual. The White, Red, Double, and Weeping forms, are all represented, this latter variety being especially graceful, as seen from a short distance. The Golden Oak, too (Quercus concolor), is a very distinct and ornamental subject for the park or grounds, where the Purple Beech will be equally attractive. The weeping variety of this latter seems difficult to keep in character; however, there were several specimens here that promise fairly well to maintain the drooping habit. The Lilacs appear to have done badly this season, either frost or drought having injured them, and but little bloom is being produced. Mr. Waterer attributes the cause to frost. On the contrary, Chestnuts are more than usually good, the flowers large and strong, and of great profusion. Mr. Waterer has a plantation of an improved red variety; from one plant which happened to be carrying bloom, it was easy to see that the colour is much darker than the ordinary one, but it is possible it may prove to be a shy bloomer. The groups of Pyrus are in full bloom, including amongst others, the Pyrus Maulei, P. Simoni, a fine dark crimson one; and Knap Hill Scarlet, a handsome large-flowering variety of bright scarlet.

A good batch of the handsome Cytisus scoparius Andreanus was in one of the houses, looking gay with their abundant flowers.

Rhododendron præcox, of the beauty of which there is but one opinion, has been but little use here. The frost had spoiled them before they were well out. It should be afforded shelter where grown in the open, and it is wished to avoid disappointment. R. ciliatum, plants of which have been outside for some years, have been killed this season also by frost. Azalea mollis and sinensis had also been injured, scarcely a bud remaining that was good. The long continued drought has been prejudicial, but no serious injury has been occasioned, as plenty of water is obtainable here, and Mr. Waterer has had all available hands engaged in watering by means of horse water-carts, and by a fire-engine. This by no means exhausts the interesting features of Knap Hill, but our space will not allow us to linger further, even in such a lovely spot, where but a short time ago we had escaped from the smoke, and were listening to the songs of the lark, the cuckoo, and the nightingale, all in the space of a few minutes. Many thousands of people go to see the Rhododendron show annually, and we are sure it must afford them, as it did us, a very enjoyable and interesting visit.

Mr. A. Knowles' Daphne Cneorum.

A few days since, when we called at the nursery of Mr. Arthur Knowles, at Horsell Birch, there was a very good display of this pretty little plant. It has always given considerable trouble to cultivators, and in this respect it appears to be a little exceptional here. About 2500 plants are raised and disposed of each year, and Mr. Knowles informed us that he could dispose of a greater quantity if he had them. The hot, dry weather has not been very congenial to them, and when in the blazing sun, the flowers appear not half so well as when in the shade.

Most of the plants had been raised by layering, and appeared to be doing fairly well. Mr. Knowles has been working up for some years a variety which he describes as a sport, and which was taken, in the first instance, from a shoot that showed considerably more vigour than did the rest of the plant. He claims that the constitution of the sport is stronger, that the leaves are a little larger, and that it blooms twelve days later than his other and older stock, which he cultivates under the name of Daphne Cneorum major.

Forestry.

The Eastern Plane
(Platanus orientalis, L.).

This tree I find in many parts of the country is often confounded with the great Maple or Sycamore, which is called the Plane tree. The Sycamore, Acer Pseudo-platanus, is a thoroughly hardy tree, which reproduces itself from seed on the spot, and is valuable in every sense of the word, but the Plane tree proper is generally considered by far the best tree for embellishment, on account of its rich green foliage, which retains its colour till the autumn. It is indigenous to the east of Europe, west of Asia, and other parts, where it is said to attain a large size, and when planted in this country, on a good loamy soil, mixed with alluvial deposits or organic matter, so as to attract and retain moisture, it yields to no other deciduous tree for planting as specimens in the park or on the garden-lawn. I should, however, mention that, in some parts of the country, it is apt to be occasionally seared by late spring frosts, which seem to be its principal drawback in this country. It was introduced into Great Britain about the middle of the sixteenth century, and although it has never been planted to a large extent, yet there are some grand specimens to be found in different parts of the country; some of the best which I have ever seen are growing in rich loamy soil in the south of England. Young trees in a healthy progressive state of growth often produce leaves some 12 inches broad by about 10 inches long; and as these are finely lobed, palmate, and the divisions lanceolate, they impart to the tree an attractive well-clothed appearance. As the tree, however, advances in growth and age, the leaves gradually become smaller, but they retain their verdant colour. It generally produces its flowers in May, and in favourable seasons matures its seeds in October. These are contained in round cottony balls, which hang suspended from the branches and twigs, and are very ornamental. Sometimes the Plane is propagated from seed, and sometimes from layers, in a similar manner as the Lime. In spring the balls containing the seed should be broken up, and the seed extracted, and sown broadcast on rich friable ground of a free, open texture, formed into beds 4 feet in width. The seed should be pressed on to the surface with the back of a spade or light wooden roller, which is all the covering they require. March, or early in April, is the best time for sowing the seed, and should the weather continue dry for any great length of time, it is advisable to cover or shade the surface of the bed with evergreen branches or spray, to promote germination. During their nursery career, the plants or young trees should be frequently transplanted, in order to promote the formation of sturdy well-furnished stems and bushy roots, which will prove beneficial for the growth of the trees when planted out where they are to remain. When the plants or young trees produce a plurality of shoots at the top, which is not unfrequently the case, these should be cut off or cut back, as the circumstances of the case may suggest, leaving the strongest and most central for the leader. Any pruning that the trees require, had better be done about the month of August, when the descending sap will soon form a cicatrix, and the wound heal up without any injurious effect whatever. When the trees are well handled in this way in early life, the tops are of a uniform well-balanced shape, and not apt to be ruptured by wind during a storm; therefore, let me impress upon the mind of the planter the utility of early training. Of all the deciduous trees suitable for the climate of this country, there is none perhaps more suitable for planting in streets and smoky districts about large towns, where the air is contaminated with noxious vapours, than the Plane tree, and if the trees have been well prepared in the nursery, they can be planted out with safety after they attain a good size, which is also a recommendation in their favour. The genus, however, comprehends another species than that of the former, viz., the great Western Plane (P. occidentalis, L.), which is a native of North America, and was first introduced into this country about the year 1630, and what I have said regarding the former species, may be applied here with advantage. The contour of the tree is not unlike that of the oriental species, but rather more spreading, and the branches and twigs exhibit rather more of a curved or zigzag appearance than the former species; these are well clothed with leaves of a large size, angled, lobed, the upper surface of which is of a glossy green colour, while the under surface is slightly covered with down. In its native habitat it is said to attain a large size, and in this country specimen trees are recorded to have attained a height of about 100 feet in seventy years. When planted in suitable soil, and in genial situations, the tree forms a dense canopy of verdant foliage, which renders it highly suitable to form a shade or screen for promenades, and other places where shade and shelter is desirable during the heat of summer. The bark on the stems and limbs of both species is apt to become detached in spots here and there, and fall to the ground of its own accord. In places where it is desirable to plant these trees on clay soil, or hard inorganic matter, the ground should in all cases be well broken up by trenching previous to planting; and in cases where the soil is of a poor thin texture, a little fresh soil, rich in organic matter, may be mixed with the staple, to give the trees a good start. By a little painstaking in this way, the trees may be planted with success in soil of a poor thin character. *J. B. Webster, Fairview, Stangmore, Dungannon.*

Trees and Shrubs.

Ontario Poplar.

As showing the quickness of growth of even this well-known quick-growing Poplar, I may mention that when making an addition to our parish churchyard (Kirkby Wharfe) in 1883, it was necessary to plant a screen on one side, to shut out some ugly buildings then there; and a row of Limes and Poplars was planted, the latter to be removed in due time. We have done this to-day. The average height of the six was 29 feet, and average girth at 3 feet, 30 inches, thus providing material for a good stout fencing post 6 feet long, and a stout rail 9 feet ditto, in ten years. One of the annual rings was ¾ inch in diameter in the largest tree. *H. J. C., Grimston.*

Acer Miyabei.

In the number of *Garden and Forest* for March 29 is a figure of this recently-discovered Japanese Maple. It is closely related to the Norway Maple, A. platanoides, and was described by the late Russian naturalist, Maximowicz, in *Melanges Biologique*, xii., 725. Professor Sargent tells how he came upon the tree by accident during the detention between the arrival of one and the departure of another train. Seeing a small grove of trees, he walked towards it, and there, amongst a quantity of A. pictum, he found a number of fine trees of A. Miyabei, covered with fruit, and surrounding the house of an officer of the Imperial Forest Department, who had been living for years in entire ignorance of the fact that he was enjoying the shade of one of the rarest trees in Japan! Professor Sargent obtained a quantity of seed sufficient to make the tree common in American and European gardens.

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees — a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending May 6.	Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1893.	Below 42°, difference from Mean since January 1, 1893.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1893.	Total Fall since Jan. 1, 1893.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1893.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	2 +	44	5	+ 168	— 32	3 —	81	15·2	22	25
1	1 +	45	6	+ 137	— 9	3 —	65	7·2	30	32
2	3 +	52	0	+ 175	— 58	2 —	53	5·2	40	37
3	3 +	64	0	+ 238	— 28	4 —	55	5·3	50	43
4	5 +	76	0	+ 310	— 40	3 —	53	5·2	48	41
5	4 +	82	0	+ 248	— 42	4 —	51	6·0	56	44
6	3 +	57	0	+ 198	— 55	3 —	67	11·6	29	34
7	4 +	74	0	+ 270	— 88	2 —	56	7·2	41	35
8	5 +	82	0	+ 294	— 68	5 —	53	9·2	57	46
9	4 +	72	0	+ 194	— 99	1 —	69	9·4	18	29
10	5 +	87	0	+ 235	— 97	3 —	60	10·0	27	34
*	4 +	92	0	+ 346	— 52	5 —	59	7·6	81	51

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.: 3. England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; * Channel Islands.

THE PAST WEEK.

The following summary record of the weather for the week ending May 6, is furnished from the Meteorological Office:—

"The *weather* was somewhat unsettled in the west and north during the earlier part of the week, and rain was experienced in those regions almost daily. In the south and south-east, however, although the appearance was less fine than of late, the conditions, except in a few localities, remained dry. Towards the end of the week the weather again became fine, dry, and settled over the entire kingdom.

"The *temperature* continued above the mean, the excess ranging from 1° in 'Scotland, E.,' and 2° in 'Scotland, N.,' to 4° or 5° in most other districts. The highest of the maxima were registered either on the 4th or 5th, when they ranged from 80° in 'England, S. and S.W.,' and 77° in 'Scotland, N. and the Midland Counties,' to 70° in 'Scotland, W.' The lowest of the minima were recorded during the earlier days of the week, and varied from 27° in 'Scotland, N.,' and 28° in 'Scotland, E. and the Midland Counties,' to 36° or 37° in the western and southern districts.

"The *rainfall* was again less than the mean in all parts of the kingdom. Over eastern, central, and southern England, the fall was extremely slight, and in some localities there was no fall whatever; in Ireland, Scotland, and the north-west of England, the fall amounted to two or three, and in 'Ireland, N.,' to four-tenths of an inch.

"The *bright sunshine* shows a general decrease on that reported of late; owing to the cloudiness during the earlier part of the week in Ireland and Scotland, the aggregate was less than the normal. The percentage of the possible duration ranged from 18 to 27 in Ireland, from 22 to 30 in Scotland, and from 41 to 57 in England. In the Channel Islands, however, the percentage was again as high as 81°."

MARKETS.

COVENT GARDEN, May 11.

[We cannot accept any editorial responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. Ed.]

Little or no alteration from last week. The exceptionally fine spring has completely glutted our market with hothouse goods, prices keeping very low. *James Webber, Wholesale Apple Market.*

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Arums, dozen pots	8 0	12 0	Lilium Harrisii	18 0	30 0
Azalea, per doz.	18 0	24 0	Lily of the Valley, 12 pots	9 0	15 0
Adiantum, per doz.	6 0	12 0	Lobelia, per doz.	5 0	8 0
Aspidistra, per doz.	15 0	30 0	Marguerite, per doz.	6 0	12 0
— specimen, each	7 6	21 0	Mignonette, doz. pots	5 0	9 0
Cineraria, per doz.	6 0	9 0	Nasturtiums, p. doz.	4 0	8 0
Cyclamen, doz.	9 0	18 0	Palms, various, each	2 0	10 0
Cyperus, per dozen	4 0	10 0	— specimens, each	10 6	84 0
Dracæna, each	1 0	5 0	Pelargoniums, p. doz.	8 0	15 0
Erica, various, doz.	9 0	21 0	— scarlets, p. doz.	4 0	9 0
Ferns, various, doz.	4 0	9 0	Primula sinensis, doz.	4 0	6 0
Ferns, small, per 100	5 0	8 0	Saxifrage, per doz.	12 0	18 0
Ficus elastica, each	1 6	7 6	Spiræ per dozen	8 0	12 0
Genista, per doz.	6 0	9 0			
Ivy Geraniums, doz.	6 0	9 0			

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Arum, per doz. bl.	1 0	3 0	Orchids:—		
Azalea, dozen sprays	0 6	0 9	Cattleya, 12 blms.	6 0	12 0
Bouvardias, per bun.	0 6	1 0	Odontoglossum crispum, 12 blms.	2 0	6 0
Carnations, 12 blms.	1 0	3 0	Pelargoniums, scarlet, p. 12 bun.	4 0	6 0
Kucharis, per dozen	3 0	4 0	— 12 sprays	0 6	0 9
Gardenias, per dozen	1 0	3 0	Polyanthus, 12 bun.	2 0	4 0
Heliotropes, per doz. sprays	0 4	0 6	Primulas, dble. p. bun.	0 6	1 0
Lilac, French, per bunch	3 6	5 0	Roses, Tea, per dozen	0 6	2 0
Lilium Harrisii, doz.	2 0	4 0	— coloured, dozen	2 0	4 0
Lily of the Valley, doz. bunches	3 0	6 0	— yellow (Maréchals), per doz.	1 6	6 0
Maiden Hair Fern, 12 bunches	4 0	6 0	— red, per dozen	1 6	3 0
Marguerites, p. doz. bunches	2 6	4 0	— (French) p. doz.	0 9	1 6
Mignonette, 12 bun.	3 0	6 0	Spiræa, 12 bunches	3 0	6 0
Narcissus, various, French, doz. bun.	2 0	6 0	Tuberoses, 12 blms.	0 6	1 0
Myosotis, 12 bunches	2 0	3 0	Tulips, per doz. bun.	2 0	4 0
			Violets, small English, p. doz. bunches	1 0	1 6
			Wallflower, 12 bun.	2 0	3 0

Orchid-bloom in variety.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Apples, p. half-sieve	2 0	3 6	Grapes, per lb.	1 6	4 0
— Nova Scotia, per barrel	10 0	17 6	Lemons, per case	12 0	20 0
— Tasmanian, per case	2 6	12 0	Pine-apples, St. Michael	2 0	5 0
Cobs, per 100 lb.			Oranges, per case	20 0	30 0
			Strawberries, per lb.	1 0	3 6

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d.
Beans, French, lb.	1 6	2 0	Mushrooms, punnet	2 0	
Beet, red, per dozen	2 0	3 0	Mustard and Cress, punnet	0 4	
Carrots, per bunch	0 4	0 6	Parsley per bunch	0 3	0 6
Cauliflowers, each	0 3	0 6	Seakale, per basket	2 0	2 6
Cucumbers, each	0 4	0 8	Shallots, per lb.	0 6	
Endive, per dozen	2 0	3 0	Tomatos, per lb.	1 0	2 0
Herbs, per bunch	0 9	1 0	Turnips, per bunch	0 4	0 6
Lettuces, per doz.	1 6	2 0			

Potatos.

Trade for old Potatos is at a standstill. Best samples selling slowly, at 45*s.* to 60*s.*; ordinary, 30*s.* to 35*s.*

New Potatos.—Large arrivals; prices lower; only a limited demand. Malta Rounds, 10*s.* to 12*s.*; Kidneys, 12*s.* to 16*s.*; Teneriffe Kidneys, 10*s.* to 15*s.* *J. B. Thomas.*

SEEDS.

London: *May* 10.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report to-day's market thinly attended. The phenomenal drought naturally restricts present sowing orders. Red Clover-seed, however, is very firm at the recent advance; whilst likewise, also through scarcity, Alsyke, white, and Trefoil, all keep strong. Sainfoin appears about exhausted. For Tares there has lately been an improved request. Canary seed is steady; holders maintain that any change must be an upward one. Hemp seed is slow. For Rape seed more money is asked. For Mustard there is no alteration. The Board of Trade returns give the imports into the United Kingdom for the first four months of this year, as 173,276 cwt., value £434,510, as against 170,352 cwt., £382,666 for the corresponding period of 1892.

FRUITS AND VEGETABLES.

Borough: *May* 9.—Quotations:—Spinach, 2*s.* to 2*s.* 6*d.* per bushel; Cauliflowers, 1*s.* 6*d.* to 2*s.* per dozen; Greens, 5*s.* to 6*s.*; Parsley, 2*s.* 6*d.* to 3*s.* per dozen bunches; Carrots, 3*s.* to 3*s.* 6*d.*; Egyptian Onions, 6*s.* to 7*s.* per cwt.; Horseradish, 2*s.* 6*d.* to 2*s.* 9*d.* per bundle; Apples, 7*s.* to 12*s.* per case.

Spitalfields: *May* 9.—Quotations:—Cabbages, 3*s.* to 4*s.*; Cauliflowers, 6*s.* to 9*s.* per tally; Spinach, 1*s.* 6*d.* to 2*s.*; Beetroot, 1*s.* 6*d.* per bushel; Seakale, 1*s.* 3*d.* per punnet; Greens, 4*s.* to 5*s.*; spring Onions, 3*s.* to 4*s.*; Parsley, 4*s.* per dozen bunches; forced Rhubarb, 1*s.* 3*d.*; natural do., 2*s.* to 2*s.* 6*d.* per dozen bunches; Horseradish, 2*s.* 6*d.* per bundle; round Radishes, 9*d.* to 1*s.*; long do., 6*d.* to 8*d.* per dozen bunches; Endive, 1*s.* to 1*s.* 6*d.* per dozen; Cabbage Lettuces, 8*d.* to 10*d.* per dozen; Mustard and Cress, 2*s.* per dozen baskets; Egyptian Onions, 6*s.* per cwt.; Carrots, 50*s.* to 70*s.* per ton; Tasmanian Apples, 7*s.* to 10*s.* per box; American do., 18*s.* to 20*s.* per barrel.

Stratford: *May* 9.—There has been a good supply of all kinds of produce at the above market during the past week, and a brisk trade has been done at the undermentioned prices:—Cabbages, 5*s.* to 7*s.* 6*d.* per tally; Greens, 4*s.* 6*d.* to 4*s.* 9*d.* per pad; Cauliflowers, 2*s.* to 2*s.* 3*d.* per dozen; Carrots, household, 40*s.* to 60*s.* per ton; do., cattle-feeding 28*s.* to 32*s.* do.; Mangels, 18*s.* to 22*s.* do.; Onions, Egyptian, 5*s.* 6*d.* to 6*s.* 6*d.* per bag; Apples, American, 18*s.* to 24*s.* per barrel; Cucumbers, 2*s.* to 4*s.* per dozen; Onions, bunch, 3*s.* to 4*s.* per dozen; Radishes, 4*d.* to 1*s.* per dozen.

Farringdon: *May* 11.—Quotations:—Carrots, 60*s.* to 65*s.* per ton; Beetroots, 50*s.* to 60*s.* do.; Greens, 4*s.* 6*d.* to 5*s.* per pad; bunch Greens, 8*s.* to 10*s.* per dozen; Spinach, 2*s.* to 2*s.* 6*d.* per bushel; Cucumbers, 2*s.* 6*d.* per dozen; Asparagus, 1*s.* 6*d.* to 2*s.* per bundle; Egyptian Onions, 5*s.* 6*d.* per cwt.; Apples, Tasmanian, 9*s.* 6*d.* to 10*s.* 6*d.* do.; Pearmains, Sturmer Pippins, and French Crabs, 9*s.* 6*d.* to 10*s.* each per case; American Nonpareils, 17*s.* 6*d.* to 20*s.* per barrel.

POTATOS.

Borough: *May* 9.—Quotations:—English Magnums, 40*s.* to 70*s.* per ton. New, 10*s.* 6*d.* to 25*s.* per cwt.

Spitalfields: *May* 9.—New Potatos ranged between 12*s.* and 16*s.* per cwt.

Stratford: *May* 9.—Quotations:—Dark-lands, 30*s.* to 40*s.*; light-lands, 40*s.* to 66*s.*; Main Crop, 70*s.* to 80*s.*; Bruce's, 40*s.* to 70*s.* per ton.

London Averages: *May* 10.—Quotations:—Magnums, 40*s.* to 70*s.*; Hebrons, 50*s.* to 70*s.*; Imperators, 40*s.* to 60*s.*; Belgians, 55*s.* to 60*s.* per ton. New:—English, 2*d.* to 4*d.*; Jerseys, 1½*d.* to 3*d.*; Guernsey Kidneys, 2*d.* to 3*d.* per pound; Malta Kidneys, 12*s.* to 14*s.*; do. Rounds, 9*s.* to 10*s.* per cwt.

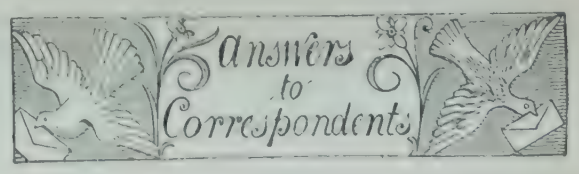
Farringdon: *May* 11.—Quotations:—Main Crop, 75*s.* to 80*s.*; Sutton's Abundance, 75*s.* to 80*s.*; Bruces, 60*s.* to 65*s.*; Magnums, 45*s.* to 50*s.*; Imperators, 45*s.* to 50*s.* per ton.

CORN.

Averages.—Official statement of the average prices of British corn, imperial measure (quarter) for the week ending May 6, and for the corresponding period last year:—1893: Wheat, 25*s.* 10*d.*; Barley, 23*s.* 11*d.*; Oats, 19*s.* 5*d.* 1892: Wheat, 31*s.* 6*d.*; Barley, 25*s.* 10*d.*; Oats, 27*s.*

HAY.

Averages.—The following are the averages of the prices at the various metropolitan markets during the past week:—Clover, prime, 80*s.* to 115*s.*; do., inferior, 70*s.* to 75*s.*; hay, best, 85*s.* to 115*s.*; do., inferior, 65*s.* to 75*s.*; and straw, 30*s.* to 45*s.* per load.



Correction: Cœlogyne Sanderæ (*vide J. E.*, last week) was not described by Dr. Kränzlin, though hearing he had proposed the name for the plant, his proposed name was adopted. "R. A. R." described it.

Crow Onion: *D. T. F.* This native plant, also called Crow Allium, Crow Garlic, is Allium vineale. It is said to be very near A. sphærocephalum, and perhaps only the bulb-bearing form of that species. It is not easily destroyed in land not under regular cultivation. The numbers might be lessened by forking the ground over whilst the tops are green, and throwing out the bulbs. Cutting off the flower-heads, which will soon be appearing, might do some amount of good.

Double Narcissus poeticus Blind: *A. P.* We are sorry to be unable to give the reason. With us the plant is invariably blind.

Exudation of Resinous Matter from Stone-Pine Needles: *H. J. C.* It may be due to injury from severe frost, insect-puncture, or perhaps from excess of moisture.

Gooseberry Shoots Disfigured: *W. G.* There is no trace of insect-life on the Gooseberry samples, save a solitary common scale, quite incapable of causing the mischief. The injury may be due to a rust-fungus, Æcidium grossulariæ; but kindly send other specimens for investigation.

Heckberry, also Hagberry, Hegberry, and Hecberry: *D. E. P.* The above are local names, mostly in use in the north country for Cerasus (Prunus) Padus, or Bird Cherry. These names are derived from the Anglo-Saxon *Hege*, a hedge = modern German, *Hecke*. This pretty half tree, with white blossoms, which appear in short racemes, will succeed as well in Berkshire or Wilts as in Westmoreland. It is deciduous. There are several varieties, as C. P. argentea, C. P. aucubæfolia, C. P. bracteosa, C. P. heterophylla, and C. P. rubra.

Insect: *F. H. E.* The fly sent has no connection with Cattleyas, and is harmless. *R. M. L.*

Lilac: *W. S., Sutton.* The prolonged drought is undoubtedly the cause of the unsatisfactory condition of the Lilac. We have seen numerous cases identical with yours. In favourable positions the plants have not suffered.

Names of Plants: *G. McKenzie.* 1, Tellima grandiflora; 2, Mitella pentandra; 3, Mitella diphylla; 4 Ruscus hypophyllum.—*F. K.* 1, Sericobonia ignea. Specimen very poor. — *Ripley Moss.* 4, Mnium hornum; 5, Hypnum commutatum.— *G. P.* 1, Sempervivum ciliare; 2 and 3, Pyrus arbutifolia, two forms; 4, Spiræa Blumei; 5, Geranium sylvaticum.—*Q. R.* Prunus Padus.—*F. C.* Menyanthes trifoliata, Bog-bean.—*R. R. P.* 1, Oncidium Cebolleta; 2, Schomburgkia rosea.—*Delta.* Maxillaria cucullata.—*T. F.* Ochna multiflora.—*J. M. Meath.*—1, Heuchera glabra; 2, Pulmonaria officinalis; 3, Ranunculus aconitifolius, fl.-pl.; 4, Trollius europæus; 5, Saxifraga rotundifolia; 6, Geum coccineum.—*J. U.* Dendrobium tortile.—*U. C. C.* 1, Lonicera Ledebourii; 4, Chærophyllum hirsutum. — *W. P., Epping.* Epimedium alpinum.—*J. E.* 1, Jasminum suavissimum; 2, Sisymbrium Sophia; 3, Pelargonium fumarioides.—*F. S. M.* Coccoloba platycladon.

Plum Disfigured: *D. T. F.* Frost is very probably the cause, or strong sunshine, the fruits being wet at the time. No fungus.

Sport from Pelargonium Madame Thibaut: *J. K.* So far as we can judge from the petals—for the bloom had fallen to pieces before it arrived—the sport is a desirable variety.

Sweet Cherries Dropping their Fruits: *J. T. L.* It may be a natural shedding, due to a too free set, or the trees in pots may have suffered from lack of moisture at the root, or been exposed to frosty draughts, but probably it is the first-named cause.

Communications Received.—Ransomes, Sims, & Jefferies, Limited.—E. J. L.—C. de B.—E. S. D.—The President of the Société Royale d'Agriculture et de Botanique, Gand.—W. Perring, Berlin.—Professor Engler, Berlin.—T. Meehan, Philadelphia.—Dutry Colson, Ghent.—A. D. W., next week.—H. F.—Captain Donnell Smith, Baltimore. — Alfred Cogniaux, Verviers.—Ed. André, Paris.—Professor Bertrand, Lille.—M. Micheli, Geneva.—G. T.—Expert.—E. J. L.—S. E.—R. A. R.—H. M.—M. T.—T. Bunyard.—H. H. D.—C. A. M. C.—W. Wood & Sons.—Vilmorin, Andrieux et Cie.—R. Laird.—J. B.—J. L. & Sons.—W. G.—T. S.—J. S. (next week).—J. D.—F. W. Seers, India.—C. B. Bedford.—H. F.

Specimens Received.—Jno. O.—W. Treseder.—Dorset.—W. R.—W. C.

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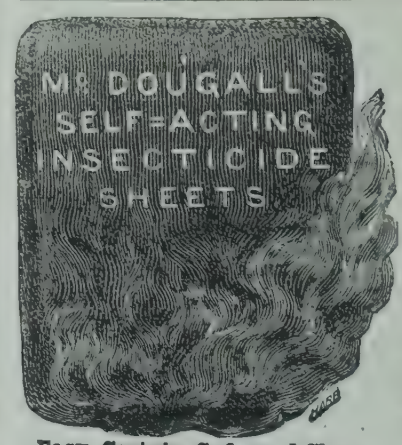

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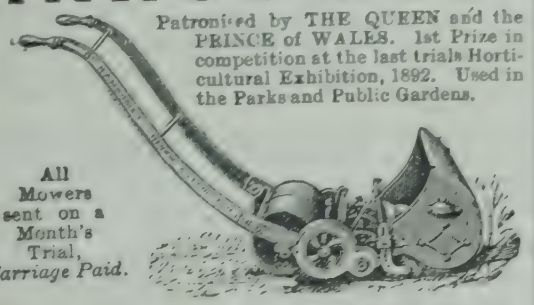

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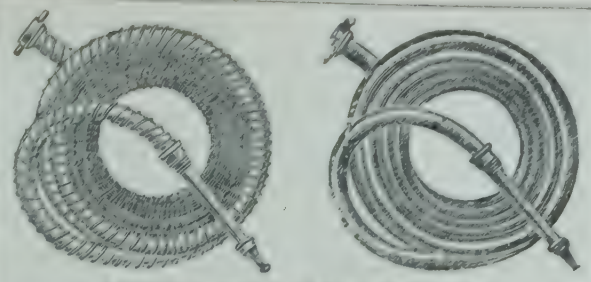

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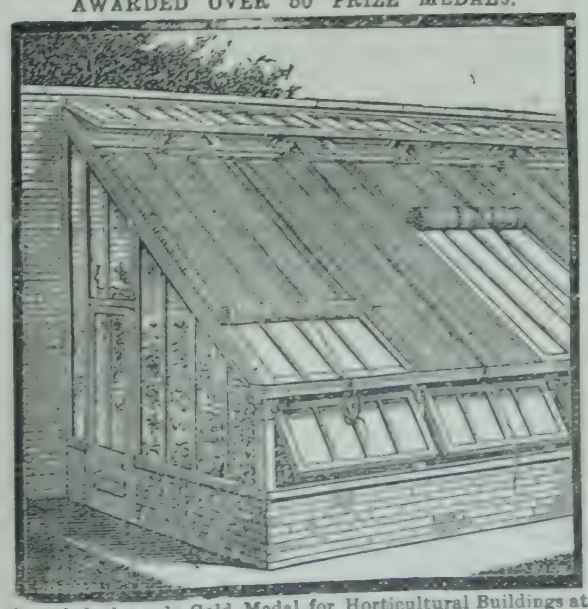

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MR. GEO. CLARK, Foreman to Mr. LAMBERT, Head Gardener to the Earl of POWIS, Powis Castle, as Head Gardener to the same nobleman, at Walcot Park, Shropshire.

Mr. JOHN HORSLEY, recently a Foreman at Wallingford Castle Gardens, Berkshire, as Head Gardener to E. J. TRENDRELL, Esq., The Abbey, Abingdon.

Mr. MICHAEL HOLDEN for the past five years Foreman in the Gardens of Dowager Marchioness of LANSDOWNE, at Meikleour House, Perthshire, as Gardener to La Madame DE LA VALETTE, Manor House, Market Lavington, Devizes.

Mr. A. INNES, as Gardener at Hallyburton, Angus, N.B.

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To MARKET GARDENERS and OTHERS.

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S. B. VARDES, Estate Agent, Cheltenham.

TRAVELLER.—An active energetic Representative REQUIRED by a well-established House, with an increasing connection, doing a good business in Hardy Plants and Bulbs, Dahlias, Chrysanthemums, Carnations, Herbaceous Perennials, &c. Exceptional opening for a first-rate man. None need apply whose character will not bear strictest investigation. — Write, stating age, and giving particulars of previous engagements, references, &c., to Y. S., *Gardeners' Chronicle* Office, 41, Wellington St., Strand, W.C.

WANTED, a GARDENER, for three Houses and Conservatory, comprising Vines, Stove, Greenhouse, and Bedding Plants, also Kitchen Garden, and a little Housework. Suburban. Married man preferred. Wages 25*s.* per week.—Address, G. W. STONE, 3, Arthur Road, Hyde Side, Lower Edmonton.

WANTED, a HEAD GARDENER (Scotch, and single man preferred), where four are kept. Must have a thorough knowledge of latest and most approved Horticulture, and been accustomed to Grow Fruit and Flowers for Shows. Wages dependent on qualifications.—Apply, ZETA, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, as GARDENER, a thoroughly steady respectable Man, to take charge of about 2½ acres of Flower and Kitchen Gardens, with Stove and Greenhouse; one Under Gardener kept.—Apply, with full particulars, to Mr. C. G. MOTT, Harrow Weald, Middlesex.

WANTED, a thorough WORKING GARDENER, up to his work in every respect as an all-round Gardener; specially good with Grapes, Peaches, Tomatos, Cucumbers, Mushrooms, Roses, and other Flowers. Eight Glasshouses, one acre Walled Kitchen, and usual Flower Garden.—State full particulars and wages, to W. A. GLYNN, Seagrove, near Ryde, Isle of Wight.

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WANTED, SEVERAL GARDENERS, who have had practice among Vines.—Apply personally, at Claigmar Vineyard, Church End, Finchley, N.

WANTED, a PROPAGATOR of Alpine and Herbaceous Plants. Wages to commence, 21*s.* per week.—Apply to BARR AND SON, Nurseries, Long Ditton, Surrey.

WANTED, a FOREMAN.—Must be well up in Stove and Greenhouse Plants, Vines, &c, especially Chrysanthemums. One preferred with some knowledge of Orchids. Age not under 24. Wages 19*s.* per week, and lodgings.—Apply to J. MINTON, The Gardens, Rawdon Hill, Arthington, Leeds.

WANTED, for the Houses, under an English Foreman, a steady active young MAN, with two or three years' experience, to assist in a good Market Nursery. Comfortable rooms provided on the premises.—State wages, age, &c., to SAMUEL McGREDY AND SON, The Nurseries, Portadown.

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WANTED, a young MAN, in the Houses, under the Foreman; from London Market Nurseries preferred.—J. WALTON, Florist, Eltham Road, Lee, S.E.

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WANTED, TWO active young MEN used to Market Nursery.—Apply, stating age and experience, to G. LANGE, Chambery, Hampton, Middlesex.

WANTED, a good HANDY MAN, for a Gentleman's Estate, to do Painting, Glazing, Rough Carpentering, &c. Good wages. — Apply, F. DEBNAM, Spring Grove Gardens, Isleworth.

WANTED, a smart active young MAN, for Pleasure Grounds. Wages, 17*s.* per week, milk, &c. —References, &c., to W. J. EMPSON, The Gardens, Ampthill House, Ampthill, Beds.

WANTED, an IMPROVER, under Glass, in a large Nursery, to assist under the Foreman. Must be energetic and trustworthy. Where he will have every opportunity of gaining a thorough knowledge of the business. References must be very satisfactory. State age, and wages expected.—Apply to PETER R. BIRKS, Woodhouse Nurseries, Sheffield.

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WANT PLACES.

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The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. *on Wednesday will, in all probability, be held over to the next week.*

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GARDENER (HEAD WORKING); aged 35, married.—The Hon. F. H. BARING would be pleased to recommend advertiser, with twenty years' experience, and is thoroughly competent in all branches of Gardening.—J. SHEPHARD, 1, North Hill Avenue, Highgate, N.

GARDENER (HEAD WORKING).—Age 27, married when suited. Thoroughly experienced in all branches of Gardening. Excellent character.—GARDENER, Home Farm Cottage, Langley, Slough, Bucks.

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GARDENER (HEAD WORKING, or good SINGLE-HANDED); age 32, single.—Mr. FORD, Gardener to Sir Charles Pigott, Bart., Wexham Park, Slough, is desirous of recommending to any Lady or Gentleman, requiring the same, a thorough practical man as above.

GARDENER (HEAD WORKING); age 32, married.—LADY FRERE can highly recommend her Gardener to any Lady or Gentleman requiring a good trustworthy man; well up in all branches. Good testimonials. Three years' excellent character from present employer.—E. TURNER, Wressil Lodge, Wimbledon Common.

GARDENER (HEAD WORKING).—Age 30; recommended as a good and competent Gardener. Character will bear strictest investigation.—A. BOOKER, 8, Hadlow Place, Anerley Road, Upper Norwood, S.E.

GARDENER (HEAD WORKING).— Mrs. McCONNEL will be pleased to recommend her Gardener where more are kept. Age 28, married, two children. Fourteen years good all-round experience; three as Head.—W. PRATT, Compton's Lea, Horsham, Sussex.

GARDENER (HEAD WORKING), where not less than three are kept.—Fourteen years' experience. Excellent character. Good previous testimonials. Abstainer. —WELLS, Magnolia Cottage, Tooting Bec Common, Streatham, S.W.

GARDENER (SINGLE-HANDED, or where help is given).—Age 31; life-experience in Vines, Melons, Cucumbers, Stove and Greenhouse Plants, Flower and Kitchen Gardens; also Land and Stock. Good character from previous employers.—A. W. MEECH, 5, Alma Place, Thornton Heath.

GARDENER (SINGLE-HANDED, or otherwise). —Good personal character; willing to be useful.—G., 24, Elspeth Road, Lavender Hill, S.W.

GARDENER (SINGLE-HANDED, or where help is given) —Age 27; experience in Flowers, Fruit, and Vegetables. Four years' good character from last place. —W. KEEN, 1, Ebenezer Cottages, Grange Road, Willesden Green, N.W.

GARDENER (SINGLE-HANDED, or where help is given).—Age 27, married, no family; experienced in Greenhouse, and Flower and Kitchen Garden; good character from present situation.—G. W., 20, Brighton Terrace, Winterbourne Road, Thornton Heath, Surrey.

GARDENER (SINGLE-HANDED or SECOND).— Single; experienced in Vines, Flowers, and Kitchen Garden. Good references.—D. NEWNS, 29, Mill Street, Aylesbury.

GARDENER (good SINGLE-HANDED); well up in all branches. Highly recommended by Mr. J. R. Bird, Head Gardener, also present employer.—H. D., 32, South Croxted Road, West Dulwich, S.E.

GARDENER (SINGLE-HANDED), good all-round, or Hardy Herbaceous Grower in Large Establishment.—Age 28, married; six years last place. Good references.—A. AGER, The Lodge, Thorncote, Staines.

GARDENER (SINGLE-HANDED, or SECOND), where three or four are kept.—Age 23; nine years' experience, Inside and Out.—C. LONG, Kitlands Gardens, Holmwood, Dorking, Surrey.

GARDENER (SINGLE-HANDED, or where another is kept).—Age 24; life experience in all branches. Can be well recommended from previous employers.—A. SNELLING, 26, Stamford Terrace, Stamford Hill, N.

GARDENER (SINGLE-HANDED, or where two are kept).—Age 26, single; experienced in Greenhouse, Flower, and Kitchen Garden. Good character. Now disengaged.—T. B., 131, Dennett Road, Mitcham Road, Croydon, Surrey.

GARDENER (SINGLE-HANDED, or SECOND). —Age 24; good character. Abstainer.—A. CUTCHEE, The Gardens, Shalimar, Ewell, Surrey.

GARDENER, where two or three are kept.— Age 27, married, one child. Understands Vines, Melons, Cucumbers, Tomatos, Flowers, and all branches of Gardening. Three years' excellent character.—AYLING, Gardener, Colley Lodge, Reigate, Surrey.

GARDENER (SECOND, or otherwise).—Age 26, unmarried; experience both Inside and Out. Eight years in present situation, three years previous.—FRANK LOVE, Gorringe Road, Bemerton, Salisbury.

GARDENER (Second), or JOURNEYMAN (First).—Age 24; ten years' good practical experience. Good reference.—G. L., 86, Homesdale Road, Bromley, Kent.

GARDENER (Second), in a good Establishment.—Age 26; ten years' practical experience in Plant and Fruit Growing. Good character and testimonials.—W. H., The Gardens, Mousehill Manor, Godalming, Surrey.

GARDENER (Second).—Age 25; nine years' experience Inside and Out. Good character.—L. TWIFF, The Gardens, Netherwitton Hall, Morpeth, Northumberland.

GARDENER (Second), in a good Establishment.—Age 24; abstainer. Eight years' experience, Inside and Out. Good references. No bothy.—L. P., 28, Finchley Park, North Finchley, N.

GARDENER (Second).—Age 23; seven years' experience in Vines, Melons, Cucumbers, Tomatos, Stove and Greenhouse Plants, Fruits, and Flowers. Well recommended. Abstainer. Disengaged. Distance no object. State full particulars.—FREDERICK CASTLE, Grove Street, Wantage, Berks.

GARDENER (Under).—Age 23, single; three and a half years' good character; Country preferred.—H. MURRAY, 38, Woodcote Place, Chapel Road, West Norwood.

GARDENER (Under).—Age 18; Inside or Inside and Out. Four years' experience and four years' good character.—G. HENLEY, Sayers Common, Hassocks, Sussex.

GARDENER (Under, or Third), in a Gentleman's Establishment.—Age 20. Two years' excellent character; four years' experience. Strong and willing.—H. COTTERILL, Greenford Road, Sudbury, Middx.

GARDENER (Under), or Under Keeper.—Young Man, age 25. Height, 5 feet 11 inches. Good reference.—Z., Claremont House, Portslade, Sussex.

GARDENER (Under).—Age 28, single.—F. HAMBLIN, Head Gardener, can recommend F. Worrell as above, who has lived under him for three years.—The Gardens, Harewoods, Bletchingly, Surrey.

MANAGER.—Life experience in Growing large quantities of Fruit and Flowers for Market, as Grapes, Tomatos, Cucumbers, Strawberries, and Mushrooms. Five years in last place; excellent references.—D. N., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

MARKET GROWERS.—MANAGER, well versed in Growing in quantity Grapes, Strawberries, Mushrooms, Cucumbers, Tomatos, &c.; Carnations, Tea Roses, Cut Flowers, &c.; Palms, Ferns, and all requirements of an extensive first-class Business. Highest references.—ALICANTE, Messrs. Osman & Co., 132, Commercial Street, Shoreditch, E.

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MANAGER, HEAD SHOPMAN, or TRAVELLER.—Advertiser seeks re-engagement as above. Thorough knowledge of the Retail Trade in all its branches. Good experience on the Road. Highest references and testimonials.—BETA, *Gardeners' Chronicle* Office, 41, Wellington St., Strand, W.C.

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ORCHIDS.—We can thoroughly recommend a first-class GROWER, with twelve years' experience. Private or Trade. Single, age 32.—W. L. LEWIS & CO., Chase Side, Southgate, London, N.

PROPAGATOR and GROWER of Soft-wooded Stuff.—Thirteen years' experience. Good recommendation.—W. MILLS, Colegate Cottages, Locksbottom, Farnborough, Kent.

ROSE GROWER, or PROPAGATOR of Hardy Trees, Shrubs, Coniferæ, Clematis, &c. Has been twelve years Foreman to Mr. Prince, Oxford, and understands Seedling Briar and all other Rose Stocks.—S. C. LEY, Longworth, Faringdon, Berks.

TO HEAD GARDENERS.—FOREMAN; age 25. Advertiser can with confidence recommend a dependable man as above. Well up in Stove and Greenhouse Plants, Grapes, Mushrooms, &c.—A. Z., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

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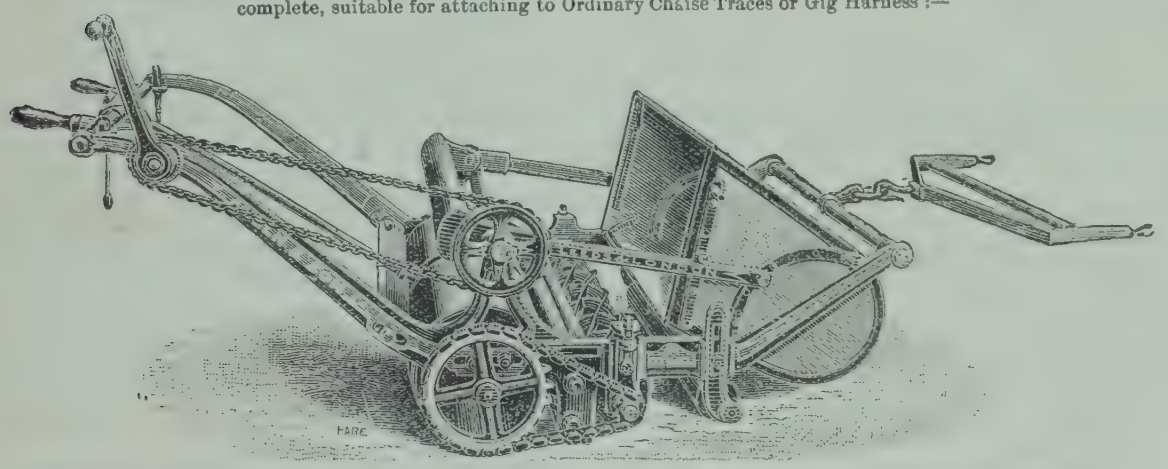

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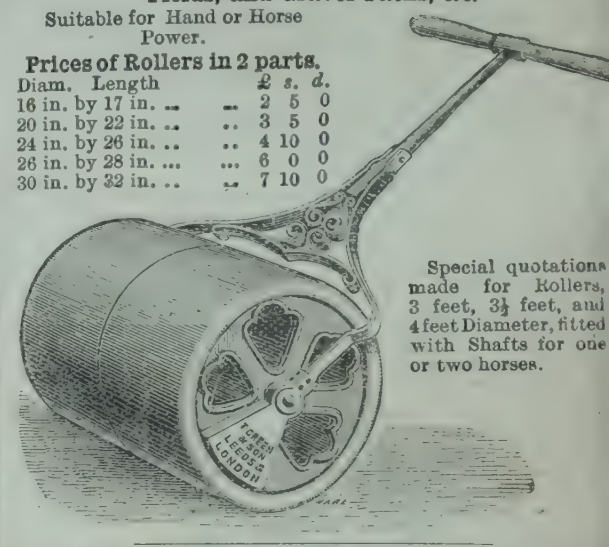

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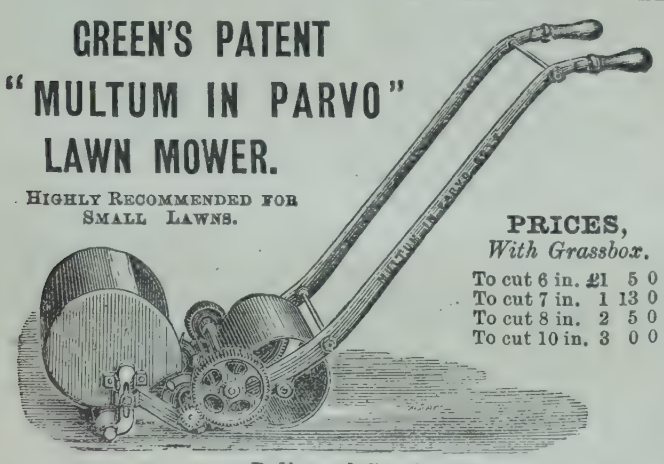

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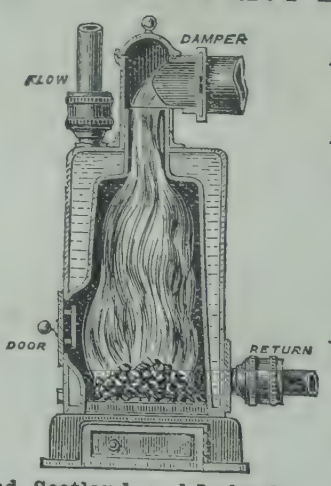

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CONTENTS.

Books, notices of :— Celery for profit ... 605; Food of Plants, the ... 605; Brentford Market, the ... 599; Cycnoches pentadactylon 597; Eucalyptus oil ... ... 603; Florists' flowers :— Dahlia, the ... ... 607; Flowering shrubs, and Trees, notes on ... 597; Forestry and Gardening Exhibition, opening of the ... ... 602; Fruit trees, summer pinching of ... ... 606; Ghent, round ... ... 606; Insects on fruit trees ... 607; Institute of Horticulture, proposal for ... ... 606; Lathyrus latifolius albus in pots ... ... 606; Law notes :— Grimwood v. Weeks ... 610; Market gardening under glass ... ... 599; Orchids at Oakwood ... 596; Peas, early ... ... 605; Picea Engelmanni glauca 600; Pinus Laricio ... ... 606; Plants, new or noteworthy— Cypripedium concolor var. striatum ... 593; Plants, new, continued— Cyrtanthus obliquus ... 596; Gladiolus, hybrid ... 595; Lælio-Cattleya Schilleriana ... ... 596; Potatos in Ireland ... 602; Pyrethrum roseum ... 606; Sarracenias ... ... 599; Season, the exceptional .. 602; Societies— Crystal Palace Show ... 608; Gardening and Forestry Exhibition ... ... 609; Moseley Botanical ... 610; Royal Botanic ... ... 609; Royal Horticultural ... 608; Royal Horticultural, Scientific Committee 609; Stock-taking, April ... 604; Strawberries and vegetables, early ... ... 605; Temple Gardens' Show... 602; Tuberoses ... ... 606; Venetian garden, a ... 604; Vine disease, Californian 598; Week's work, the— Flower garden, the ... 601; Fruits under glass ... 601; Hardy fruit garden ... 600; Kitchen garden, the ... 600; Orchid-houses, the ... 600; Plants under glass ... 601; Women as gardeners ... 604

ILLUSTRATIONS.

Cycnoches pentadactylon (three illustrations) ... 597, 599
Cyrtanthus obliquus 603

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FERNS! FERNS!!—Trade.—Greenhouse and Stove, 25 saleable sorts, in 2½-in. pots, 12s. per 100; 10 best market sorts, in 48's, 6s. per doz.; stores, 6s. per 100. Large Adiantum cuneatum, value in fronds, 6s. and 8s. per dozen. Cyperus, Aralias, Rhodanthe, Grevilleas, in 48's, good value, 6s. per doz. Palms, Ficus, Hydrangeas, Pelargoniums, Marguerites, Dracænas, in 48's, 1s. each. P. tremula and A. cuneatum, for making large plants quickly, 16s. and 20s. per 100, well packed, put on rail free for cash with order.—J. SMITH, London Fern Nurseries, Loughboro' Junction, London, S.W.

To the Trade.

IMPORTANT NOTICE.—When you are in London, it will be well worth your time to pay a visit to Albert Nurseries, Peckham Rye, S.E.; or Fleet, Hants. You can make your notes, and have a business look round, combined with an outing; you will NOT be worried to order.
E. D. SHUTTLEWORTH AND CO., LTD.
Awarded Silver-gilt Flora Medal by the Royal Horticultural Society; also Gold, Silver-gilt, Silver, and Bronze Medals, Prizes, and Certificates at other First-class Shows. Our specialty—really good stuff grown for the Trade.

"KILLMRIGHT,"
For Destruction of all Insect Pests and Mildew.
THE STOTT DISTRIBUTOR CO. (Lmtd.),
Barton House, Manchester.

LAWN MOWERS.—The New Patent "EXCELSIOR" has the largest sale in the world, and is pronounced by all Gardeners to be the very best for saving labour. The Patent "NEW MODEL" is guaranteed to be the lightest working Mower ever made. Can be had of all Ironmongers and Seedsmen. Price Lists post-free from the Manufacturers, CHADBORN AND COLDWELL MANUFACTURING CO., 223, Upper Thames Street, London, E.C.
The Largest Makers of Lawn Mowers in the World.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings. Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W.

THOMSON'S MANURE.—The sale of this Manure is steadily increasing, and it can be had as formerly of all the leading Nursery and Seedsmen in the United Kingdom.
London Agent, Mr. JAS. GEORGE, 14, Redgrave Road, Putney.
Agent for Channel Islands, Mr. J. H. PARSONS, Guernsey.
Sole Makers, WILLIAM THOMSON AND SONS, Limited, Tweed Vineyard, Clovenfords.

SALES BY AUCTION.

Friday, May 26.

MESSRS. PROTHEROE AND MORRIS have received instructions to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, May 26, at half-past 12 o'Clock, by order of

Messrs. F. SANDER AND CO., St. Albans,

A splendid importation of the true old

CATTLEYA LABIATA,

In fine order and condition, with sound and dormant eyes.

Also, another fine batch of the famous

DENDROBIUM NOBILE,

From the Lang Tang Mountains.

Also, a fine lot of CYPRIPEDIUM INSIGNE MONTANUM, CYMBIDIUM EBURNEUM, CALANTHE SPECIES, CATTLEYA AMETHYSTOGLOSSA, and many other Imported and Established ORCHIDS.

On view morning of Sale, and Catalogues had.

Tuesday, May 30.

SPECIAL SALE of ORCHIDS in FLOWER and BUD.

MESSRS. PROTHEROE AND MORRIS have arranged to hold a SPECIAL SALE on the ABOVE DATE, of ORCHIDS in FLOWER and BUD, and will be glad to RECEIVE ENTRIES not later than May 20. This Sale will afford Exhibitors at the Temple Show an opportunity of including their Plants, if they should wish to dispose of the same by Auction.

Clapham, S.W.—Preliminary Notice.

ABSOLUTE CLEARANCE SALE.
EXPIRATION OF LEASE.

By order of Messrs. Charlesworth, Shuttleworth, & Co., whose lease expires at Midsummer Day next.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, 213, Park Road, Clapham, S.W., near Clapham Road Station, on WEDNESDAY, June 7, at half-past 12 o'Clock, without the least reserve, the remainder of the Stock of ESTABLISHED ORCHIDS, in fine health, consisting principally of Cattleyas, Odontoglossums, Oncidiums, and Masdevallias; also the erections of six Greenhouses, 4-inch Hot-water Piping, Boilers, and Utensils in Trade.

May be viewed one week prior to the Sale. Catalogues may be had on the Premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Enfield.

TO LAND SPECULATORS, HORTICULTURISTS, BUILDERS, and OTHERS.

IMPORTANT FREEHOLD BUILDING LAND, an old-fashioned RESIDENCE with ORCHARD LAND, 14 newly-erected COTTAGES, and numerous enclosures of Land suitable for Horticultural Purposes, &c., well situated, with frontages upon the Enfield Highway and adjacent to Brimsdown Station, on the Great Eastern Railway, whence London is reached in 35 minutes. Payment (if desired) by instalments extending over five years.

MESSRS. HUMBERT, SON, AND FLINT are instructed to offer the above important PROPERTIES for SALE by AUCTION, at the Mart, Tokenhouse Yard, E.C., on TUESDAY, June 20, 1893, at 2 o'Clock precisely, in numerous lots. The Estate altogether comprises an area of 45 acres, through which an excellent 40-feet thoroughfare known as the Carterhatch Road (kerbed, channelled, and sewered), has recently been constructed, giving access to the numerous lots, and direct approach from Enfield Highway to Brimsdown Station. A portion of the Estate is utilised for Horticultural Purposes, an industry that is making rapid progress in this locality, and for which it is exceptionally well adapted. There are also numerous ripe Building Frontages, which will be offered in small lots, an Old-fashioned Residence, with Orchard, Garden, &c., and 14 Newly-erected Cottages.

Full particulars of Messrs. E. S. TAYLOR, SON, AND HUMBERT, Solicitors, 4, Field Court, Gray's Inn, W.C.; at the Mart, E.C.; and of the Auctioneers, 11, Serle Street, Lincoln's Inn, W.C., and Watford, Herts.

Thursday, June 1.

SPECIAL SALE of ORCHIDS, STOVE and GREENHOUSE PLANTS, &c.

MR. J. C. STEVENS begs to announce that he will hold his next SPECIAL SALE of ORCHIDS, STOVE and GREENHOUSE PLANTS, &c., at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY, June 1, and will be glad to RECEIVE LISTS of Gentlemen wishing to enter Plants, not later than THURSDAY NEXT.

BY ORDER OF THE LIQUIDATOR.

GREAT SALE of

The entire Stock of ORCHIDS, TEA ROSES, FERNS, PALMS, and general Stock of STOVE and GREENHOUSE PLANTS, GRAPE VINES, &c., the property of the Liverpool Horticultural Company (John Cowan, Limited).

The Company are now selling their entire Stock as above, at extremely low prices, and in addition to the low prices quoted in the Catalogues, very large discounts are allowed. Inspection is earnestly invited.

The Company are also offering, for the first time, a splendid NEW GRAPE VINE.

Descriptive and priced CATALOGUE of the entire Stock will be sent, post-free, on application to the Company.

The Vineyard & Nurseries, Garston, near Liverpool.

KENT, 15 miles from London, Dartford district.—SMALL NURSERY, about half an Acre, 700 feet run of Glass, all in good order. Strawberries, Peaches, and Tomatos in splendid condition. Exceptional opportunity. Rent only £10, and £7 let off, reducing it to £3. Price for Glass and Stock, £550. Incomer can commence taking money at once, as Strawberries are now ripening.

Full particulars of Messrs. PROTHEROE AND MORRIS, Auctioneers, 67 and 68, Cheapside, E.C.

Middlesex.

By order of the Mortgagees.

MARKET NURSERY, several Greenhouses, Cottage, and the whole of the Stock for Sale as a going concern. Incoming about £1000.

Particulars of Messrs. PROTHEROE AND MORRIS, 67 and 68, Cheapside, E.C.

HARPENDEN.—Compact FREEHOLD NURSERY, Unstocked, ¾ Acre; Midland Station, two minutes. Five modern Greenhouses, about 250 feet of Glass, well heated with 4-inch pipes; one house, eight rows. Sheds, one forming large Mushroom-bed. Water laid on throughout. Attractive eight-roomed Dwelling-house. Price £1300.

J. H. NEILSON, Harpenden.

To Lovers of Forestry and Gardening.

THE LEASE of a charmingly-placed HIGH CLASS RESIDENCE, in 40 acres of luxuriantly-timbered Grounds, for SALE, eight or nine miles from the City and West-End. A Gentleman's Residence in every respect.

Apply to Messrs. HARMAN BROS., Auctioneers, 75, Aldermanbury, E.C.

FOR DISPOSAL.—The old-established NURSERIES and Cotswold SEED STORES, Cirencester (Nurseries containing about 6 Acres). The Proprietor, having recently lost his son as Manager, and himself advanced in years, is desirous to retire. This offers an excellent opportunity for an energetic man of business with a moderate capital. To principals, all information will be supplied, and every facility given on application to R. F. DARBY, as above.

NURSERY for SALE, consisting of 240 feet of Glass. Principal Trade: Cut Flowers, Cucumbers and Tomatos. Well Stocked. Particulars of—

A. A., West End Nursery, Sittingbourne, Kent.

Shepherd's Bush.—Florists, Nurserymen, &c.

TO BE LET, Capital PIECE of GROUND, with several Forcing-houses on same, and Stabling if necessary. Rare opportunity.

C. AXTON, 36, Askew Road, Uxbridge Road, W.

TO BE LET, at Midsummer or Michaelmas next, a NOBLEMAN'S KITCHEN GARDEN and GROUNDS, situate near London, and comprising a capital Cottage, Greenhouses, Sheds, Walled-in Garden Orchard, &c., in all about 5 acres. Incoming by valuation of Crops, Fruit, Plants, &c. Rent nominal.—Apply, T. A., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

TO BE LET, an Old-Established JOBBING GARDENER'S and FLORIST'S BUSINESS.—Capital Cottage, Stabling, Greenhouse, &c.; every convenience. Incoming about £70.—A. N., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

PROTHEROE AND MORRIS, HORTICULTURAL MARKET GARDEN and ESTATE AUCTIONEERS and VALUERS, 67 and 68, Cheapside, London, E.C., and at Leytonstone, E. Monthly Horticultural Register had on application.

WAITE'S SHAMROCK SWEDE.—For Sale, 70 bushels prime Seed.—Apply Western Counties Agricultural Co-operative Association, Limited, 13, Great Western Docks, Plymouth.

To the Trade.

MANGEL WURZEL and TURNIP SEED.

H. AND F. SHARPE will be pleased to make special offers of their fine Selected Stocks of MANGEL WURZEL and TURNIP SEEDS of 1892 growth, and raised from carefully-selected Stocks and Transplanted Bulbs.

SEED GROWING ESTABLISHMENT, WISBECH.

CARNATIONS, Reynolds Hole, 30*s.*; Germania, 64*s.*; Old Crimson Clove and Salisbury (white Clove), 16*s.*; Raby Castle, 30*s.*; Improved Clove, 32*s.* Named PHLOXES, 20*s.* PYRETHRUMS, 20*s.* Double PRIMROSES, white, 10*s.* 6*d.*; Lilac, 12*s.*; Cloth of Gold, 40*s.*; Salmon, 64*s.*; Marie Crousse, 36*s.*; Paddy, 35*s.* POLYANTHUS, blue, 30*s.*; Hose-in-Hose, yellow and white, 12*s.* per 100.

Herbaceous Plants cheap.

LISTS.

HOPKINS, Mere, Knutsford.

BOUVARDIAS.—Strong young Stuff, with balls of roots, will almost fill 60's, in 12 best-named sorts, including the grand new White Paniculata jasminoides, Flavescens, fl.-pl., Neuner, Garfield, Cleveland, &c., 2*s.* 6*d.* per dozen, 12*s.* 6*d.* per 100.

BOUVARDIA PURITY, the best white for cutting, large and free, 3*s.* per dozen, 15*s.* per 100.

BORDER CARNATION GERMANIA, best yellow, 5*s.* per dozen, 35*s.* per 100.

LA NEIGE, best White Winter-flowering Carnation, 4*s.* per dozen, 12*s.* 6*d.* per 100.

TUBEROUS BEGONIAS, unsurpassed strains, large flowers, mixed colours, 2*s.* 6*d.* per dozen, 15*s.* per 100. For cash only.

CRANE AND CLARKE, Hillside Nursery, March, Cambs.

TO BE SOLD, IMMEDIATELY, about 40 CAMELLIAS, planted out, chiefly White, from 6 to 8 feet high. No reasonable offer refused, as the house must be cleared.

Priory Nursery, Acton Lane, Chiswick, W.

Specimen H.P. Roses in pots.

W. RUMSEY has decided to Reduce his Stock of large SPECIMEN POT ROSES, which have gained First and Second Prizes at leading London Shows for several years past.

LIST of Names and Prices on application.

Joyning's Nurseries, Waltham Cross.

EXHIBITIONS.

RICHMOND (SURREY) HORTICULTURAL SOCIETY.

The SUMMER SHOW will be Held on WEDNESDAY June 28.
THREE HUNDRED POUNDS OFFERED IN PRIZES.
For schedules and all particulars, apply to—
22, George Street, Richmond. J. H. FORD, Hon. Sec.

D. T. FISH, Bury St. Edmunds, Suffolk, is prepared to act as JUDGE at Rose, Flower, and Fruit Shows, Cottage Gardens, &c., for the next four months.

FOR ORCHIDS and GARDENERS to Grow Them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

TROPÆOLUM SPECIOSUM.—The well-known hardy scarlet climber. Strong plants, in or out of pots, 1*s.* each; extra strong, 1*s.* 6*d.* each.

HOWDEN AND CO., The Nurseries, Inverness,

FIELDER'S WHITE AZALEA.—Strong stuff, in 48's, 12*s.* per dozen. Special offer to the Trade. Also ADIANTUM CUNEATUM, in 48's.

C. JOHNSON AND CO., The Nurseries, Hampton.

OPEN AIR FERNS.—Splendid Crowns. Ten varieties, 3*s.* per 100; Royals (Osmunda regalis), 6*s.* per dozen. A. POND, Truro.

TRADE OFFER.—CLEARANCE SALE of CHRYSANTHEMUMS, Strong Plants, Marketable Sorts, 5*s.* 6*d.* per 100, 50*s.* per 1000.—E. LITTLER JONES, Claryton Nursery, High Street, Peckham, S.E.

F. V. RASPAIL GERANIUM, Autumn-struck Rooted CUTTINGS, out of stores, £2 10*s.* per 1000, 6*s.* per 100. CHRYSANTHEMUMS—Fair Maid of Guernsey, strong rooted Cuttings, £2 10*s.* per 1000, or 6*s.* per 100; Lady Lawrence, strong rooted Cuttings, 7*s.* per 100. Cash with order.—P. BOULTON, Beechenlea Nursery, Swanley.

CLEARANCE SALE of BULBS for Summer and Autumn Flowering. PRICE LIST on application.

Finest named Gladioli, 3*s.* 6*d.*, 5*s.* 6*d.*, 7*s.* 6*d.* and 10*s.* 6*d.* per dozen. Finest Mixed Gladioli, per 100, 15*s.*; per dozen, 2*s.* 3*d.* Lemoine's Beautiful Butterfly Gladioli, mixed, per dozen, 4*s.* 6*d.* Lilium auratum, 7*s.* 6*d.* and 10*s.* 6*d.* per dozen. Anemone fulgens, per 100, 5*s.* 6*d.*; per dozen, 1*s.* Red Tiger Spotted Flower (Tigridia), White Tiger Spotted Flower, Yellow Tiger Spotted Flower, all at 15*s.* per 100; per dozen, 2*s.* 3*d.* Single Begonias, mixed, 3*s.* 6*d.* per dozen, &c.

BARR AND SON, 12, King Street, Covent Garden, W.C.

NEW COLEUS, "DISTINCTION."

INTRODUCED 1892.

To the Trade, 9s. per dozen, in Small Pots.

This is undoubtedly the finest introduction in the way of Coleus yet announced, and will prove a most valuable acquisition for Bedding or Decorative Purposes, the foliage being of a striking reddish rich maroon, and darker in colour than any other variety; it is also of a very sturdy growth, and hardy character.

Award of Merit from the Royal Horticultural Society, August 22, 1892.

J. A. MORRIS, Nurseryman, Church Road, Acton, W.

Stove Plants.

Williams' for Cheap Stove Plants.
Williams' for Specimen Stove Plants
Williams' for Crotons & Dracænas.
Williams' for Table Plants.
Williams' for Stove Climbers.
Williams' for Dipladenias.
Williams' for Allamandas.
Williams' for Ixoras & Gardenias.
Williams' for all kinds of Foliage

and Flowering Stove Plants of every description in any size and quantity.

An Inspection of our Stock Invited.

Illustrated Catalogues Gratis and Post-Free.

B. S. WILLIAMS & SON,

Victoria and Paradise Nurseries,

UPPER HOLLOWAY, LONDON, N.

May 13, 1893.

TO MESSRS. SUTTON AND SONS, Seedsmen, Reading.

Gentlemen,—I much regret that I have INFRINGED YOUR COPYRIGHT in certain Illustrations of Vegetables and Flowers, and of a Residence with Tennis Lawn and Garden, and I beg to offer you my APOLOGY for having done so.

I wish to state that the infringements were quite unintentional on my part, as I obtained the electros from a firm who had, as I believed, the right to supply them, and I used these electros in perfect ignorance that the illustrations were your copyright.

I undertake to forthwith withdraw the illustrations complained of, and not to repeat the infringement of these or any other illustrations of yours.

I desire to thank you for your kind consideration in not taking legal proceedings against me, and I authorise you to publish this letter in such manner as you may think fit, and shall be pleased to pay any expense you have been put to in the matter.—Yours faithfully,

W. HOLMES, Horticultural Printer, Ulverston.

ARTISTIC ROCKWORK.
For beautifying Conservatories and Ferneries on large or small scale.
All designs executed under the personal supervision of J. McGREGOR, who invites inspection of Rockwork Samples at his Nursery—
Princes Square, Kennington Park Road, London, S.E.

HORTICULTURAL SHADINGS, NETTINGS, TIFFANY, WADDINGS, COTTON WOOL for Packing Flowers, CANVAS, TWINES, &c., manufactured and supplied wholesale by
JOSEPH COOKSON, 21, New Cannon Street, Manchester.

OAK STAKES, a large quantity for Sale, suitable for Roses, &c., 4 feet long, ½ inch, ¾ inch, and 1 inch square. Price 4s., 6s., and 8s. per 100.
SHENSTONE AND CO., Grange Road, Leyton.

MERRYWEATHER & SONS have a good Selection of Hand-Worked Fire Engines (new and second-hand), from 4 to 30 men-power — suitable for all kinds of Watering Fruit Gardens, Plantations, &c. Write or call, 63, Long Acre, and Greenwich, London, S.E.

ORCHID PEAT.

PREPARED, ready for use, all fibre, 10s. per sack; 5 for 47s. 6d.
SELECTED, in blocks, very fibrous, 8s. per sack; 5 for 37s. 6d.
SECOND QUALITY, 5s. per sack; 5 for 22s. 6d.
BROWN FIBROUS PEAT, for Azaleas, Rhododendrons, and Ferns, 4s. per sack, 5 for 18s.; and 3s. per sack, 5 for 12s. 6d.
PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM, each 2s. 6d. per sack; 5 for 10s.
PREPARED POTTING COMPOST, 4s. per sack; 5 for 18s. All sacks included.
Send Postal Order for Sample Sack.
Special terms to the Trade. For Price List apply to
THE FORESTER, Joyden Wood, near Bexley, Kent.

EPPS'S Selected PEAT,

For ORCHIDS, STOVE PLANTS,
Hardwood do., Ferns, and Rhododendrons, by sack, yard, ton, or truckload. SPECIAL ORCHID PEAT, in sack only.
Rich fibrous LOAM, superior LEAF-MOULD, Coarse, Crystal, and Fine SILVER SAND, CHARCOAL, C. N. FIBRE REFUSE, fresh SPHAGNUM, Patent MANURES, FERTILISERS, INSECTICIDES, and all other Garden Requisites. Peat Moss Litter.
The Original Peat Depot, RINGWOOD, HANTS.

RICHARDS' NOTED PEAT.

Specially selected and prepared for ORCHIDS, and all other plants. ARTIFICIAL MANURES, and GARDEN SUNDRIES of every description. Please write for a free PRICE LIST. Special quotations given for any goods, carriage paid, in large or small quantities.

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IMPORTERS of
BAMBOO CANES,
In BLACK and WHITE.
500,000 of all Descriptions, from 2 feet to 10 feet.
Send for Illustrated CATALOGUE, which gives full particulars and prices.

W. WOOD & SON, F.R.H.S.
(Established 1850),
WOOD GREEN, LONDON, N.

NATIVE GUANO.—BEST AND CHEAPEST MANURE for GARDEN USE. Price £3 10s. per ton, in bags. Lots under 10 cwt., 4s. per cwt.; 1 cwt., Sample Bag, sent Carriage Paid to any Station in England, on receipt of P. O. for 5s.

Extracts from 16th Annual Collection of Reports:—

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H. BRINKWORTH, Potato Grower, Reading, used for Potatos, Onions, and Carrots, results:—"Very good; never had better crops."—J. BUTLER, Sittingbourne:—"Used for Potato, Celery, and other Market Garden Crops, with very good results; Potatos large, clean, and free from disease. Best and Cheapest Manure in the Market."

NATIVE GUANO, FOR FRUIT, ROSES, TOMATOS, &c.

J. PEED & SONS, Streatham, used for Fruit Trees and Roses, results:—"Very satisfactory; we use no other Guano now; consider yours preferable to Peruvian."—J. FINCH, Orrell Gardens:—"Used for Vegetables, Tomatos, Grapes, Cucumbers, and Flowers, with satisfactory results. Most excellent for Potatos, and many other things. The Cheapest Manure in the Market."

Orders to the **Native Guano Co., Ltd.**, 29, New Bridge Street, Blackfriars, London, where Pamphlet of Testimonials, &c., may be obtained. AGENTS WANTED.

C. BEESON'S MANURE.—The best Fertiliser for all purposes. Demand increasing weekly. One trial will prove its value. Pure Bones any size, raw or dissolved, 8s. per cwt. Write for particulars.
C. BEESON, The Bone Mills, St. Neot's, Hunts.

BONES! BONES!! BONES!!! Any size from dust to 1 inch. Dissolved Bone Compound, for Top-dressing. All at 10s. per cwt.; less quantity, 1½d. per lb. Carriage paid on 1 cwt. Terms, Cash with Order. Special quotations for large Buyers.
E. S. WILES AND CO., Bone Crushers, St. Albans.

ECONOMICAL—SAFE—LASTING
USE
CLAY'S MANURES

CLAY'S FERTILIZER LONDON — TRADE MARK.

Having the respective Trade Mark printed on each packet and bag, and impressed on the lead seal attached to the mouth of each bag, which is

S.C. CLAY'S INVIGORATOR — TRADE MARK.

THE ONLY GUARANTEE OF GENUINENESS.

These well-known Manures are used by the Leading Growers, Royal Botanic Society, Royal Horticultural Society, Royal Parks, London County Council, throughout the United Kingdom, and in every quarter of the Globe.

Sold by Seedsmen, Florists, and Nurserymen, in 6d. and 1s. Packets, and SEALED BAGS.

7 lb.	14 lb.	28 lb.	56 lb.	112 lb.
2s. 6d.	4s. 6d.	7s. 6d.	12s. 6d.	20s.

Or direct from the Works, in 1s. PACKETS, Post-free, or Bags of either size, Carriage Paid (as sample), in the United Kingdom for Cash with order as above.

Prices and Samples of CRUSHED BONES in Various Sizes on Application.

CLAY & SON,

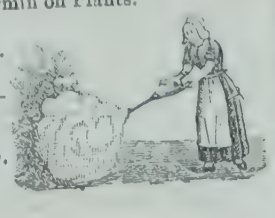
Manure Manufacturers, Bone Crushers, &c.,
TEMPLE MILL LANE, STRATFORD, LONDON, E.

FOSTITE

The only existing remedy that CURES and PREVENTS Mildew, Oidium, Black Rot, and other Cryptogamic Diseases of the Potato, Tomato, Beetroot, Vegetables, Vine, Roses and other Flowers, Fruit Trees, Mould in Hops, &c.

FOSTITE raises the Vegetation, destroys Caterpillars, Fleas, Leaf Lice, Slugs, and all other Vermin on Plants.

Effective Distributors also sold.
A child can perform the powdering.
Prospectus free on application.
Sole Shipper and Manufacturer—



JEAN SOUHEUR,
ANTWERP (Belgium).
Reliable Buying Agents wanted everywhere.

CONCENTRATED MANURE.

GLOBE FERTILISER.

When using this Fertiliser for Flowers, Fruits, and Vegetables, results are marvellous. Plants grown in the open air are equal in Bloom and Beauty to those grown in hothouses.
Sold by Seedsmen, 1d. and 2d. Packets; 1s. 6d., 2s. 6d., 5s., and 10s. in Bags, or from the Sole Manufacturers, Carriage Paid. Cash with Order.
GLOBE MILL COMPANY, Stratford Market, London, E.

PEARSONS'
CHEMICAL MANURE.

This Manure has now been before the public for five years, and has, from its intrinsic merits, almost without advertising, forced its way into the front rank. Extensive trials during above period have convinced us, that for efficiency and cheapness, there is nothing in the market to touch it; we having employed it with the fullest success upon Vines and other Fruit Trees, Pelargoniums, Fuchsias, Chrysanthemums, and almost all kinds of Greenhouse Plants; this opinion is supported by all the gardeners who have tried it, all being enthusiastic in its praise.

Per ton, £16; per cwt., 20s.; ½-cwt., 12s.; 28 lb., 7s.; 14 lb., 4s.; 7 lb., 2s. 6d. Sample Tins, 1s. 3d.

Half-cwt. and upwards sent Carriage Paid to any Station in England, Scotland, or Wales.

Circular, containing further details, instructions, and testimonials, free on application.

J. R. PEARSON & SONS,
CHILWELL, NOTTS.

PATENT
SILICATE MANURE.

Dress Your Vines and Tomatos with it now.

"Royal Nurseries, Great Grimsby,
"September 2, 1892.

"We have used it liberally on Tomatos and Vines. The Tomatos have been a wonderful crop. The Manure seems to have a very great effect on the ripening and swelling of the fruit. Faithfully yours, (Signed),
"CHARLES COLEBROOK AND SON."

PRICES IN SACKS, AT WORKS—
10s. per Cwt.; £2 per ¼-Ton; £3 15s. per ½-Ton; £7 per Ton.

ADDRESS—THE CHEMICAL WORKS,
HEMEL HEMPSTEAD, HERTS.

FIR-TREE OIL

SOLUBLE INSECTICIDE.

The most pleasant and reliable of all insecticides for destroying insects on plants, animals, and birds. Thousands of testimonials received from all parts of the world. Bottles, 1s. 6d., 2s. 6d., 4s. 6d., 7s. 6d., and 12s. 6d.; in bulk, 11s. per gallon, with full directions for use.

Wholesale from all Horticultural Dealers.

E. GRIFFITHS HUGHES, Victoria St., MANCHESTER.
NEW YORK—ROLKER AND SONS.

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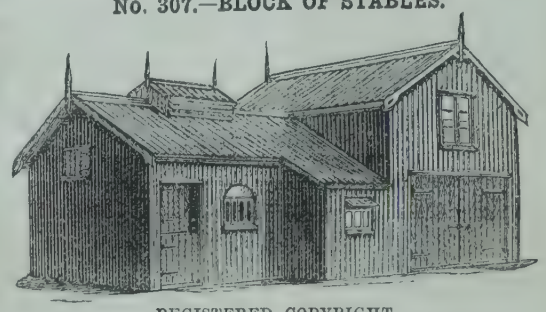

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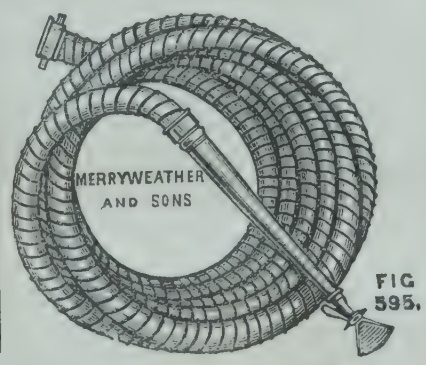

FIG 595.

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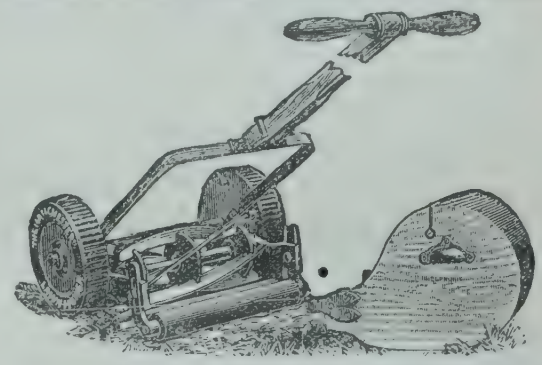

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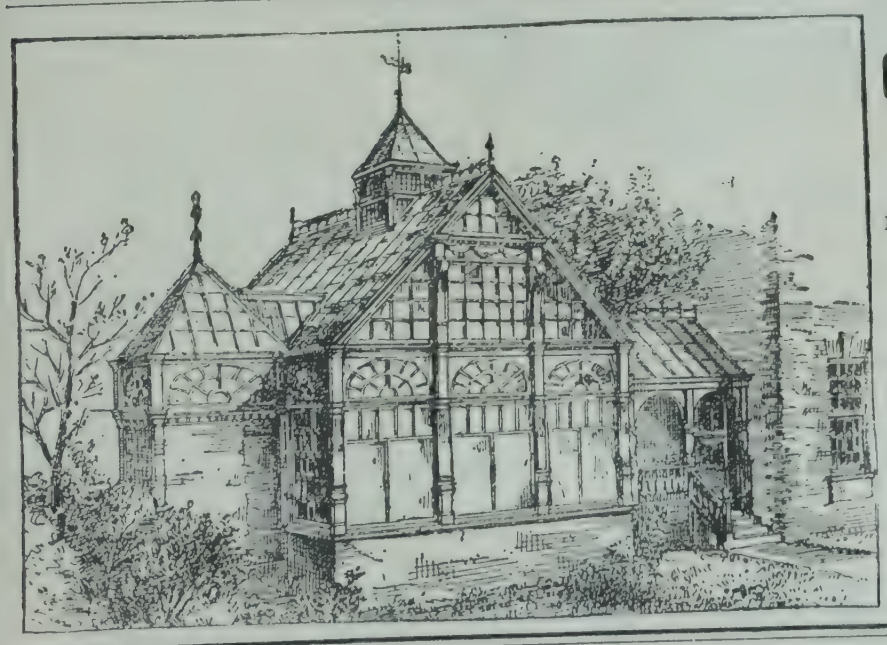

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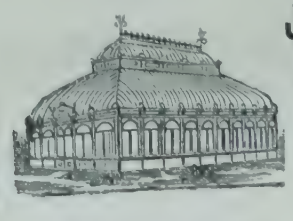

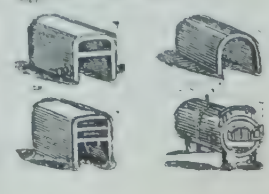

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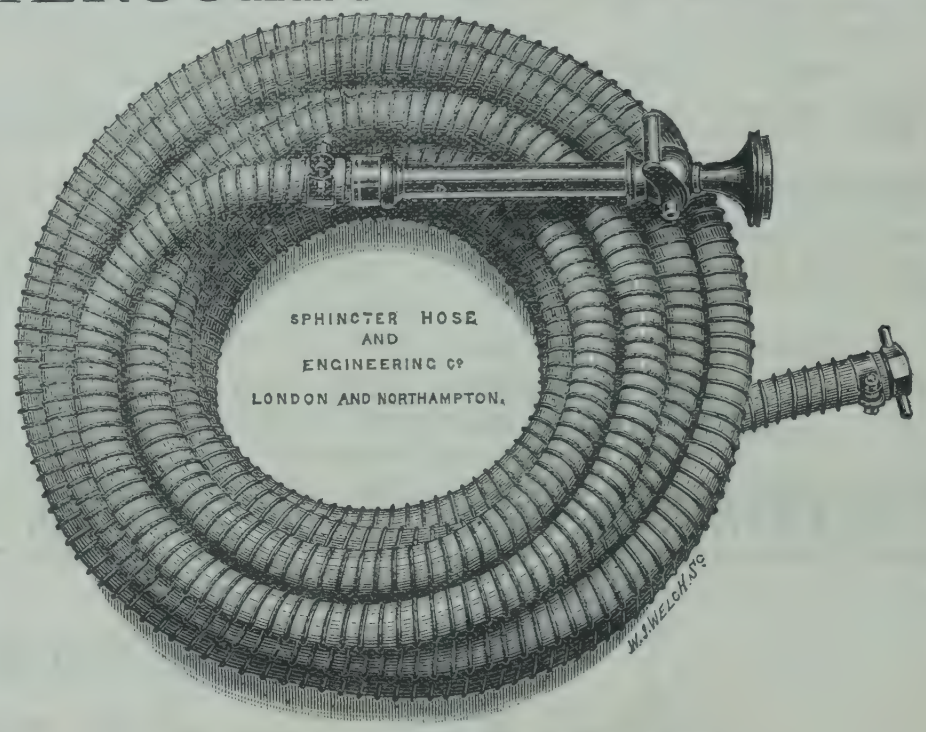

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THE
Gardeners' Chronicle.
SATURDAY, MAY 20, 1893.

ROSE PROSPECTS.

THE dull days of winter were enlivened, so far as rosarians were concerned, with a veritable "battle of flowers," some of the varieties used on the occasion being not without thorns; the object of the fight was the establishment of a proper date for the Metropolitan Show of the National Rose Society, which some have styled the "Rose Derby." Many who smarted under the blows dealt to them by late seasons, contended for a later date. In vain it was argued that our climate was a very uncertain one; that we were just as likely to have a cycle of early seasons, as we had had one of late seasons; that the great show used to be held on the last Saturday in June, and that under all circumstances it would be best to adhere to the date which had hitherto been used—the first Saturday in July. I believe the controversy might have gone on to this time, had not the editor of the paper in which it was carried on, put his foot down, and requested the combatants to go into winter quarters, and bid them to sheathe their swords — and now what do we see and hear? On all sides Roses coming into flower three or four weeks before their time; secretaries of societies in agonies, some already talking of putting their shows backward a fortnight, others suggesting that the last Saturday in May, or the first in June, would be a more suitable time for the Metropolitan show of the National Rose Society than the first Saturday in July! We have about two months before us, and if things go on as at present, I do not see where the Roses in the South of England are to come from; who can, therefore, do anything but guess as to the Rose prospects?

The character of the blooming season rests on two factors, the way in which Roses have passed through the past winter, and what they will have to endure in the shape of weather until the time of flowering. Now, with regard to the past winter, I do not think that it has been anything like as disastrous as the previous one, or as many supposed it would have been. I have received communications from all parts of the country, and all are pretty nearly alike in their character, viz., that there has been very little loss, even amongst the Teas, which, notwithstanding one may have entertained the contrary opinion, are no doubt more tender than the more extensive class of hybrid perpetuals. In my early Rose days, I used to be told by one who was one of our chief authorities then, that 5° of frost injured Roses. Few would now assent to that. A good deal of the change of opinion on this subject is due, of course, to the much larger cultivation of dwarfs, and the consequent abandonment of standards and half-standards. These latter are still much in favour with exhibitors of Tea Roses, and

it is from these that we hear complaints of losses in low-lying situations; but where they have been grown at an elevation of 400 or 500 feet above sea-level, they have escaped comparatively untouched, for it is frost and humidity that are so injurious. I found, as many have done at pruning time, that the plants had been in many cases severely hit, and that it was, in consequence, necessary to prune very hard; but, then, when dwarfs are grown, there is always the certainty that young shoots will develop themselves from the portion of the plant below ground, and so it has been this year.

I understand that in one of our gardening periodicals an enthusiastic rosarian suggested the probability that, as the plants were well in leaf before pruning, we should not be much troubled with maggot, as they had probably found their way into the more forward buds, and would perish with the pruning. I cannot say that this fond hope has been realised in my own case, and I have heard grievous complaints from many others. I believe a mixture of Paris Green to be effective in destroying the grub, and that it does not injure the foliage. I have never resorted to this method, but have adopted the more tedious perhaps, but still the safer, one of hand-picking. I instruct a boy what to do, and he goes over my small lot in an afternoon.

The most immediate and pressing work now to be done amongst Roses is watering, and I believe that the present, under any circumstances, is the best time for applying liquid manure; it is of very little use to watch for the buds to be formed. Let it be given now, and it will help on the formation of good large buds. There are various manures recommended for this purpose, Clay's Fertiliser, Thomson's Vine and Plant Manure, Jensen's Fish Manure, &c.; but I question, after all, whether there is anything better than a good mixture of cow-manure and soot. The Rose, poetical as its associations are, is very unpoetical in its tastes, being a most gross feeder and drinker, no viands are too strong, no stimulants too heady for it, and therefore, the dose I have alluded to may be administered once or twice a week. There is very little use at any time in watering by dribblets, and in such a season as this, liberality is more than ever necessary. There are many to whom I fear these injunctions are a mockery. Thus, in the weald of Kent, where the inhabitants are entirely dependent on rain, even in a place not ten miles from here, I said something to a brother parson about watering his Roses. "Water my Roses! Why, my dear fellow, I can hardly get enough for bathing myself, and the only thing I can do is to use it afterwards for my Roses!"

It is hardly possible that weather like this will not bring aphides, and when they do appear, as I hear they have done in many places, syringing with soft-soap and water, and afterwards with clear water, is a very good plan, but probably the most effectual way is to use one of the Stott machines with the "Killmright" powder; this is very effective.

Of course, disbudding must soon be seen to. This is generally a June operation, but I see in my own Roses evidence that it must very soon be begun. The central bud of the shoot should be retained, unless malformed, and the others removed with a blunt piece of stick, or the blunt end of a toothpick. Care must be taken not to injure the bud that is left, and, indeed, the whole operation is one which the grower had better undertake himself, and not to trust to inexperienced hands. We have now reached the beginning of the second week of May, and I fear the outlook is gloomy; but we must hope for rain, for not only the Rose, but for all other things has the situation become most serious. There is another very serious matter in connection with Rose prospects which, although it has no present significance, must in the near future be a very potent factor—I mean the tremendous loss of stocks occasioned by the severe drought. As a sample of its effects, I may mention the statement of one grower, which I had from himself the other day:—"I scoured the country last autumn, and got in 25,000 of the finest standard Briars I ever saw, and now I have not 7 per cent. of them alive; and besides this, I find the dwarf seedling Briars and even the Manettis affected." I do not suppose that the general state of stocks is as bad as this; but if there is anything like it in other quarters, the prices of Roses must inevitably go up, and the difficulty of filling up gaps or adding to collections will be very great. *Wild Rose.*

New or Noteworthy Plants.

HYBRID GLADIOLI.

I am indebted to Mr. Sprenger for a fine series of hybrid Gladioli, cultivated by his firm (Messrs. Dammann & Co.) at Naples. Some of them I should have classed as varieties of G. angustus, Linn. (G. trimaculatus, Lam.), and some of them belong to the ramosus group of hybrids, which are crosses between cardinalis and oppositiflorus. Two of the others are quite new to me, so I will notice them briefly.

G. Victorialis ×, Sprenger.—A hybrid between the European G. communis on the one hand, and on the other, the Cape G. cardinalis, or G. Colvillei, which is a hybrid between G. tristis var. concolor (none out of several forms, however, show any approximation to the G. tristis leaf). Leaves ensiform, an inch broad. Spike lax or dense, sometimes 1 foot long, sometimes forked; spathe-valves green, 2 inches long in the lower flowers. Perianth bright pale crimson; tube openly funnel-shaped, curved, an inch long; segments, oblong-cuneate, obtuse, the upper 1½ inch long, the lateral 1¼ inch, the three lower not more than an inch long, and furnished with a faint white line in the centre, which is sometimes bordered by a line of deeper red than the rest of the segment. This is, I think, an improvement from a horticultural point of view on any of the European and Oriental species.

G. Papilio × *gandavensis*.—Leaves under an inch broad. Spikes laxly 8 to 10-flowered; spathe-valves lanceolate, green, with brownish tops, 1 to 1¾ inch long; perianth pale mauve-purple; tube openly funnel-shaped, more than 1 inch long; three upper segments oblong-cuneate, concolorous, about as long as the tube; three lower smaller, with a dark purple spot, with a small white keel in the centre, much less conspicuous than in G. Papilio; style much shorter than the upper segments. *J. G. Baker.*

Cyrtanthus obliquus (fig. 90.)

By the kindness of the Hon. Walter Rothschild, we are enabled to give an illustration of a very fine form of this handsome South African bulbous plant, which flowered in April last in the gardens of Tring Park. The flowers, which are wax-like in texture, are of a clear light yellow, tinged with bright red, the segments having an emerald green band, and the whole flower by the blending of the colours has a peculiarly delicate and attractive appearance apart from its stately beauty as an entire inflorescence, which both in colour and general appearance suggest a giant form of Blandfordia Cunninghami. The genus Cyrtanthus is a very interesting one, composed of species differing much in habit, and consequently divided into three sections under Cyrtanthus proper, Monella and Gastronema. C. obliquus belongs to Cyrtanthus proper, and there are known to gardens but two others, viz., C. carneus, a fine red species, and C. Huttoni, a handsome golden-yellow, tinged with red, the ovaries also being coloured; but these are still very rare. Of the section Monella, C. Tuckii (illustrated in the *Gardeners' Chronicle*, August 6, 1892, p. 155) and C. MacOwanii, a rich crimson species, are two of the finest; C. lutescens is a clear light yellow; C. Mackenni, a pure white; C. pallidus, a light vermilion; and the many dissimilar forms put under C. angustifolius, exhibit such variations both in colour and structure as to point to the probability of some of them being admitted as being distinct species when sufficient fresh material can be obtained to serve for comparison. The Gastronema section have one or two flowered scapes of showy flowers, C. sanguineus being the handsomest, though C. uniflorus, which has white flowers striped with red, is very pretty. All the species thrive in a cool greenhouse or bulb-frame. *J. O'Brien.*

Cypripedium concolor var. striata, *new var.*

A most singular departure from the type, having the dorsal sepal ovate, much narrower than in the type, and scarcely larger than the lower sepals. The petals are ligulate, over 2 inches in length, and half an inch wide, and consequently much narrower than the ordinary form. The labellum is of the usual shape, but it is thickly dotted with purple, and both the sepals and petals have each a distinct purple line up the middle, and three or four less distinct lines on each side of it, the ground-colour being yellow, as in typical C. concolor. The plant itself is like the dull green-leaved form of C. concolor. It was flowered by R. Brooman-White, Esq., Arddarroch, Garelochead, Dumbartonshire, N.B., who states that his friend, Mr. Batten, collected it at Mergui. *James O'Brien.*

Lælio-Cattleya Schilleriana.

A fine flower of a grand form of this handsome Orchid comes from T. W. Thornton, Esq., Brockhall, Weedon, with the information that it was one of six borne on the same spike. The broad petals, which are each nearly 3½ inches long, are pure white, the sepals also white, with a faint blush tint. The broad flat front lobe of the labellum is violet-purple, and the general formation of the flower indicates that it is a natural hybrid between a fine form of Lælia purpurata and Cattleya intermedia, the former being the seed-bearer.

Orchid Notes and Gleanings.

ORCHIDS AT OAKWOOD.

The collection of Orchids in the garden of Norman C. Cookson, Esq., at Wylam-on-Tyne is always interesting, because of the hundreds of seedling varieties in every stage of development. Mr. Cookson has given a great deal of attention to the production of hybrid Orchids, and in this work he has been very ably assisted by his gardener, Mr. Wm. Murray. When one contemplates the wide field lying before us in which the hybridist can work, it is impossible to define any limit to the results that may be accomplished, when the circumstances are so favourable as they are in the pure air of this district. Other workers have done as much, or more, in other directions, so that we see new hybrid Orchids every week in the year. Messrs. Veitch in their country nursery at Slough, and Mr. F. Sander in the great Orchid establishment at St. Albans, are constantly placing new garden varieties before the Orchid growers of this country; besides, all the leading amateurs devote a portion of their time to the production of seedlings. I may allude especially to Sir Trevor Lawrence, Bart., of Burford Lodge, near Dorking, as the results obtained there, in the genus of Calanthe, vie with those obtained at Oakwood. The Calanthes are easily raised from seed, and the plants produce their flowers so freely, and in a comparatively short period from the time of hybridising the flowers (about three years), that the time of waiting is not too much for ordinary cultivators, especially

when one considers that the period of waiting for the flowering of a Cattleya may be nineteen years! The results obtained by hybridising Orchids are truly marvellous; for instance, a few seedlings have been obtained by Mr. Murray through crossing Calanthe nivalis with C. Veitchii. The result is a plant with immense spikes of large pure white flowers, superior to that grown in gardens as C. Veitchii white variety. There is also a variety with the most decided crimson flowers yet obtained, and a number of others with paler rose and pink flowers, but it really does not seem feasible that the union of a rose-coloured and white flower should produce a crimson. The introduction of Lælia harpophylla has been the means of introducing quite a new type of flower into the Lælia and Cattleya genera. Lælia cinnabarina was used a quarter of a century ago as a parent, and being fertilised with L. Pilcherii, itself a hybrid, produced a very beautiful garden variety, which was named L. flammea×, and described in the *Gardeners' Chronicle* 1874, May 9, p. 599. The sepals and petals are of a bright orange-yellow colour, and the crisped lip is margined with purplish-red. To Mr. Seden belongs the credit of producing this beautiful Lælia. Mr. Murray has been using L. harpophylla and Cattleya Mossiæ to produce the fine garden variety, Lælio-Cattleya Phœbe, of which there was a fine specimen in flower. The flowers are 5 inches across, the sepals and petals are orange-yellow, and the lip is beautifully streaked with crimson.

The Sophronitis grandiflora and Cattleya intermedia have also been intercrossed, and have produced a quite distinct and remarkably fine plant, which was exhibited by Messrs. Veitch, the raisers, under the name of Sophro-Cattleya Batemaniana. It was described in the *Gardeners' Chronicle* under the name of Lælia Batemaniana by the late Dr. Reichenbach, vol. xxvi., p. 263. Our ideas of genera may become greatly modified by the result of hybridizing Orchids; for besides the above, flowering plants have been obtained by crossing the singular Brassavola Digbyana with the Cattleyas; and now we have another attempt in the gardens here to cross the Epidendrums with the Lælias. There are a large number of perfectly-developed seed-pods ripening upon Lælia anceps and varieties of it the result of fertilising the flowers with the pollen of Epidendrum O'Brienianum—this should produce some remarkable progeny. I need not say, however, that a great many crosses are made, and good-looking seed-pods obtained without any result. Many very fine hybrid Dendrobiums have been obtained, but so far there have been no plants obtained by crossing the species, of which D. Paxtoni is the type, and seldom are any seed-pods formed, but at present there is a seed-pod on D. Brymerianum from a cross with the pollen of D. Paxtoni. No seed has yet been obtained from D. Farmeri and D. densiflorum. Several fine plants of Cypripedium nitidissimum were in flower, a beautiful vigorous-growing variety, but not differing very much from C. grande, raised some time previously in Messrs. Veitchs' nursery at Chelsea. Mr. Murray pointed out several plants of C. Chamberlaini growing freely with Phaius Humblotii in the cool end of the Cattleya-house; both of them having greatly improved in health since they were removed from the warmest house. There are many choice Orchids here, as the best varieties only are selected as seed and pollen-bearers. All the best forms of Dendrobium nobile are grown, and truly this is the most useful species in this large genus. D. n. Arnoldianum is an American form, very much like Cooksoni. The white varieties, of which there are two forms, are very pretty, and excellent as cut flowers. The entire collection has much improved in condition since Mr. Murray took charge of it. *J. D.*

Fig. 87.—Cycnoches pentadactylon.

Lælia purpurata.

When looking over Sir John T. D. Llewelyn's well-kept garden of Penllergare, I remarked a fine specimen of Lælia purpurata, with six fine spikes, each with six fully-expanded flowers, each of which measured from 6½ to 7 inches across. Mr. Warmington, Sir John's head gardener, told me that the plant was imported four years ago. *R. Milner.*

CYCNOCHES PENTADACTYLON, WITH MALE AND FEMALE FLOWERS.

At the meeting of the Orchid Committee of the Royal Horticultural Society, held on April 25 of this year, W. W. Mann, Esq., Ravenswood, Bexley, exhibited a fine plant of this singular species, with a profusion of the male flowers, of which the racemes generally consist, and also an occasional female flower towards the base of the racemes, and which, as a reference to our illustration (fig. 87) will show, present a strange appearance in consequence of their dissimilarity, and cause much wonder and admiration, through the two kinds of flowers appearing on the same plant. Instances of the kind are of frequent occurrence in the genera Cycnoches and Catasetum, and we have previously given detailed accounts of each new form as it has appeared. We are glad now to give an illustration of Cycnoches pentadactylon, and also of a single male (A, fig. 88) and a female flower (B, fig. 89), in order to show plainly their structural differences. The flowers are greenish-white, the darker markings being purplish-brown or chocolate. The culture of Cycnoches is very simple, if it be observed to grow them something like one would a deciduous Dendrobium, viz., to grow them moist and in a good heat, and on the leaves turning yellow after the completion of growth, to afford them a dry period in a cooler house. Mr. Simmon, the gardener at Ravenswood, seems an adept at the culture of this species, for he exhibited a plant of this species well in flower on January 17 last.

NOTES ON FLOWERING SHRUBS AND TREES.

While many garden subjects have suffered from the drought (sixty-three dry days, May 3), the above showy plants have been conspicuous for their beauty, if fleeting from the want of moisture. The earliest to command attention were the Japanese Cherries (Cerasus rosea pendula), which, worked on Cherry stems, forms a lovely umbrella-like tree, covered with delicate rose-coloured flowers in the greatest profusion. Cerasus Watereri, the semi-double twin-flowering pale blush Cherry, has been lovely, and is equally fine as a low bush or as a tree.

Scorpion senna is a charming old yellow-flowered shrub, and is profuse in blossom. Spiræa Thunbergii was in evidence at an early date, with its thousands of minute white plumes of flowers set on gracefully-curving branchlets, set off by pea-green foliage; after it was over, its cousin, S. multiflora arguta, was equally fine, being rather larger in its proportions, with graceful white festoons. Then Spiræa confusa, with its blue-green foliage, came to continue the white series; while the neat S. prunifolia, fl.-pl., with its ropes of white rosettes, closes

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that section, until the summer shrubby kinds enliven our gardens. Of these, more anon.

The Apples in the orchards have been very striking objects this year, but in the garden nothing exceeds in beauty, for the exquisite colouring of pink shaded to white, of Malus floribunda, M. spectabilis, M. Halleana, with purple foliage; and the Siberian Crabs. The frost spoiled the nut-like Corylopsis spicata, with its pretty cordate leaves; but the seldom-seen Halesia tetraptera (Snowdrop tree) is now very beautiful. The Brooms are very distinct, and Genista præcox, the sulphur or cream variety, the Portugal white, and the glorious G. scoparius Andreanus the delight of all beholders. The Lilacs have been, and are, noble this season. In whites none yet excel Alba magna. Virginalis and Madame Legrange are fine, and great advances on the old white—but there are I fear spurious forms of the latter in commerce In the deep rich red-dish-lilac kinds with massive corymbs, Ville de Troyes appears the best white, Croix de Braby is a fine late variety. Louis van Houtte, very bright; but the old Charles X. is yet a good and free-flowering, close habited sort. The double Lilacs improve, and the best at present appear to be Matthieu Dombasle, a branching corymb of nearly lilac-self; Pyramidalis, a shaded kind with long spikes, justifying its name; and Lemoine, fl.-pl., a very free-flowering sort; President Grévy is good, and the new double-white, Madame Lemoine, is a welcome addition. Large bushes of the white Siberian, with the upper spikes 12 to 18 inches long, are striking; while the scarlet Siberian is very bright, and flowers freely. One of the most striking plants early in April was the clear yellow Forsythia viridissima; and the climbing variety, F. suspensa, was even more beautiful. The Almonds, as usual, were duly appreciated, the less-known Amygdalus Davidiana alba and A. nana being ever-beautiful.

These notes cannot be closed without reference to the exquisite colour and contour of the foliage of such trees as Schwedler's Maple, Prince Haudjery's Maple—or the still too-little-planted Japanese Maples of the coloured and green-leaved Poly-morphum group, the variegated Sycamores, cut-leaved Birch, the Golden Elm, and kindred subjects. In fact, one sighs over the wealth of flower and foliage that so many planters miss. I need scarcely refer to the early Rhododendrons, Azalea mollis, Rhodoras, &c., which are sure to be planted in suitable soils; but most of those named above appear to do well whenever they have space to develop. I like to see big specimens of these on grass, in place of so many Conifers and evergreens; their constancy in flowering is to a lover of horticulture like grasping the hand of a bosom friend. Later on I will, with the Editor's permission, name some neglected kinds that flower in May and June. The present season has hastened many by a month. *George Bunyard.*

CALIFORNIA VINE DISEASE.

Investigations as to the causes and treatment of Vine diseases cannot fail to be of interest to Vine growers in this country, especially when the disease under consideration appears to be related to, or identical with, forms of disease known in Europe. No apology, therefore, seems to be needed for drawing the attention of readers of the *Gardeners' Chronicle*, to the leading features of a report on the Californian Vine disease, which has lately been presented to the United States Department of Agriculture, by Mr. N. B. Pierce, special agent, who has been investigating this form of disease. It may be premised that the direct and indirect losses arising from this disease are difficult to estimate, but they are very great. The reporter says that "millions of Vines throughout the Santa Ana Valley have been removed from the ground, and consumed as fuel;" and again, "the Vines now incurably diseased, including those already dead, will amount to over 20,000 acres, probably to over 25,000 acres. What the future spread of the disease may be is yet in doubt." The first outbreak of the present disease was recorded in 1885 and 1886, although its first appearance or recognition must date back to 1881 or 1882. In 1886 Los Angeles County, the original seat of the disease, had an area of 22 005 acres of wine-making Grapes, from which nearly 5 000,000 of gallons of brandy and wine were made in 1886. In all there was a total, for that county, of 25,705 acres of Grape Vines. Hence, it may be inferred that the disease is a serious one, and that its true source and remedy are questions of vast importance to the infected districts.

The special characters of the disease, as affecting the leaf, the cane, the body, and the root, may be briefly summarised as follows:—In the majority of diseased Vines the leaf presents distinct characters, which are treated as localised and constitutional. The localised, are those affecting the leaf, after it has become fully and perfectly formed, but only including the local effects of the disease. The constitutional are those of a leaf never becoming perfect, showing a diseased state from the time of its opening, or those of a matured leaf subsequently affected in a constitutional way. The constitutional effects are apparent in two ways:—(1.) "The chlorophyll of the newly-formed leaf fails to properly develop in that portion of the parenchyma lying slightly distant from the main fibro-vascular bundles, or in that part supplied only by the finer spiral vessels. Hence the leaf never assumes its normal green colour, but, instead, has a stripe between each two principal veins or vascular bundles. (2.) The chlorophyll forms as it should in the healthy tissue, giving the entire leaf a uniform green colour. At a later stage, however, the chlorophyll of that portion of the leaf which is nourished by the finer spiral vessels, loses its normal colour, and the parenchyma changes gradually to yellow or red." The localised effects are, that although the leaf may have a natural green colour over nearly the entire surface, one or more yellow spots may often be seen in that part of the parenchyma which is supplied with the finer spiral vessels. These spots are often well-defined, the outline being very sharp and distinct. The spots may become more numerous after a time, and enlarge in diameter until the general constitutional effect is very closely approximated; the leaf then falls as in the other cases. The spots pass through the leaf, and are well defined upon both surfaces.

The length of the cane is usually determined by the degree of the disease, and its position upon the stock. The more advanced the disease in the stock, the more limited the growth. In an advanced stage, the internodes become shortened; the cane becomes usually bare of leaves before the wood is properly ripened. The end of the cane, being last to ripen, is most immature, and soon after the leaves fall the unripened parts turn black, and become dry. The peculiar and unequal ripening of the cane is very marked. The properly-ripened cane should present a cinnamon colour nearly to the extremity. In diseased canes it is common to find the terminal third entirely green after the fall of the leaves, and the other two-thirds ripened in an irregular manner. One side of the cane may be properly ripened, and the other perfectly green. Left in this condition, there is soon a marked shrinkage of the green portions, and an alteration of colour. Towards the end of the cane, the entire bark shrinks tight, so as to show longitudinal ridges, and at last becomes perfectly dry and black; at this time the end of the cane can be snapped off between the thumb and finger. The interior of the cane shows a premature discoloration of the pith cells, which precedes the discoloration of the wood.

As to the supposition that the Vines were first diseased on the south-western side, the examination of one hundred Vines showed that in the greater number of cases the Vines were blighted on the south or south-west side, or that exposed to the greatest heat of the sun. The canes nearest the ground or root of the Vine look most healthy, and die latest.

It is difficult to ascertain when the root first becomes diseased; it is even uncertain whether external signs of disease may be seen first upon the root or the top of the affected stock. Many Vine growers believe that the root becomes affected last. At present the reporter believes that the extremes of the Vine show the early signs of disease at nearly the same time, whatever part may be its true seat. Among the first signs of disease is a discoloration and shrinkage in diameter of the finer root fibres, the root-hairs, and cap; this progresses until the tissue begins to decay. The decay goes on steadily from the ends of the rootlets back to the main roots, following these to the trunk. The root at last becomes wholly rotted, and passes into a brown, loose, amorphous mass.

If the first attack be violent, the Grape will sometimes fall from the bunch, but the dropping is not so strongly marked as the drying of the berry upon the branch. The drying of the fruit upon the Vine is a leading effect of the disease, and is very general in all varieties, and under all conditions. Decay of the berry often occurs on Vines which have been affected by this disease for a considerable length of time. "In one small vineyard which set a moderately good crop of fruit, not 100 pounds came to perfection, on account of the decay which set in before the picking; in fact, this vineyard became strongly offensive on account of the decaying fruit." After the disease becomes observable, the Vines produce less and less fruit each succeeding year.

The amount of sap in the diseased Vines is much less than in those not diseased; the flow of sap is much slower, and, when diseased, the last part of the Vine to retain a fair amount of sap is the stock below the surface of the ground. There is some evidence that sap flows more readily on the northern side—at least, in diseased Vines.

Summary.

As a summary of observations, it is stated that "Vines appear to pass through a period of disease prior to the time of the disease becoming externally manifest, or a period of incubation;" and that "this early period of the progress of the disease may be long or short according as the Vine is hardy, or easily affected; and finally, that "the effects of the disease appeared to be cumulative during the period of incubation."

From all the investigations, there is no shred of evidence of the presence of any form of micro-organism within the Vine capable of producing the results. The disease bears no close resemblance to any other form of Vine disease known in America or in Europe. Its nearest affinity appears to be with such diseases as Folletage and Rougeot, as found in Italy.

The report states that, "The bacteriological side of the investigation has given only negative results, but the experiments instituted were not completed. That bacteria are present in the diseased Vines is quite clearly established. They have been isolated, and cultivated in various media. That the bacteria, isolated from the inner tissues of the Vine, bear any causal relation to the disease is not, however, established." On this point it may be useful to quote the remarks of the same investigator in another report, which speaks more specifically of bacteriological investigations. It states that "the peculiar appearance and location of these spots led to a careful study of the same, which resulted in finding bacteria-like bodies in large numbers within the chlorophyllose cells of the spongy parenchyma immediately surrounding the spiral vessels supplying that region. After a long series of observations made on material from various portions of the diseased districts, which in no case failed to disclose the diseased Vines as swarming with these bodies in all portions where sap had a ready flow, he believed it proper to undertake a series of experiments to determine if these bodies always present bore any relation to the disease as a whole. He had little doubt that they were micro-organisms, and gave to the local spotting of the leaves their characteristically sharp outline. Cultures from various parts of the Vine were made in agar-agar and other media. Three sorts of bacteria were found with enough constancy to warrant further study, but he had not, so far, been able to determine whether any of these were the cause of the disease. In view of the fact that several Italian students have for years claimed that

an Italian disease of similar characteristics is caused by bacteria, it is proper the matter should be decided, if possible."

We need not attempt to go further than these reports will justify in our conclusions; neither can we, until the cause of the disease is more apparent, suggest what remedies should be employed. Our present object is to give such particulars of the disease as are known, on the principle that "to be forewarned is to be forearmed." *M. C. Cooke.*

MARKET GARDENING UNDER GLASS.

(*Continued from p.* 542.)

MESSRS. GREGORY AND EVANS.

THIS is a large establishment, situate about a mile from Sidcup station, in Kent. There are about forty-five houses, many of these running 100 feet in length, others 50 feet, about 13 feet wide, and 7 feet high. A vast quantity of stuff is raised here, and the whole of the business is with the market or the trade. At the time we visited Sidcup, the houses contained a fine lot of bedding stuff in great variety, and of good quality. Perhaps the two plants present in greatest quantity for this purpose were Lobelias and Heliotropes. We have never seen a larger or better stock of Pteris tremula than was here. Thousands of good plants of saleable size, and, in addition, a good number of quite specimen-sized plants, ready at once for the furnishing of very large rooms. This is one of the most popular of all the Ferns for decoration of large places. It stands a cool place tolerably well, and its appearance is at once graceful and imposing. For smaller pots, and for table decoration, the Pteris serrulata is grown, house after house being devoted to this alone. If grown slowly, and tolerably cool, this species will resist cold rooms and draughts better than any other of the Ferns available for ordinary decoration. Selaginellas are present in large quantity also, whilst Cyperus, Palms, and other foliage plants are each the subjects of large space and attention, Kentias and Latanias receiving the largest share of favour. Solanum capsicastrum is a plant sold largely in autumn, and when well grown, its effectiveness for winter decoration has long been acknowledged; but through so many of them being roughly subjected to sudden changes in temperature, and this, too, when the watering-can is being used without any care, the specimens often present a shabby appearance, and lose a large proportion of their foliage. Ericas — the common varieties, we mean — are done first-rate here, and the number grown is considerable. They are all stood outside during the summer, where a large space of land is specially kept for their reception, and along which are a number of long stone troughs, to facilitate the operation of watering. These troughs are kept filled with water from a well, which is pumped by means of a windmill. Marguerites, as is usual at most such places, are grown in quantity. Many thousands of pots of Rhodanthe were coming along, and are by this time in the market. Ivy-leaved Pelargoniums, too, get their share of attention, and Aralia Sieboldii. Upwards of 30,000 clumps of Spiræa japonica are forced each season, and of bulbs the quantity of Hyacinths is about 30,000, Tulips, 30,000; and Japanese Irises. 60,000. We must not omit to mention the Roses, which are well done; the varieties consist principally of Catherine Mermet, Perle des Jardins, Sunset, W. A. Richardson, and Niphetos. The whole establishment was in good order, and the plants healthy and clean.

THE BRENTFORD MARKET.

THIS undertaking, which has been put forward by the Brentford Local Board, with a view to provide west London retail dealers in market-garden produce with a ready means of obtaining their articles of commerce, and in the interests of the large wholesale growers in West Middlesex and Surrey, is on the verge of completion. By the 24th of this month it will be ready for the formal opening by the Lord Mayor of London, the traders commencing business on the following Friday.

FIG. 88.—CYCNOCHES PENTADACTYLON. (SEE P. 597.)

A, Male Flower.

In an article published some twelve months ago, when the scheme was in embryo, we gave an outline of what was to be attempted; but since then the Local Board has found it expedient to curtail, in some degree, the plans prepared by their surveyor after a conference with local market gardeners. The dimensions have undergone no change; about one-third of the site of 3 acres, adjoining the Kew terminus of the N. L. and S. W. Junction Railway, being utilised, and the frontage of 150 feet to the main road from London to Brentford has remained as originally contemplated, being composed of five shops, with double sets of gates for ingress and egress, and two small gates for the use of retail buyers. The proposed central block of stalls for retailers, with an avenue running throughout for the sale of flowers, has been considered to be at present out of the question; therefore, the form the market will take is a paved, flagged, and carefully-drained open square, over an acre in extent, subdivided into two parts, and flanked on each side by rows of covered stalls, capable of being closed in like shops. In making these amendments in the original plans, the Board has been actuated by motives of economy, and on the simple principle of "walking before attempting to run;" for though the support from growers of fruit, vegetables, and flowers of the western home counties, and the representatives of the London and northern English markets, has been quite as great as was at any time anticipated by the most sanguine member of the local authority, yet the venture has to stand the test of at least one year before a verdict, one way or the other, can be pronounced. Should it be, as every outlook, prospect, and forecast seems to prophesy, a verdict of approval, then the Board will be able to improve with an unsparing hand. What has been done has been done thoroughly by well-qualified contractors under the Board's surveyor, Mr. J. H. Strachan, and the cost of the whole, including the site, about £8000, has been well spent. It is intended that the stands, of which there are eighty-four, shall be let for not less than twelve months in advance, and all but about thirty are allotted, the rush by local growers to secure them when the market committee sat to receive applications, being great. The covered stalls are thirty-four in number, and all, with the exception of two to be retained as refreshment-stalls and let by tender, have been secured for twelve months, amongst their tenants being some of the London salesmen. Vegetables, fruit, and flowers will be on sale on Mondays, Wednesdays, and Fridays, from 4 o'clock in the morning in summer and 5 o'clock in the winter; and Thursdays will be devoted to the sale of hay, straw, and general corn and fodder, the market closing at 6 o'clock in the evening in summer, and 4 o'clock in winter. The rule as to waggons is, that they must be cleared out of the market daily by 12 at noon, except those delivering to stall-holders, and the fees have been calculated on as liberal a basis as the circumstances permit. Holders of stalls have the power to open every day the market is open, and itinerant vendors of garden produce will be allowed stands on payment, in advance, of a daily fee, which, as would naturally be supposed, works out at a higher figure than that imposed on the renters of stands. One thing, which was not in the original plan, has given rise to considerable debate—stabling for the horses, but the Board were unable to come to any conclusion, and for the present, at any rate, horses will have to be stabled at adjoining inns.

FIG. 89.—CYCNOCHES PENTADACTYLON. (SEE P. 597.)

B, Female Flower.

SARRACENIAS.

SARRACENIAS are usually classed as half-hardy plants, but the North American species can withstand frost with greater immunity from injury than is generally supposed. Some few years ago I imported some plants of S. purpurea, and was struck by their weather-worn appearance, which, itself, afforded proof of the hardships they had been subject to. The mean annual temperature of that home of the Sarracenia does not exceed 53° Fahrenheit, a fact which proves how amenable such plants must be to cool treatment.

As bearing on this matter of culture, the very heavy summer rainfall should not be forgotten which is experienced from the coast inland beyond the home of these plants, which points to their requiring abundant waterings at the growing season. The information accompanying the specimens also goes to prove this, with the reservation that they are not aquatics, nor even semi-aquatics, although a suitable compost for them should consist of peat and sphagnum moss. The idea that they are difficult plants under cultivation arose from the fact that im-

ported examples do not take well to artificial culture, especially such plants as lie about at auction rooms, and are bought by novices, and this fact notwithstanding, they seem possessed of great vitality, as such examples will continue fresh-looking for a year or more, though they have formed no roots, and eventually turn brown, and so become dried up.

I grew them successfully in a small cool pit on the shady side of a building, which, in addition to being well matted in winter, obtained some warmth from an adjoining fernery, by means of holes in the wall, when very severe frosts prevailed. It is the practice, at present, to maintain the plants near to the glass in sunny aspects, shade being applied during bright sunshine, throughout the summer months. The following is a summary of the treatment that I found suitable. Commencing with the month of February: when first signs of growth occur, the plants should be potted in sphagnum moss chopped fine, and intermixed with small nodules of dark peat. It is difficult to understand why nodules of peat are preferred to a finer mixture of peat, or why sphagnum moss should be used, unless it be that the roots prefer the firmness of the peat, and that the moss is merely a means for maintaining a large degree of moisture about them. Anyhow, this kind of compost does not exist in nature, though solid peat mostly lies low, and it is densely carpeted with the decayed sphagnum moss of ages, and having long tresses of the living moss above this.

The plants, potted in well-crocked pots, and the compost made firm, the best place to be found for them is a house with a temperature of 50° by night, and 54° to 58° by day, allowing for natural rise by sun-heat. At the beginning of April a rise of 5°, and a slight rise again in May, may be allowed, and then a gradual increase, until a mean summer-heat of 64° by night, and 75° by day is reached.

Needless to say, during the latter part of the month of June and onward throughout the summer and early autumn months, hot sunny greenhouses are the least suitable places for Sarracenias. A house with a west aspect is desirable, and the plants should stand on a cool bottom of coal-ashes or gravel.

The pots should not stand in water, nor is it good practise to sprinkle the plants overhead more than once or twice a week, for the reason that notwithstanding the apparent hardness of the coatings of the pitcher-leaves, they receive injury if kept constantly wetted—the taller-growing species more especially. During the time of growth, copious root waterings are required.

At the beginning of September, the winter treatment is begun by the very gradual lessening of the quantity of water at the root, and a lowering of the temperature, so that by the beginning of October it may be about 48° by night, and 53° by day.

Propagation is effected by the division of large plants, cutting them apart at the base, but there must be no attempt to pull large examples into small pieces; indeed, they resent having their roots separated from the soil, and it is good practice to divide both plant and ball by cutting the mass down the centre, even at the risk of destroying a few of the roots. A score or more of species, sub-species, and hybrids are now in commerce, and form altogether a very interesting collection of plants. Sarracenias bloom about the month of June. *William Earley.*

TREES AND SHRUBS.

PICEA ENGELMANNI GLAUCA.

This very handsome Conifer is a striking object when of large size and symmetrical in form, and it bears resemblance to Abies nobilis in general features, but with a very pleasing tint of blue in the silvery tints of its needles. A fine specimen of the tree exists in Mr. Pope's private garden, attached to his new nurseries at King's Norton, Birmingham. The garden occupies an elevated position open to the south and west, and not entirely sheltered from the east. *W. D.* [We suspect our correspondent means P. pungens glauca, a much finer and more hardy tree than the one he names. Ed.]

THE WEEK'S WORK.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maiden Erlegh, Reading.*

STRAWBERRIES.—The fruits on young plantations of these are fast approaching the stage when they will require to be protected from blackbirds and thrushes, and those planted last autumn, having little foliage to keep the nets raised above the fruit, always give much trouble, as the foliage gives way under the weight, and affords little support, consequently the finest and earliest fruits were much spoiled. Last season, before putting on the nets, I procured some half-inch round bar-iron, 12 feet 6 inches in length, and got the smith to bend these down at each end 15 inches, which left them 10 feet long. I then got him to make us some stakes of the same sized iron 2 feet long, with a closed eye at the top, through which the 12 feet 6 inches iron rods were put. The rod, 2 feet long, formed a support to steady them at the desired height in the middle. These rods cover four rows of plants at 3 feet from row to row, and take a 12 feet wide net, which is kept pegged down along each side until we want to gather the fruit. The hoops were placed at 9 feet apart along the rows. We found it a perfect kind of protection, and the fruit was conveniently gathered, the nets being readily thrown across the hoops. By thinning all the small and late fruit, those that are left are much assisted. Afford a final watering to young plantations, and liberal supplies to older ones until the fruits begin to colour.

BUSH TREES.—Where Black Currants may not have been well watered and mulched with good rotten manure, as advised in a former Calendar, let this be attended to at the earliest possible opportunity. Also mulch Red Currant bushes with spent hot-bed manure or other long litter, and use either the hose or the garden engine—in cases of only a few bushes, the syringe will answer well enough, to dislodge aphides. Gooseberry bushes should also be mulched, and, where they need it, well watered. For red-spider, dust the bushes over, a portion at a time—not to interfere with the supply of fruit for tarts and bottling—with equal parts of fresh soot and air-slaked lime, whilst they are damp with dew.

VINES.—These being unusually advanced for so early a date as the present, give promise of a good crop. Do not crowd them by leaving too many shoots, and only where spurs are a long distance apart, should more than one shoot be left; stop the shoots at one or more leaves beyond the bunch, according to the space to be covered. A good soaking of water should now be afforded, and directly the Grapes are set, a heavy watering with sewage or farmyard liquid manure will be of use.

GRAFTED TREES.—These will still require attention, keeping the air excluded from the scions, and where the clay is too much cracked and broken away, put right by redaubing it. Pinch back the spray on the stocks for the present, and entirely remove the same as soon as the scions have commenced to grow freely.

THE KITCHEN GARDEN.

By H. C. Prinsep, *Gardener, Buxted Park, Uckfield.*

GENERAL WORK.—The dry weather that we have been experiencing this season has taxed the resources of gardeners to the utmost, for after the severe weather of the early part of the year vegetables had become scarce. The hot dry weather set in so early, and spring crops had scarcely time to make a start; all early crops that had taken hold of the soil before it became so dry have made rapid progress. It is not so, however, with later sowings of Carrots, Parsnips, and Beet, which have not begun to germinate owing to the scarcity of moisture, and unless rain soon falls blanks will occur in these crops. Seldom have Peas and Beans germinated more freely than those sown of late and covered with a moist mulching, for with us they were quite green above the soil eight days after being sown. Judgment must be exercised in making successive sowings, for if these follow each other too quickly, the crops may be ready to gather at one and the same time, so that where ground is limited in extent, sufficient later sowings could not be made to provide for a constant supply. It is difficult to lay down hard and fast rules on this point, for the seasons, soils, and other local conditions are so varied, that gardeners are called upon to use their discretion in this matter.

ENDIVE.—A sowing should now be made. As the season is so dry, it may be preferable to sow a small bed, so that it can be well-watered and shaded. In moist seasons we prefer to sow the first lot where it is to stand, for often when transplanted very early, a great number of the plants bolt. The curled kinds are best for early sowing. Where constant supply has to be maintained, successive sowings should be made once in three weeks, and in summer should be grown in a cool place, such as the back of a north wall affords.

DANDELION.—Make another sowing, so that a sufficient supply of roots may be had for blanching during the winter and early spring.

SPINACH.—On poor soil, the round soon goes to seed in hot dry weather; but the prickly-seeded kind does not bolt so soon, especially if given plenty of room to grow. But it is doubtful if either of these will, for long, stand such a season as the present, unless we get an unusual amount of rain during the next two months, for the soil having become so dry, it will take all the average rainfall to moisten the ground; therefore it may be well to make a sowing of Spinach Beet, Orache, and New Zealand Spinach. The leaves of the latter are dark green, and very delicate when cooked. The plants should have ample room to grow, being allowed 2 feet each way. Spinach Beet is strongly recommended to those who have limited space, as the plants afford a constant supply if the leaves are picked off before the midrib gets too large. The other variety is more often grown as a garnishing plant than as a vegetable, especially the red-leaved kind, the colour not being agreeable when served up.

TURNIPS.—Small sowings of these are preferable, and the cultivator must be guided by the demand, always remembering that it is better to have a few more than required than to be short of them.

CAPSICUMS.—Beds should now be prepared for these, as the plants raised in heat, and grown on in pits will now be strong and sturdy, so that as soon as all danger of frost is over, they may be planted out. To grow good pods, a light rich soil is necessary; so if a portion of a south border can be spared from which the early crop of Potatos or Carrots has been removed, it should be afforded a dressing of thoroughly decayed manure. The distance allowed between the plants must depend on the variety, but from 1 foot to 15 inches each way will usually be found sufficient.

THE ORCHID HOUSES.

By W. Holmes, *Gardener, Pickering Lodge, Timperley.*

PLEIONES.—The pseudobulbs of these plants being now in course of formation, the plants must be well supplied with water at the roots, and once a week with weak liquid manure. Attend to the watering of Cœlogynes, the syringing and damping of the stages, the plants being now in growth, and needing copious waterings. Phaius grandifolius, P. maculatus, and P. Wallichianum, are species not difficult to cultivate in a house with a warmth of the East Indian-house, in a compost consisting of turfy loam and peat, with a few small nodules of charcoal or some clean crocks and coarse silver sand. The drainage should be good, and the supply of water at the root not stinted at this season. Phaius Humblotii and P. tuberculosus require the same temperature as the above-named, but a more shady position in the house, with plenty of moisture kept about them. A great drawback to the cultivation of Phaius is their liability to be infested with yellow thrips, which get into the young growths, doing much mischief before they are discovered, and the means taken for their eradication often injures the plants. As I have before stated, dipping plants in insecticide is often injurious to them, but it has to be done at times. The best preventive of insects on plants is to maintain a proper temperature, afford the required amount of moisture to the roots and in the air, and general cleanliness. In repotting the last two species of Phaius, a very small quantity of potting material should be used, they not being strong growers like the others, and the pot need not be large; and the amount of finely-broken crocks in the compost should be in excess of what is usual with most other species of Orchids.

ORCHIDS IN FLOWER AT THIS TIME.—With no unusual warmth by day now prevailing, the flowering of Orchids is quite one month in advance of the customary time, and numbers of Cattleya Mossiæ and C. Mendeli are over; and those growers who are exhibitors have had a difficult task in retarding their plants. Lælia purpurata opened its flowers on May 5 this year. Although our Lælia-house was kept as cool as it was safe to be, Cattleya Mossiæ, C. Mendeli, Lælia Boothiana opened their flowers early in the month of April. This earliness of blooming may make some difference in the display in houses this year, so many Cattleyas being early out of flower that a blank season will occur when the summer flowerers are over and before the autumn-flowering C. labiata begin; still, if the weather continue unusually warm, these will also begin to flower at an early date, the new growths being now forward. Plants of Odontoglossum crispum have this year finer flower-spikes than we have ever had on them, and the blooms possess more substance, which is likewise the case with Miltonia vexillaria, and the state of these plants is a month in advance of what is usual at this season. All plants of Cattleya from the present time should be afforded plenty of water at the root, and the air should be rendered very moist — a great point in the cultivation of Cattleyas, as is also abundant ventilation night and day in the warm season. Cattleya intermedia, C. Skinnerii, C. S. alba, C. S. oculata, having commenced to grow, should be repotted or top-dressed as may be required. In repotting, disturb or injure the roots as little as possible, and remove only so much of the old materials as may be done with safety. I find that these species of Cattleya will sometimes fail to start freely when confined in small pots, but when they are in pots of 9 to 10 inches in diameter, the repotting does not result in so much injury being done to the roots in removal from one pot to another. It is, I think, an error to take a plant and transfer it to a larger one with all the old material left about it, the latter soon becoming sour and spoiling the new, and causing the loss of the new roots. Unless a larger pot is urgently needed, it is preferable to pick out as much of the old material as may safely be done, and fill in with new.

PLANTS UNDER GLASS.

By BAILEY WADDS, *Gardener, Birdsall Gardens, York.*

CHRYSANTHEMUMS.—Preparations should be made for giving these their final shift into their flowering pots. If the weather be favourable, the end of May or beginning of June is the best time. The midland and northern counties are not safe from frost till the beginning of June, and much labour is saved if it can be deferred until the plants are removed to their summer quarters. The best situation is a space sheltered by walls or hedges, so as to break the wind; the ground where the plants are placed should be covered 6 or 8 inches deep with ashes, and the pots placed in lines 5 to 6 feet apart; line out the ground, and drive in strong Larch stakes about 7 feet high, 16 to 18 feet apart, strong tar-string may then be run from stake to stake at the height required. The plants should then be placed beneath the strings and receive one strong stake, which is tied to the string to secure the plants from being blown about; and if the tar-string is tied into a bow, it may be tightened when required. The pots are best not plunged in ashes as the roots soon get through the bottom, and the plants are injured by breaking them; they can have better attention in watering, &c., when the pots are placed on the surface. Prepare a good heap of compost for potting, which may consist of the following:—Six cartloads of good turfy loam, two of old potting soil, one of road-grit, one load of leaf-soil, one of fresh horse-droppings, half-load of sea-sand, and half hundred-weight of Standen's or other good manure; turn it well over two or three times, throw it into a round heap, and cover to keep off heavy rains. As a rule, 10-inch pots are the most suitable for growing specimen plants, and for decorative purposes. The pots should be quite clean and well drained. Do not put soot on the crocks; if it is used, it should be in a clear liquid state. See that the plants about to be potted, whether in 6-inch or smaller sized pots, are not dry. Soak them thoroughly, and they will not then want water for a few days after potting. Remove the crocks and a portion of the top soil, and pot firmly, especially if the soil be dry. Those plants that are intended for taking cuttings from for blooming in small pots late in the season, are as well kept in 6 or 8-inch pots. They should be placed out in the reserve garden, secured like the others, and be well supplied with manure water to keep them strong. Pompone and autumn-flowering varieties are best placed in beds of about three or four rows each, with 4 or 5 feet space between the beds for watering, training, cleansing, &c. They should not be plunged, but fastened with stakes and string, like the larger-growing sorts, but they may have much shorter stakes. Care should be taken after re-potting that the plants are not over-supplied with water, but they may be sprinkled overhead with a fine-rose water-can, or syringed several times daily. Keep the foliage of a good green colour, and do not allow the plants to flag for want of water. Strict attention to these little matters will soon be repaid.

FRUITS UNDER GLASS.

By M. TEMPLE, *Gardener, Carron House, Stirlingshire.*

MELONS.—The present time is favourable for the raising of Melon plants to furnish fruit for late houses or pits heated by hot water. If these plants are not hurried on in their growth, the bine will be short-jointed and fruitful, and the fruit will be larger than would be the case under the contrary kind of treatment. The varieties Beechwood, Victory of Bath, and Golden Perfection are long keepers if cut when rather under ripe; and the fruits can be rendered fit for the table by placing them in a warm place for a few days previously. Those who grow Melons in pots so that they shall escape the disease, must afford them liberal supplies of weak liquid-manure, a surfacing of loam, rotted manure, and a small quantity of soot. Lime and charcoal in powder may be placed round the stems if canker be feared. The leaf disease of the Melon is, I believe, caused by a fungus, and its spread may be prevented by the use of clear lime-water in syringing. Where crops of fruit have been taken and the plants remain healthy and vigorous, a second crop of fruit may generally be obtained, if a surface dressing like the above and a moist high temperature be afforded to induce further growth. When renewed growth is observed, air may be more freely afforded, and the thinning of the bine should be undertaken before much crowding has taken place. If stable manure be used to supply bottom-heat to Melon frames, linings of heated and sweetened materials should be afforded these partly exhausted hot-beds.

PEACHES AND NECTARINES.—As soon as all the fruits have been gathered, let the trees have several thorough syringings; and if the new wood is already brown in colour and firm, the house should be kept cool and airy. The black aphis is sometimes troublesome, but it may be got rid of by two or three fumigations. Examine the border in order to ascertain if it be dry, and water it liberally if necessary. If any of the shoots are too gross, remove the points to allow a well-placed lateral shoot to develop and take the lead. Trees in late houses will require much attention in syringing them, removing unneeded shoots, being always careful to retain the lateral shoots which grow at the lower part of this year's wood.

STRAWBERRY PLANTS gone out of fruit should be removed without delay from the houses where other fruits are growing, and the shelves on which they stood washed with hot-water, soft-soap, and flowers-of-sulphur, which will tend to destroy any red-spider remaining on them. As soon as the forced plants have been hardened-off, they will be ready for planting out, to obtain runners for early work another year. Plants in fruit, in pits or frames, should have four small sticks placed round the sides of the pots, and a bit of stout matting passed round them to raise the fruit up to the light and free of the mould. Where glass protection is used for plants in the open ground, any neglect of the ventilation, or in affording moisture at the roots, will end in failure.

TOMATOS.—Fruiting plants should have the too numerous fruits thinned, and laterals removed, stopping the latter at one leaf beyond the stem. Sow seed for an autumn crop, and allow the plants during the summer to grow with full light and plenty of air, so as to be fruitful. I may say here, that I have never seen plants cut back after fruiting abundantly become so prolific of fruit as are young plants. It should be remembered that a close moist air and high temperature are conducive to the Tomato disease, and spoil flavour.

CUCUMBERS.—Strong robust plants may now be planted out in pits or frames that were used for forced vegetables, keeping them somewhat close and moist till a free start be made; then stop, regulate, thin, and train the shoots over the beds. Ridge Cucumbers, where it is too cold to grow them in the open, do well under this kind of treatment.

PINES.—If there is a scarcity of any variety, and the old plants are not producing suckers freely, any of them may have their leaves reduced in number to allow of the emission of fresh roots, cutting off the old portion of base which has rooted in the past, and shortening the foliage. Pot the plants firmly into 7-inch pots, using turfy loam with some sand in it, plunging the plants so treated in bottom-heat of 90°, and keeping a high temperature with considerable moisture in the air till growth again becomes active, then treat them as succession plants. I raised a small houseful of Smooth Cayennes in this way last year.

THE FLOWER GARDEN.

By T. H. CRASP, *Gardener, Canford Manor, Wimborne.*

BEDDING-PLANTS AND PLANTING.—If the hints on the above subjects, given in some former calendars, have received attention, some amount of time will have been saved now that bedding-out has to be undertaken. Before any plant is put into the soil, it should receive a thorough watering an hour or so previously, and when planted the soil should be made firm about the roots. Should no rain fall after a bed is planted, it should receive sufficient water to moderately moisten the soil to a depth lower than the plants, and when the surface has got dry again, it should be loosened with the hoe. Weather permitting, the tender sub-tropical plants may be planted, except in gardens or places that are unsheltered, and in the northern counties, where such work had better be deferred for a week or two. Tuberous-rooted Begonias are increasing in favour with gardeners, being profuse bloomers, and able to withstand heavy rain much better than Pelargoniums. It is a good plan to furnish beds of Begonias with a groundwork of silvery Sedum, bits of which soon grow if dibbled in small bunches all over the bed, and kept well watered if the weather be dry. The groundwork of such-like plants saves the blooms of Begonias from getting splashed with dirt, and is better for the purpose than Cocoa-nut fibre refuse, or other dead material generally used. When the other kind of bedding out is finished, plant out the summer-flowering Chrysanthemums. Unfortunately, these showy midsummer-flowering plants only make good displays when the plants are old, and any such that may have retained their vigour all through the past winter, or young plants grown in pots to a good size, or those planted in cold frames, make good displays. Still, much may be done by planting in deeply dug, enriched soil, such plants as possess a certain amount of vigour.

BULBS of Hyacinth, Crocus, Tulip, Scilla, Narcissus, &c., if their foliage is decaying, may be dug up and spread out in some airy but shady place to dry off, but those bulbs with foliage still green should be laid-in in the reserve garden till the foliage begins to decay, and then be taken in like manner, dried, and stored away for future use.

WALLFLOWERS, ETC.—These should be raised early so as to allow of full development and time for the shoots to get matured before lifting them in the autumn. The seed should be sown from the present time onwards till the middle of June on prepared beds in an open position, in drills drawn 6 inches apart. When the seedlings reach a height of 2 inches, prick them out in beds at about 6 inches apart each way, and afford water plentifully in dry weather. Gladioli not yet planted should be put in the ground forthwith. Continue the thinning out of annuals as they become large enough to be handled, making use of the thinnings if so minded by carefully lifting, dibbling them into the soil, and watering them. Ornamental species of grass raised in heat may be planted out.

PANSIES may readily be struck from cuttings of the young shoots which are not showing flower, inserted in sandy soil, and protected from sun and wind, and the soil kept moist. These plants when rooted, and carefully lifted and planted, will form a succession to the pansies now flowering. The planting of all the hardy subjects which have been forced should receive attention.

EDITORIAL NOTICES.

Letters for Publication.—*All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* written on one side only of the paper, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for contributions, or to return unused communications, or illustrations, unless by special arrangement.*

Plants, &c., to be Named.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be carefully packed and numbered, and not more than six should be sent at one time.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Illustrations.—*Photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants' flowers, trees, &c., are particularly solicited; but the Editor cannot be responsible for loss or injury.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Advertisements should be sent to the PUBLISHER.

APPOINTMENTS FOR THE ENSUING WEEK.

SHOW.

THURSDAY, May 25 { Royal Horticultural Society's Grand Temple Show (two days).

MEETINGS.

WEDNESDAY, May 24 { Linnean Society, Anniversary. Royal Botanic Society, Musical Promenade.

SALE.

FRIDAY, May 26 { Orchids, from Messrs. F. Sander & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—56°.4.

The Season. As we write, the drought seems happily likely to be a thing of the past. Before it leaves us entirely, it will be interesting to note the peculiarities which this exceptionally hot and dry season has brought about. Precocious flowering is, of course, one of the main features at the present, but it will be interesting to note also whether the growth of the shoots of trees will be arrested and early "ripening of the wood" take place. In truth, the consequences may be as varied as interesting—on which account we think the following letter from our valued correspondent, the Rev. H. Ewbank, is specially worthy of note:—

"The present state of things in the Isle of Wight is without precedent in the memory of the oldest inhabitant. The drought is excessive, and everything in our gardens will be soon burnt up if we get no relief. The following examples will show what I mean, and will also serve to illustrate the wonderful precocity of the year. It is such as has never been known before. We are to all intents and purposes in the middle of July. A very large specimen of Fremontia californica sweeps the ground with branches that are already wreathed in blossom. Poinciana Gilliesii in an exposed border has large fat buds which must open in a day or two—at any rate, long before May is over, whereas Sweet, in his *British Flower Garden*, gives the end of July as the flowering time for an old-established shrub in a stove! Very nearly the same thing applies to Mandevilla suaveolens and Mutisia decurrens against the wall of my house. Some things are affected very curiously by the abnormal season, e.g., Cercis Siliquastrum, the Judas tree, has this year foliage and blossom at the self-same time, whereas generally the last of these two things appears before the first. I suppose that the heat has precipitated the expansion of the leaves, and the present is certainly a very good arrangement so far as the beauty of the tree is concerned. I never saw it looking so pretty as now. It is far otherwise, however, with Paulownia imperialis. Its Gloxinia-like blossoms did try to open and throw a lilac veil over the scene, but they soon paid dearly for the attempt, and they have given it up altogether. They could not stand the severe scorching which they received.

"Of plants which have surprised me by their unusual earliness, Œnothera marginata is as good an instance as any for me to give. Mr. Nicholson in his *Dictionary*, says that July is its blossoming time. It is in blossom now. Heuchera sanguinea is behaving in much the same way. It has been of the most fiery red for the last three weeks or so, instead of displaying itself in summer, and I could mention case after case of a similar sort. Habranthus pratensis is quite a thing of the past so far as this year goes. Rosa rugosa began to blossom in April, Lilium Thompsoni, which never blossomed here before, did just the same thing. Lilium pyrenaicum is in blossom now; L. Washingtonianum will follow very soon.

"It would almost be requisite to make an inventory of my garden as it now is, to tell of all the strange things which are happening in it. Some plants are very well contented, and others are just the reverse e.g., two or three specimens of Gerbera Jamesoni seem to say, 'This is very jolly, indeed, and beats the Transvaal hollow.' Anthericum Liliastrum, on the other hand, sighs for the wet valleys of the Alps, and will not be comforted by the most copious libations from the watering-pot. I have lost several very large Rhododendron bushes which I have had here for twenty or twenty-five years. It was impossible to water the whole garden, and they have been stricken down by the heat, and have succumbed altogether. Yesterday morning when I was walking round the place, I espied two seed capsules which had shed their contents upon the ground. One was that of Narcissus Golden Spur, the other that of Muscari azureum robustum. This is surely racing on with a vengeance! But what is to come of it all? It may be confidently expected that Anemone Honorine Jobert, Aster Novæ Angliæ and A. Novæ Belgii, Sternbergia lutea, Saxifraga Fortunei, and such-like, will soon have come and gone, and what are we to do then? Strawberries (Laxton's Noble) were ripe a week ago, and Peas are fit to be gathered to-day. An odd thing is, that I had a letter yesterday from a well-known and skilful cultivator of plants in New Jersey, U.S.A., and its refrain was this—'Rain, rain, rain—nothing but rain!' To which I reply—'Sun, sun, sun—nothing but sun!'

"There are some things which are unthinkable, and beyond the compass of the human mind; for it is equally impossible to imagine either a beginning for them, or an end, and though the beginning of this wonderful drought is not hid in mystery (it began here somewhere about the 3rd or 4th of March), I cannot conceive what is to take place when the unprecedented season is over. It is to me unthinkable. At the present very alarming rate of progress, I should say that all our flowers will be over and done for in August for the year—and then, what is to follow it? Are we to have no flowers at all for the last five months of the year till the Snowdrops come again? Or, as with a supplementary session of Parliament, will there be a supplementary spring in November? For if not, we shall certainly in the Isle of Wight be bare of all blossom long before the time comes round when flowers reappear. *H. Ewbank, St. John's, Ryde, May* 13."

The Temple Flower Show.—Once again the Great London Flower Show of the year is about to be held in the Inner Temple Gardens, under the auspices of the Royal Horticultural Society. All arrangements have now been made to celebrate this much-looked-for event on Thursday and Friday, May 25 and 26, and should the weather be favourable, there will doubtless be many thousand visitors to the Inner Temple Gardens on this occasion. To avoid disappointment, intending exhibitors should forthwith give notice of their intention to exhibit to the Society's Superintendent, Chiswick Gardens, who will then allot the necessary amount of space. Exhibitors names, if received in time, will appear in the special catalogue of the show, copies of which will be distributed free of charge. On each day of the show the band of Her Majesty's Royal Horse Guards (Blues), under the direction of Mr. C. Godfrey, R.A.Mus., will attend. The Council has specially arranged that gardeners (i.e., bonâ fide employés in a private garden, nursery, market garden, or seed establishment) may obtain 2*s.* 6*d.* tickets for 1*s.*, which will admit them to the exhibition at 10 o'clock on Friday morning, May 26. These tickets can only be obtained previously to May 24 from the Society's Office, 117, Victoria Street, S.W., and a stamped and directed envelope must be sent with postal orders in every case.

Earl's Court Forestry and Gardening Exhibition.—The opening of the above by H.R.H. the Duke of York took place on Saturday, the 13th inst. The ceremony was announced for 12 noon, but it was almost 1 o'clock before His Royal Highness, accompanied by Lord Salisbury and several Indian potentates, arrived; but once in the building, the ceremonies were of the briefest kind, the Prince, in reply to Mr. Milner's address, which dealt with the aims and objects of the exhibition, making a short speech, and declaring the exhibition open. His Royal Highness then made a tour of the grounds and some part of the buildings, in both of which a considerable amount of work remains to be done to render them complete. The grounds are much improved in the matter of planting, and the idea of greater spaciousness has been obtained in one part by the sacrifice of the Italian garden. A luncheon, Mr. Milner presiding, was served to a numerous company in the French restaurant, amongst those present being Lord Salisbury, the Lord Mayor of London, and Cardinal Vaughan. A report of the horticultural show, held on this occasion, will be found on p. 609.

Horticultural Club.—We understand that it has been decided to have a special dinner of the Club on Thursday, May 25, the first day of the great Temple Show of the Royal Horticultural Society. The experiment was tried last year, and it was so great a success, that the Committee have determined to hold one this year.

The Royal Society.—Among the fifteen selected candidates for the year, we note with pleasure the names of Dr. J. W. H. Trail, Professor of Botany in the University of Aberdeen, and of Dr. A. Russel Wallace.

Potatos in Ireland.—We learn from the *Cork Constitution* of May 16, that scarcely within living memory was there more hopeful promise of a rich yield in all descriptions of crops than at present, should no adverse circumstances intervene. The Potato sets were put in during fine dry weather, which is of the greatest advantage, and all were planted in excellent time. As a result of this we have had new Potatos dug some weeks ago in Glandore, and grown in the open air in the sheltered gardens of that charming seaside resort by Mr. James Swanton, of East View, while they are being brought into the town in baskets from the island at present. They were dug in Glandore before the month of May came in, and in many places along our sea-board, and in the island; they are at present comparatively common, and owing to the drought they are excellent eating.

EUCALYPTUS OIL.—In the London market last week, Eucalyptus oil from Sydney was quoted at 1s. per pound, a very different price than that which prevailed during the visitation of influenza. The reputation of Eucalyptus oil has, indeed, been threatened in Australia by the death of a man in Geelong and of a boy in Tasmania. In the first case, the man was suffering from influenza and took a dose of Eucalyptus oil before retiring to rest. He was found dead in bed on the following morning, and a partly-empty bottle of Eucalyptus oil, from which he had taken about an ounce, was found in the room; the cause of death was proved to be influenza, accelerated by a weak condition of the heart, and an overdose of Eucalyptus oil. In the case of the boy, who was aged ten, and who had been suffering from a cold, it was shown that he had taken a table-spoonful of Eucalyptus oil, thinking it would cure his cold. A doctor was summoned twelve hours afterwards, but was unable to save the boy's life, and the verdict of the jury was, "Death from an overdose of Eucalyptus oil," and they further recommended that manufacturers and dealers in the oil should warn the public on the labels against an

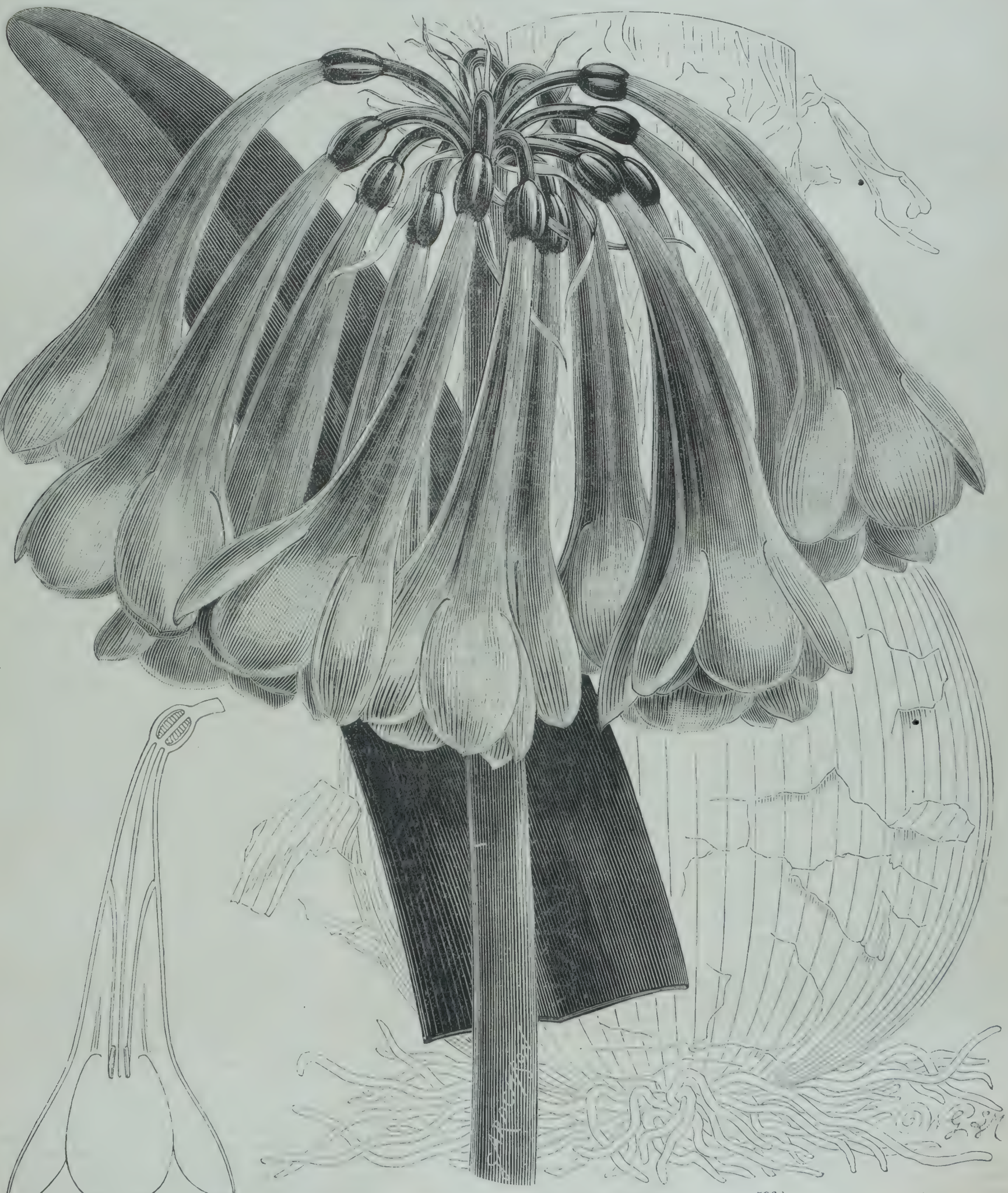


FIG. 110.—CYRTANTHUS OBLIQUUS: FLOWERS YELLOW, TINGED WITH RED. (SEE P. 596)

overdose. The Pharmaceutical Society of Tasmania at a special meeting called to consider the subject, passed the following resolution, "That the council are of opinion that it is very doubtful whether the child died from poisoning of Eucalyptus oil at all, and that as to labelling Eucalyptus oil 'poison,' or with a 'caution' label, they are of opinion that this is quite unnecessary, the oil having been sold without any such labels for about thirty years, and no danger to the public having resulted." The reputation of the oil seems to be in no degree affected by the adverse decision of the jury in the case referred to, for it is still made in very large quantities in Australia, and one company in Tasmania is said to turn out as much as 600 lb. per week. The leaves, which are collected by the settlers, are brought in sacks to the nearest jetty in carts or bullock-waggons. When the sacks are opened, the leaves are carefully sorted, and those of the Blue-gum, Eucalyptus globulus, alone selected, and these are put into huge tanks for pressure. In the preparation of the oil the most improved modern machinery has been introduced.

Training of Women as Gardeners.—This subject has from time to time received considerable attention in these pages, and in relation to it we are requested to publish the following communication from the Director of the Royal Gardens, Kew:—"There appears to be a general impression that gardening at the present moment offers a suitable opening for employment of women. I receive, in consequence, a great many letters on the subject. I should be very glad if the subject could be discussed in the pages of the *Gardeners' Chronicle*, which is to be found in most country houses. I am not prepared to say that the whole thing is absolutely impracticable. There are undoubtedly branches of horticulture in which women might even excel more than men; but that the average woman could go through the practical training which experience has shown to be necessary to make a good all-round practical gardener, seems to me wholly out of the question. I enclose a copy of the last letter which I have written on the subject. It might save me a little trouble if you could give it a wider publicity. *W. T. Thiselton Dyer.*"

"*Royal Gardens, Kew. May* 15, 1893.

"Dear Mrs. ——, A good many young ladies at the present time seems anxious to learn gardening. There was, I believe, at one time a sort of institution managed by a lady who gave instruction. But I have recently heard that the whole thing has come to grief. There may be others, and possibly a note to the Editor of the *Gardeners' Chronicle*, 41, Wellington Street, Strand, W.C., might get you some information.

"I must confess that for my part I think the enterprise is not very hopeful. Some parts of gardening work are suitable enough to neat-handed women. Striking cuttings, budding and grafting they would probably do better than men. But these are only incidents in the business. There is an immense amount of rough work which, if anyone is ever to be a practical gardener, must be gone through. We reckon here that it takes five years steady training to turn a youth into an efficient gardener, and up to that point they cannot earn more than 18*s*. a week. No girl who has not an exceptionally strong physique could stand it.

"A young lady in the country pleaded very hard to be taken on here in our houses as a gardener. But in my judgment the thing would be physically impossible."

Presentation Picture of Mr. H. J. Veitch.—Those of our readers who were subscribers to the fund got together by gardeners for the purpose of making suitable presents to Mr. and Mrs. Veitch on the occasion of their silver wedding in 1892, will be pleased to know that the picture of Mr. Veitch, painted in oils by Mr. George Clausens, was presented to Mrs. Veitch by the sub-committee appointed to carry out the behests of the donors on Monday last, and that it will for several weeks to come be on view at Messrs. J. Veitch & Sons' Nursery, King's Road, Chelsea. We may say further, that the artist has been most successful in his efforts, and the likeness is an excellent one.

Stock-taking: April.—As the past month advanced in age, two things became apparent—one, that there would be an all-round depreciation in the values of imports, if not in quantities; the other, that exports would show a falling off in bulk; the figures extracted from the "summary" table in the Board of Trade returns for April are put in evidence of this as follows:—

Imports.	1892.	1893.	Difference.
	£.	£.	£.
Total value for month	£34,920,272	£32,125,359	—2,794,913
§II.—(A.) Articles of food and drink—duty free	11,148,300	10,455,608	—692,692
(B.) — do., dutiable	2,415,608	1,719,813	—695,795
§VI.—Raw materials for textile manufactures (including Flax, Hemp, and Jute)...	7,401,977	6,839,997	—561,980
§VII.—Raw materials for sundry industries and manufactures (including wood and timber, hewn, sawn, split, dressed; vegetable materials, for paper-making, &c.)	3,138,986	2,941,535	—197,451
§IX. — Miscellaneous articles (including Clover, Grass, Flax, Rape, Linseed) ...	1,261,333	1,190,909	—70,424
(B.)—Parcel Post ...	48,438	54,447	+6,009

Everywhere, in most articles, there has been witnessed a desire to realise, and as freights are to be obtained at a very low price, sufficient to cover expenses with no margin for a dividend, we have had a fairly well-stocked market, with one or two exceptions. One is sugar, which looks as if there were room for an extension of the acreage devoted to the cane. Silk promises to reach a higher figure than it now stands at. There has been a rise of 40 per cent. since the beginning of the year, as was proved by what may be termed a "test" sale effected the other day. The demand for this material promises to grow healthily for many a day to come, in spite of the extended use of jute and China-grass, and our coming necessities ought to prove an enormous gain to the colonies. New Zealand could supply, through Auckland, some splendid samples. Many parts of our Australian colonies are suited to the culture; the Mulberry tree grows like a weed in Natal; silk has been had at the Cape; and as fabrics suited for underclothing will soon be "all the rage," there surely can be but little risk in organising for growth and supply in the great centre of manufacture and distribution — Great Britain. Apart from the display in London shops, the barrows of the costers are filled with fruits from many a southern and sunny land, and this brings us to our usual excerpts from the general mass of figures in these bulky returns relating to foreign and colonial fruits and vegetables placed on our markets during the past month. It was astonishing during that period to note how quickly the markets showed the effect of foreign arrivals, in both plus and minus quantities. The following are the figures selected for the present occasion:—

Imports.	1892.	1893.	Difference.
Fruits, raw:—			
Apples ... ... bush.	147,635	198,351	+50,716
Cherries ... ... ,,	...	8	+8
Plums ... ... ,,	5	10	+5
Pears ... ... ,,	1,096	660	—436
Grapes ... ... ,,	628	2,448	+1,820
Unenumerated, ,,	19,487	34,559	+15,072
Onions ... ... ,,	450,738	291,828	—158,910
Potatos ... ... cwt.	73,691	211,022	+137,331
Vegetables, unenumerated, raw, ... value	£69,492	£78,348	+£8,856

It was our intention to have quoted a few figures respecting the supply of timber during the past month and four months, but substitute therefor the following interesting statistics from the United States of America, the result of stock-taking. From statements presented to the Forestry Congress at Philadelphia, it appears that the woodlands of the United States now cover 450,000 000 of acres, or about 26 per cent. of the area. Of this not less than 25,000,000 acres are cut over annually. It was also stated that, while the wood growing annually in the United States amounted to 12,000,000,000 of cubic feet, the amount cut annually is just double that enormous quantity, besides a vast amount destroyed by fire, and not included in the estimate. The country's supply is being depleted, therefore, says the compiler of the statistics, twice as fast as it is being reproduced, which certainly shows that a "timber famine" in the United States is rapidly approaching.

The Exports

for the month of April show a decrease as compared with the same period last year, amounting to £1,247,899, and when we take into consideration the unfortunate financial difficulties in some of our colonies, and in Italy and other countries nearer home, we may be allowed to feel thankful that the amount is not greater.

The Journal of the Kew Guild.—First numbers are generally inferior to their successors for reasons obvious enough to all journalists, but we should not be at all justified in using the word "inferior" to the number before us. It is excellent, full of interesting matter, and it is only the enormous pressure on our space that compels us now merely to announce the publication of the new venture, and to commend it most earnestly to young gardeners, Kewites or otherwise. We shall have another opportunity of speaking more at length about it.

Ealing Horticultural Society. — The annual summer flower show of this society will take place on July 5 next, in the grounds of C. Bartholomew, Esq., Castle Hill House, Ealing.

The Lime Juice Industry of Montserrat—It is stated that there are at the present time in the island of Montserrat about 1200 acres of land under cultivation of the Lime tree (Citrus), the juice from the fruits of which has become such an important article of commerce of late in this country. Three-fourths of the trees are said to be bearing fruit, the average yield of juice from an orchard in full bearing being about 500 gallons per acre. The average shipments from Montserrat during the past five years have been, of raw Lime juice, 800 casks of 120 gallons each; of concentrated juice, 200 casks of 54 gallons each; and of essential oil of Limes 2500 pounds, besides large quantities of green and pickled Limes. Dominica also supplies a good deal of Lime juice, and it is anticipated that, if the roads that have been projected in Dominica should be carried out, the Lime tree cultivation will be greatly extended, the culture being one of considerable profit.

A Venetian Garden. — Our valued correspondent, Mr. Ross, of Poggio Gherardo, Florence, sends the following description of Mr. Eden's garden on an island of the lagunes at Venice, and which was sent him by his niece on April 6 of the present year:—"The pergolas of Vines and a few of Roses run along and across the garden, dividing it into large squares, where red and yellow Tulips are crowded, sometimes in great masses, sometimes arranged in neat beds round a marble pond, where little frogs can dance. Great borders of Lilies (not out as yet), Daffodils—single and double, and Narcissi run by the side of the pergola, and Peach and Almond trees abound. There is one grassy spot surrounded with trees, where in spring the family have tea, and from whence they get a full view of the garden, with a glimpse of the brown domes of the Ridemptore, relieved by dark Cypresses. A magnificent bush of yellow Forsythia (?) I admired much as I caught a glimpse of it among Cypress trees, and little stone shepherds and shepherdesses with which a corner of the garden is decked. Two other flowers I noticed, especially a single yellow Tulip, with big red patches growing rather near the ground, and a most exquisite pale yellow flower, with five petals with slender points, which drooped back. In form it was not unlike a small Lily. [Tulipa retroflexa? Ed.] The strip of land between the garden and the lagunes is devoted entirely to forage for Mr. Eden's cows, a few Vines

are trained where there is space, and the path round is lined with sweet Lavender. I liked to sit there looking out towards the sea, with the Lido and Armenian convent on my left, Venice behind, and the vast expanse of water to the right, without a single building, and only fishing-boats, which looked like so many little red butterflies skimming over the smooth surface. There are but few flowers out in the garden, only those I have named; but I can fancy what it would look like clothed in its late spring garments."

The Earliness of Vegetables and Strawberries.—The unusual warmth of the last seven or eight weeks has forwarded crops immensely, and much of what in ordinary years comes to the table in June was fit for use three weeks to one month earlier. This has induced many correspondents to send in notes on the earliness of this or that subject, for not half of which we could possibly find space in these columns. Mr. Smith, gardener, of Hall Place, Cranleigh, Surrey, tells us that in his district Peas were picked on the 7th inst., the variety, Veitch's Selected Early, from seed sown on January 26; he also gathered ripe Strawberries from plants out-of-doors. Mr. Divers, gardener at Weirton, in Kent, picked his first dish of the same variety of Pea, sown on November 17, one day earlier; and he informs us that Bunyard's Early Dwarf and Laxton's Standard, sown on the same day as the former, are just podding. They will form a good succession. The Early Dwarf was again sown on January 27, and is fourteen days later than the November sowing. There had been no rain at Weirton since March 13 till May 16. The fine variety of Strawberry, Princess Alice, was quite ripe on the 13th inst., whilst Auguste Nicaise, planted at the foot of a south wall, was beginning to colour. Fruits of John Ruskin Strawberry, excellent as regards size and appearance, and ripe, reached this office on Monday last—part of a good gathering out-of-doors, made by Mr. Herrin, gardener at Dropmore.

The Weather at Constantinople.—Mr. Thos. Christy, Malvern House, Sydenham, S.E., writes: "By a letter from Constantinople, dated May 6, I am told that it is a very backward season there, and the Cherry trees are only just showing for bloom. I was at Pipbrook, Dorking, on May 11, and in the kitchen garden, on an open wall, the Cherries were already coloured.

Early Strawberries.—We have received a punnet of excellent ripe Strawberries from Mr. Webber, Covent Garden, picked from the open at Spitty's Farm in Essex. Mr. Webber says that this is the earliest date at which Strawberries have been gathered in the home counties for at least forty years.

Publications Received.—*The Journal of the Kew Guild.* — *Cottage Gardening.* — *The Country Gentleman's Catalogue.*—*Kew Bulletin* —*A Handbook to the Flora of Ceylon*, Dr. Trimen. (Dulau & Co.)

Notices of Books.

The Food of Plants.

This is a little book written as an experimental introduction to *Agricultural Chemistry for Beginners.* It is of very elementary character, but contains just the sort of information that all young gardeners ought to have, but which so few possess. It deals with the relations of plants to water, soil, and air, and the information given is throughout illustrated by experiments of the very simplest character. Figure 4, however, will not be quite intelligible to the young gardener without some further explanation. The book and the apparatus mentioned in it should be at the disposal of all village schoolmasters and instructors in technical horticulture and agriculture. It is written by Mr. A. P. Laurie, and published at a cost of one shilling by Macmillan & Co.

Celery for Profit. By T. Greiner. (Published by W. Atlee Burpree, Philadelphia.)

This manual on Celery culture on new lines will recommend itself to American cultivators, by reason of the cheapness of the methods of blanching advocated by the author, and the manner of winter storage, which, in the case of Celery for winter consumption, includes the blanching of the heads in cellars.

Instructions are given for sowing the seed, which do not materially differ from those followed by our growers. Pricking out is advocated as a means of obtaining plants of an uniform good quality, and the topping of the plants, and cutting off about one-quarter of the tap root, a practice that once found favour with us, but which is now, we believe, seldom practised. Our practice with pricked-out plants is to plant them out in trenches with a trowel. The American uses a dibber, and he thereby must break up the ball, which it is the object of our men to preserve intact, and rightly so. The plants are put out 6 or 8 inches apart in a well-enriched furrow or drill, some finely-sifted rich earth being first strewed along the drill wherewith to fill-in round the roots. Watering and shading, too, if the weather be bright, are recommended for a few days after planting; a very necessary thing in the bright American summer, and not to be thought as of no account here also. The after-cultivation is easy, and consists of watering the rows of plants, hoeing and stirring the soil. The method of blanching the heads differs from ours, and consists in setting broad boards against the rows, at such an angle as they may stand steadily. These must press against the plants on either side, so as to exclude the light; but we should have thought that, unless the heads were first tied up fairly compactly, blanching would be only partially effected.

If the boards are narrow, a little soil, say a ridge 6 inches in height, is drawn to the Celery on either side, and the boards set on the top of these. The method has the advantage of allowing for speedy manipulation in watering the rows, removing root-suckers, and examination into the condition of the plants. Celery has been blanched in this country with paper-collars, wrappings of old newspapers, brown-paper and oiled paper, drain-pipes filled by the gradual infiltering of fine sand, &c.; and all of these have been found to answer for Celery that is in use before the hardest part of the winter arrives. And why not boards, the use of which involves much less labour? Should late crops grow with too much top, the shearing off of some of the foliage is advised some time in June. This is before they are planted finally.

Celery intended for winter storage needs no blanching out-of-doors in the way above described; but a deep trench is dug wide enough to take eight or twelve sticks in a line across, and of any desirable length; and into this trench the plants go, roots downwards. The tops just about reach the top, and a board to divide the roots is run along the middle to prevent the heads crowding together too closely. Rafters are cut from scantlings, 2 by 4 inches, at an angle that will bring the ridge 4 feet from the bottom of the trench, and this scantling framework is covered with boards. For about two weeks the Celery will "sweat" and throw off much moisture, and it is usual, therefore, to let no rain fall on the plants in the trench, and keep off the covering of soil as long as possible. On the approach of cold weather, one foot of soil is put over the boards. Ventilators are made of common fencing boards inserted at reasonable distances apart, and these in severe weather are stuffed with litter to exclude frost, and air is admitted from time to time in suitable weather to prevent rotting.

"The advantages of this method," says the author, "are that one can store Celery as fast as could be done in narrow trenches, and much faster than carrying the plants down. It can be taken out at any time, and in any kind of weather. We also insure immunity from rats, as we take up the covering and plough the land in spring."

In the remarks on marketing, we find that American practices differ from ours. Eastern growers fasten three to five heads in a fan-shaped bundle, either by means of a long nail driven through the base of the plants, or by tying with twine. In Boston Market the heads are exposed for sale in oblong boxes, which equal one barrel in capacity, and that the bunches of Celery are of such a size that three dozen of them will fill the box. New Jersey men pack tightly in barrels, making bunches of which three or four dozen will fill a barrel. Others send to market in open crates.

We should imagine that, during the winter, much care is necessary to prevent the frost injuring the heads whilst in transit or at market.

With our more variable winters we should suppose that this method of storing the roots would favour rotting, or considerable attention to ventilation must be afforded; whereas, in the States the winter is frosty throughout, and mild thaw weather rare. Still, the loss of our Celery crops, about which we are as apathetic as a Turk, should be preventable in a great degree; whereas, we do as little to avert it as was done by our forefathers. Could not some modification of Mr. Greiner's methods be found to suit our peculiar climate? The piling up of scores of tons of soil, which occurs in any good-sized Celery plot in blanching a comparatively few sticks of Celery, let alone the thousands of tons in market gardens, should be looked upon as wasted force, and a more rational plan adopted instead. The boards or the paper band would blanch our winter Celery in late autumn, and it might then be taken up, say in November, with some soil on the roots, and stored thickly together in an erect position on a piece of sunny ground, and covered with frames and lights, and in frosty weather with other coverings. By this method—a suitable one for our climate—Celery could be preserved in good condition till the spring, and with little loss from decay.

Home Correspondence.

Early Peas.—I read with interest the various notes in the *Gardeners' Chronicle*, including Mr. Prinsep. It has always been my practice to sow seeds in pots for the first crop, and to-day I have gathered a dish of Sutton's Ringleader from a sowing made in pots on February 8, and transplanted on to a south border on March 6. I also made two other sowings, one on January 30, of Carter's Lightning, and one on February 8, of Ringleader, both of which look very promising, but they will not be ready to gather for ten or twelve days yet; both sorts appear to be equally early, although the sowings were made ten days apart. It would be interesting to learn if any of those of your correspondents who advocate sowing Peas in November have gathered pods for table at an earlier date. *S. Ely. Nettlebed, Henley, May* 9. [A fair sample was sent. Ed.]

Pea, William I.—I have to day, May 9, gathered my first dish of early Peas, William I., seeds of which were sown in the west corner of a south border on November 18. Unfortunately, the severe frost made sad havoc with them, and for some time I thought they would not be worth leaving, but as they seemed to start again fairly well, I decided to give them a trial. They are not what could be called a good, or even a fair lot, as they are very patchy, and the haulm is barely 2 feet high, but still, coming in so early, they are very acceptable. They are quite a fortnight in advance of any spring-sown ones I have seen about here. *W. G., Worcestershire.* [The pods sent with the above were well filled. Ed.]

Early Gathering of William I. Peas.—On May 7 we were enabled to gather a dish of Peas from plants growing on a south-west border. This date is several days earlier than any previous one of which I have a record during the twenty-two years that I have been at Longford, the time of sowing, position, and treatment, being the same. The unusual earliness of crops this season, which have been well supplied with root waterings, and, in the case of Peas and Broad Beans, with mulching, is due to the abnormal warmth prevailing during April and the present month. *H. W. Ward.*

AMERICAN WONDER PEAS.—On February 1, I put in a sowing of American Wonder Pea in a warm frame, and after hardening the plants so raised, they were planted out in a warm border about the middle of the next month, and on April 25 a nice dish was obtained from them, and several dishes have been gathered since. Is this not unusually early to gather Peas for consumption? *T. Simpson, Stourton Court, Stourbridge.*

TUBEROSES (POLIANTHES TUBEROSA).—These have two good properties to recommend them: the blooms are white, sweet, and may be used for button-holes, bouquets, &c.; and with but little care they may be had in bloom throughout the greater part of the year. In potting the tubers, it is essential to first remove all the side-shoots or bulblets, so that the main growth be not weakened by a lot of useless shoots. Pot them singly in 3-inch pots, using a loamy soil, and plunge the pots into a slight bottom-heat, giving water very sparingly till growth commences. When a few inches high, repot them in 5 or 6-inch pots, well drained, using a sweet compost of loam, sharp sand, leaf-mould, and dried cow-manure; or, in the absence of the two latter, spent Mushroom-manure will be useful. Keep the plants growing in a light position near to the glass, and do not grow them in too high a temperature, but the atmosphere should be moderately moist. Keep the leaves clean and free from red-spider, either by sponging or the free use of the syringe. As the pots become filled with roots, weak liquid manure should be frequently supplied, and the blooms will be fine and of good substance. *H. Markham.*

SEEDLING SINGLE PYRETHRUM ROSEUM.—A large bed planted with Pyrethrums in variety is a pretty object at this season. The plants were raised from seed sown at the same time as the Asters and other tender annuals, on a partially spent hot-bed, in the first week of April last year. The plants for the past fortnight have been affording a capital lot of flowers for cutting, each plant furnishing dozens of blooms, and on good strong stems. The colours range from deep crimson, pink, to blush-white, and they are mostly equal to the finest named varieties. One advantage of growing them in beds is that they do not require staking, as is the case when single clumps are planted in herbaceous borders, &c. They stand 2 feet from row to row, and 1 foot apart in the row, the idea being to take out every alternate plant, thus leaving them permanently 2 feet apart each way. But seeing what gross feeders they are, I resolved to plant a bed of them each year, putting the plants at 18 inches apart each way, grubbing them up after flowering. The bed got a thick mulch of rotten manure about one month ago, and it has had copious supplies of water at times. *T. Turton, May* 13.

LATHYRUS LATIFOLIUS-ALBUS IN POTS.—In looking through Messrs. Pope & Sons' Nurseries, close to Birmingham, I noticed in one of the houses some specimen plants in pots of this fine old everlasting Pea, pure in colour, and flowering very profusely. I was the more interested in seeing the plants, as a day or two before I had seen a very handsome flower bouquet at the Moseley Botanic Gardens Flower Show from this firm, made of climbing Asparagus and flowers of this white everlasting Pea, and I had wondered how they had got them into bloom so early. The plants are strong and bushy, in 7 or 8-inch pots, and have been in the same pots for a few years. They, of course, have cool treatment until placed in the ordinary greenhouse in February or March. These have afforded a quantity of bloom, invaluable for decorative work; and market growers may find in this old garden plant a valuable acquisition in providing for a market supply. They are easily cultivated in pots, and can be plunged out-of-doors when not wanted in the houses. *W. D.*

DOUBLE DAFFODILS AND ROMAN HYACINTHS, ETC., FROM FRANCE.—Would some of your readers kindly furnish some particulars as to the condition of the crop of the above bulbs abroad this year? There has been a general absence of rain in Europe, and particularly in France, and the bulbs, probably, will be smaller in consequence. In Ireland the early Daffodil roots are now firm, and fit for lifting. *W. B. H., Cork.*

SUMMER PINCHING OF FRUIT TREES.—In last week's *Gardeners' Chronicle*, p. 578, "E. M." makes some critical remarks on this subject, and he disputes emphatically the beneficial results that in a general way follow such a time-honoured method of procedure. "E. M." says, "I have tried the plan extensively on all sorts of trees during the past few years, pinching the surplus shoots in June, July, and again in September," adding, "and now that the same trees have been winter-pruned, I fail to see that the pinching or summer-pruning, as it is sometimes called, has increased the production of flower-buds in the slightest." Now, my experience among fruit trees is both long and extensive, and my observations of practises and results close and critical, and I cannot help thinking that your correspondent is theoretically and practically wrong in the conclusions he has arrived at, and which, if allowed to pass unnoticed, might lead to very undesirable results. The pinching back of fore-right young growths proceeding from leading shoots made in the preceding year in May or June, most certainly tends to the formation of flower or fruit-buds, and the pinching of strong leading shoots of young trees twice during the summer and early autumn months, and the weaker ones once, will also prove beneficial in the building up of fruitful trees. The check thus given to the flow of sap will not only result in the formation of fruit buds, but also in that of plumping the intervening wood buds, a circumstance which will naturally lead to the production of better growth the following year. Where a judicious course of pinching is pursued, it obviously leads to the plumping of wood buds, formation of spurs or fruit buds, and it also promotes a balance of growth in all of the trees so treated. Moreover, in the case of established trees, the pinching of the young growths in May or June, and again two months later, must necessarily considerably enlarge and consolidate the flower buds of last year's origin, for yielding fruit the following season. "E. M." is somewhat illogical and inconsistent in his arguments against the utility of summer pinching of fruit trees. He says, "I do not advocate, though, the retention of these surplus growths," adding, "they should be cut away, by all means, for another object, that of admitting the free penetration of sun, air, and wind, to mature the branches, and to assist the formation of future bloom-buds." This is a strong additional reason for continuing the practice of summer pinching of fruit trees, a practice which "E. M." has taken such pains to condemn. Lower down, your correspondent asserts that, "If it were not for excluding light and air to the innermost part of the trees, especially bushes, I would allow them to remain until September, and then give them all the pruning they need," thereby wasting the forces of the individual trees to a very great extent, by allowing them to make a wilderness of uninterrupted growth during the summer and early autumn months, which he finally removes in September, without having taken any means during the proper months to render his trees fruitful. Is this good culture? "E. M." says, "shoots that are pinched in June or July sometimes make a second growth;" and my experience leads me to say, they invariably make a second growth, which I again pinch in September, after which there is not much fear of the terminal or any of the buds pushing again. The trees in a general way are finally pruned after they have shed their leaves. *W. L. C.*

LATE PEARS.—Our best Pears late in the season were Ne Plus Meuris, of very good flavour this year; Josephine de Malines, which was very fair in size, but the fruit did not ripen well, although it remained on the tree till the last week in October; Knight's Monarch was in very good condition, and it kept well, as did also Catillac; Bergamotte d'Esperen is another Pear of not very good flavour this season, which kept well with us. In 1892, we had a few for dessert up to the end of the month of May, and at that time they were delicious. Most Pears have set well this year; especially good is Jargonelle. *W. A. Cook.*

PINUS LARICIO (the Corsican Pine).—On May 18 we cut down a specimen of this Pine, which, as nearly as I can tell, had been planted about thirty years. It was growing in a sheltered position in the pleasure ground here, and had to be cut down owing to having been planted close to a large Cedrus atlantica. The soil was a strong deep loam, and it was growing near to a large artificial mound of earth, which in a great measure protected it from north and east winds. The extreme height was 61 feet 7 inches; circumference of the bole, just above where sawn off, 6 feet; at a point 3 feet higher, 5 feet 7 inches. It was very full of resin, and we intend having it sawn into boards to test its quality as timber. I may mention that we have other specimens growing near, which are of about the same dimensions. *J. Smith, Mentmore, Bucks.*

THE APPLE CROP IN SOUTH WILTS.—The orchards hereabouts were in grand flower on April 30. The prospect of a good Apple year was most promising, there being at the time, and since, uninterrupted sunshine and high temperature. Three or four days later, consequent upon the soil having become excessively dry, the sheets of blossom prematurely disappeared, or, more correctly speaking, hung in brown trusses from the trees—a sad picture for the gardener to behold. Doubtless where the soil is stiff, and retentive in its nature, crops will be satisfactory, as in such cases the flowers will have been enabled to perform their functions properly. *H. W. W.*

EFFECTS OF WARMTH ON ROSES, FRUIT TREES, ETC.—Last week, when visiting the gardens of Luton Hoo, I noted the forcing effects of the prevailing bright sunshine and high temperatures. On south and west walls were Roses, Maréchal Niel and W. A. K. Richardson, covered with a profusion of flowers and flower-buds; and other Roses of the H.P. and Tea sections are also in flower. Mr. Maycock, the gardener, pointed out to me some Veitch's Early Ashleaf Potatos on a warm border, which were ready for the table. *J. Wilson, Greenside Nursery, St. Andrews, N.B.* [Some buds and open blooms of the Roses mentioned came with this note, and were very good indeed. Ed.]

PROPOSAL FOR AN INSTITUTE OF HORTICULTURE, MUSIC, AND THE FINE ARTS.—Will you kindly favour us with space in your valuable columns to submit a project for the establishment of an Institute of Horticulture. To-day, England is very much behind other great nations in this respect; and, although efforts have been made to provide suitable accommodation for our ever-increasing needs, we have no Institute of Horticulture, but exhibitions must be held at odd places, some of them very ill adapted for such displays. The financial aspect has been the difficulty. In order to meet this, we would suggest that, with horticulture should be associated music, the Fine Arts (all kindred in sentiment), and that the proposed Institute should be designed especially to meet the requirements of these Societies. There is distinctly a need for a suitable Institute for horticulturists, and there is also as great a need for an Institute to receive and exhibit the large proportion of paintings which are not hung at the Academy. Without going into details, we would suggest that a meeting might be held of horticultural gentlemen to confer upon this project, and perhaps meet representatives from the Royal Academy, Royal Albert Hall Amateur Orchestral Society, Stock Exchange Orchestral Society, or similar associations, and believe the outcome of such a Conference would be the establishment of an Institute of Horticulture, Music, and the Fine Arts, where all the year round pictures and sculpture would be exhibited, concerts of vocal and instrumental music held, and lectures; *conversaziones* and exhibitions arranged under the auspices of the Royal Horticultural Society, and all these might, if desirable, proceed at the same time in the same hall, affording attraction to everyone (for assuredly everyone is interested either in music, pictures, or flowers), and the effect of the three in combination is always harmonious. *H. W. Wood & Son.*

ROUND GHENT.

(*Continued from p.* 548.)

M. Jules Hye-Leysen.—A call at the gardens of this enthusiastic amateur of Orchids at 54, Coupure, disclosed the fact that the grand collection exhibited at the Casino was only a fair sample of the contents of M. Hye's neatly-arranged Orchid-houses, and that although the best of the flowering plants were away, the best examples of good culture were still at home, together with a fair show of good flowers. Perhaps the best specimens of good growth in this collection, where all things are done well, are the Odontoglossums, which are not only extraordinary in the size of their bulbs and the vigour of their growths, but they exhibit no indication of any but the fairest and most simple kind of culture, which there is no reason to doubt will be generally successful. Drawings of some of these noble pure white or spotted forms of O. crispum and other species were shown us with justifiable pride;

they must, indeed, be fine objects when in flower—some of excellent quality were in bloom.

The Cattleya-house contained equally thriving occupants, with many and varied C. Mendelii in bloom and also in flower; C. calummata ×, C. Schilleriana, C. Schroderæ, C. Lawrenceana, and strong plants of C. Mossiæ alba, C. Gaskelliana alba, and other rare forms, were grand in growth.

A good and well-grown collection of Cypripediums, too, are here, with many fine home-raised hybrids fast approaching maturity. Among these, some obtained by crossing C. bellatulum and C. Sanderianum, and other crosses with C. Sanderianum, are watched with great interest, for the beauty and dissimilarity of the species crossed promise great things in the progeny.

M. ED. PYNAERT VAN GEERT, PORTE DE BRUXELLES.

We found the genial proprietor of this fine old establishment busily engaged, and, with his usual kindness, showing his nurseries to the members of one of those numerous associations to be found on the Continent. The short time we had to wait was pleasantly spent among the rich beds of Rhododendrons, Azaleas, Tulips, &c., in the front garden, and among the many pretty hardy plants in bloom outdoors, the whole place being as showy with flowers indoors and out as though it were midsummer.

The lobby at the entrance of the lofty Palm and Tree-Fern house was bright with Cliveias, which are a specialty here, and the artistically-arranged rock-bordered winding walks of the lofty structure itself were also brightened with the rich orange and orange-scarlet flowers. Passing beneath the lofty Palms and Tree Ferns, we enter the houses of varieties of Azalea indica, literally glowing with the rich and varied hue of their flowers. Generally speaking, standard favourites hold their own still, but in his new strain M. Pynaert has combined excellence of size and colour, with late-blooming properties, so that his late-flowering kinds are invaluable for keeping up a succession of Azalea flowers, and preventing that barrenness in the greenhouse consequent on the sudden cessation of the flowers where only the old strain is grown. Plain evidence is given of their utility in this respect at M. Pynaert's nursery, where, although the ordinary type of Azalea indica unforced, are in full bloom, or passing out of flower; A. Charles Pynaert, a large rose, white, and carmine variety; A. Germaine Pynaert, a pretty striped sport from that previously named; A. Leon Pynaert, clear rose; and A. Louisa Pynaert, a very large double-white, are only just showing their first flowers, and they are also said to bear being retarded, so as to keep them in flower for a considerable time. Another very useful and beautiful race to be found here are the glowing and soft-tinted varieties of Azalea mollis × sinensis, which utterly eclipse the old forms of A. mollis.

Passing onward, we reach the Orchid-houses, in which is a very complete collection of Cypripediums, both species and hybrids. Notwithstanding that the fine lot which took the 1st prize at the Ghent show was away, there were still many in bloom in the houses, and also a fair show of Cattleyas, Odontoglossums, Cochlioda Noezliana, &c. Some of the houses have the stages neatly edged with Panicum variegatum.

Passing to the new-plant houses, we found fine novelties in Anthuriums, hybrids with A. Andreanum, A. Scherzerianum and other species, many of them of great size, and in colour varying from white to rose and dark scarlet. New Begonias and Sonerilas, too, were fine, and the collection of Bromeliads and Ferns contained some good novelties.

In the other houses we found a fine stock of Aspidistra lurida variegata, quantities of Palms, in greater variety perhaps than in any other nursery in Ghent, and embracing such elegant species as Acanthophœnix crinita, Calamus ciliaris, Phœnix reclinata compacta nana, Pritchardia Thurstoni, &c.; a large selection of Crotons, Dracænas, and other foliage plants, an equally good lot of flowering stove and greenhouse plants, Cacteæ, Aroideæ, and a number of houses full of the usual decorative Palms and Cycads, grown cool so as to last well when used in decoration.

It is one of the good features in M. Pynaert's fine nursery that all things are grown as hardy as possible.

(To be continued.)

FLORISTS' FLOWERS.

THE DAHLIA.

AFTER the experience of the past few days, with the prospect of a cold season at the end of the month, caution will be necessary in planting out Dahlias. Hence the value of growing on in pots such plants as are to furnish exhibition blooms, rather than by too early planting to run the risk of injury from late frosts. It is, therefore, much better to grow on into size under protection—but taking care that the plants upon which future hopes depend do not become much drawn. The plants may find a place in a cold frame from which the lights are removed by day, or a cold house freely ventilated night or day, or in a sheltered spot in the open, where some night protection can be afforded. With such precautions, the second week in June will be early enough to plant out in the open; for if sturdy growth and finely-finished blooms are sought for, the position must be an open and breezy one, with some shelter from the western and southerly winds.

Presuming the plot of ground for the Dahlia plantations was well trenched in autumn, and forked over once or twice in spring, it may remain untouched until planting time, if not trodden down, and needing loosening. It is usual, at the time of planting, to mark out the ground in squares, the plants being usually 4 to 5 feet apart each way. In this manner, and by placing a short stake at each point where a plant is to be inserted, the ground-plan of a plantation is soon formed; space is required for side stakes to tie leading shoots to, and also that the cultivator can move freely among his plants, tying, thinning, disbudding, cleansing, &c. The advantages of sunlight falling among the plants, and a free circulation of air are great, hence the necessity for ample width being allowed between them.

At the time of planting, it is usual to remove three or four spadefuls of soil, and to place at the bottom of the hole so made some well-rotted manure, mixing it with some of the soil. Then planting should be done, reducing the ball of soil about the roots of the plants turned out of the pots as little as possible, placing some fine soil about the roots to encourage a quick root action, filling in with the removed soil, and pressing it firmly about the plant. Then it is usual to place a stake against the main stem, adding three others in the form of a triangle, for the purpose of fastening the leading shoots to. By means of these supports, the plants are made secure from damage from winds, the wood of the Dahlia being of a very brittle character, and liable to injury. Should dry weather set in after planting, water must be applied, using that which has stood in the sun for a few hours. On warm evenings, a sprinkling overhead with clean soft water will be found highly beneficial. By July a vigorous growth should have set in, and then it is necessary to keep the growing shoots clear of thrips, and the ground free from weeds. In training the plants it will be necessary to thin out lateral growths, leaving the main shoots to carry blooms. There should be no crowding, and the centre of each plant should be kept well open. A surface mulching with manure will be found highly beneficial, keeping the soil about the roots moist and cool.

There are now in cultivation something like 150 varieties of show Dahlias, as distinct from the fancy flowers. It is not easy to make a selection from these, but the following twenty-four varieties will be found both good and reliable, viz., Arthur Rawlings, Burgundy, Clara, Colonist, Crimson Globe, George Rawlings, Georgiana, Glowworm, Harry Keith, Hon. Mr. P. Wyndham, John Hickling, John Walker, J. T. West, Lady Gladys Herbert, Maud Fellowes, Miss Cannell, Mr. Gladstone, Mr. William Slack, Prince of Denmark, R. T. Rawlings, Shirley Hibberd, T. J. Saltmarsh, and William Rawlings. A dozen of the finest Fancy Dahlias will be found in Comedian, Duchess of Albany, Frank Pearce, George Barnes, Henry Glasscock, James O'Brien, John Forbes, Lotty Eckford, Matthew Campbell, Mrs. Saunders, Prince Henry, and Rebecca. *R. D.*

INSECTS ON FRUIT TREES.

For the benefit of those of our readers who may be unacquainted with the means of destroying insects on fruit trees at the present season, we publish the following excerpt from a recent leaflet issued by the Board of Agriculture:—

Upon examination of fruit trees, and especially Apple and Damson trees, it will be seen that many caterpillars are at work eating the forming fruit and the leaves.

The caterpillars at first are greyish, and so small as to escape notice unless attention is specially directed to them, but they can be found in alarming numbers in many orchards and fruit plantations, and it is most important that steps should be taken at once to check their progress.

In their later stages the caterpillars are light-green, and nearly three-quarters of an inch long.

First.—It should be noted that syringing the trees infested with caterpillars has proved advantageous in many places in previous seasons; it has been more particularly useful in respect of Plum, Damson, and small Apple trees. The large old Apple trees are beyond the reach of ordinary garden engines used for this purpose, and it is only in hop-growing districts where hop-washing machines are generally used that the systematic syringing of large standard trees has been adopted. These machines can be moved about easily enough in orchards. In plantations, with fruit bushes under the standards, it is more difficult to move them about, and to get the supplies of liquid brought through the thick undergrowth.

The mixtures to be employed for syringing fruit trees are:—

1st. The extract of 10 lb. of Quassia, obtained by boiling Quassia in water, to 100 gallons of water and 7 lb. of soft-soap.

2nd. The extract of 5 lb. of Quassia, to 100 gallons of water, with 6 lb. of soft-soap and 4 pints of paraffin, well stirred.

3rd. The extract of 5 lb. of Quassia, to 100 gallons of water, with 6 lb. of soft-soap and 4 pints of Calvert's carbolic acid, No. 5.

4th. 8 lb. of soft-soap and 2 lb. of finely-ground Hellebore, and a quart of paraffin, boiled and well stirred together. This is sufficient for 100 gallons of water.

The soft-soap is dissolved in a tub with hot water; the Quassia chips are boiled in water, and put into another tub. Where paraffin is used, it should be well stirred up with boiling soap and water before it is mixed with the cold water. Water-carts, ordinary barrels, or wine casks set upon frames with wheels, should be brought full of water to where the materials are being prepared, either at the farm buildings, or in an extemporised shed with a copper in it, and the requisite amount of dissolved soap and other ingredients added. The Éclair, and other similar hand machines, can be used for small Apple trees, Plum and Damson trees, and for Filbert and Cob-nut trees, which are also badly infested.

It is important that syringing should be done at once, as, to be effective, it must be commenced early. Directly there are signs of infestation, the process should be begun. As the hatching out of caterpillars is not simultaneous, but is extended over some days, the syringings must be renewed.

Secondly.—Some fruit growers in several parts of the country have tried the arsenical insecticides used extensively in the United States and Canada. These have not been generally adopted in this country on account of their poisonous properties. The time has now arrived when they should be fully tried.

There are two special substances of this nature. The one, "Paris Green," or "Emerald Green," is strongly recommended by several American and Canadian entomologists.

The latest advice from experienced practical entomologists is to put 1 lb. of Paris Green, in the form of paste, which is far better than powder, into from 165 to 200 gallons of water. The mixture must be kept well stirred, in order that the solution may be maintained at an uniform strength.

The object is not to dislodge the caterpillars, but to poison their food with the arsenical solutions, which should fall, like gentle rain, upon the leaves and blossoms. For this purpose fine "rose" jets should be used. Riley's "cyclone nozzle" is used in America. The Vermorel nozzle is also a good distributor.

The other arsenical compound is "London Purple," obtained in the manufacture of aniline dyes, and composed of lime and arsenious acid.

One pound of London Purple should be mixed with from 160 to 180 gallons of water, and kept well stirred, being applied in the same manner as the Paris Green, sprayed on in the form of a heavy dew or mist, and not squirted violently upon the leaves and blossoms.

London Purple can be obtained as a powder, and in a fluid form ready for mixing with water. It is as poisonous as Paris Green.

Stock must not be put on grass in orchards where these arsenical solutions have been used on the fruit trees until a considerable period has elapsed and rains have fallen; nor must they be used where bush fruits for early picking, and vegetables are grown under the trees.

Three or four days will elapse before the effect of these solutions is apparent, and, as a rule, it will be found necessary to repeat the applications.

These solutions can be put on with hop-washing engines, ordinary garden engines, the Eclair, hydronettes, and other pail engines. Syringing with Paris Green, London Purple, and other solutions recommended above, will be equally detrimental to the Apple Blossom Weevil (Anthonomus pomorum) now present in large numbers, and to the Apple Sucker (Psylla mali), which is causing unprecedented harm in many localities.

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

MAY 9.—Present: Mr. McLachlan (in the chair); Rev. W. Wilks, Mr. Blandford, Professor Müller, Dr. Bonavia, and Rev. G. Henslow, Hon. Sec.

Myosotis alpestris, multipetalous var.—The variety brought to the last meeting by Dr. Bonavia proved to be the same as that described and figured by Dr. Masters in the *Gardeners' Chronicle* (Aug. 8, 1891, p. 159, figs. 19—21), where it is stated that, "According to M. Ernst Benary of Erfurt, who sent it out in 1886, it was raised in Germany, and is 'presumed to have sprung' from M. alpestris robusta grandiflora (Eliza Fonrobert). It was fully described in M. Benary's list of novelties in 1886. He adds, 'It comes quite true from seed.'" Mr. Appleton of Sipson near Slough, writes that he has grown some acres of it for five or six years, and always from seed, about 80 per cent. coming true. The name by which it is generally known is "Victoria," but Messrs. Carter are issuing seed for 1893, under the name of "The Jewel." It appears to be quite hardy, withstanding severe winters without any protection. A botanical description is given in the *Gardeners' Chronicle*, where it is called the "Hen and Chickens" Forget-me-not, as the flowers on the central axis terminate in a synanthic condition, while numerous scorpioid racemes radiate from below it. The stems are often strongly fasciated. With regard to the separate multipetalous flowers, Dr. Bonavia contributed the following additional observations:—"I have no doubt whatever that this monstrous form does seed, and for the following reasons:—(*a*) The pistil is conical, like the neck of a bottle in the middle of a circle of nucules; and the stigma is well formed, consisting of six or seven lobes, often covered with pollen. (*b*) When the corolla had fallen off, for some time the stigma is shrivelled, and several of the nucules are much larger than their companions, indicating that their contents had been fertilised. I have two forms before me—one of a turquoise blue, with all the flowers elongated, and with an oval centre; the other is much paler, and with all its flowers circular, the centre being also circular. Both varieties have eight, nine, or ten petals and stamens." A further examination of the pistils made by Mr. Henslow reveals that either another pistil or a cluster of stamens may be found within the ovary. In the last report a number of free central ovules was described; but as this observation has not been confirmed, they were probably rudimentary papillæ of undeterminable character. On removing an ovule from a nucule, it is found to be oval, with a remarkably long "beak" turned towards the funicle. Many consisted of a hollow bag-like structure, being presumably the primine only. Those which had become larger, proved to possess pro-embryos, while the fully-formed nucules, with black polished surfaces of the "seeds" issued by Messrs. Carter, had large, perfect, oily embryos. The thanks of the committee were given to Dr. Bonavia and Mr. Henslow for their investigations into the structure of this remarkable variety.

Sugar-cane Moth.—Mr. Blandford exhibited specimens, received from Mr. Morris, of moths, whose caterpillars attack the Sugar-canes in Teneriffe. It appeared to be a variety of, or perhaps a different species to Diatræa saccharalis, which bores into the Maize stems, from which it is said to have spread to the Sugar-canes. It was first figured by Rev. L. Guilding in the *Trans. Soc. of the Encouragement of Arts*, 1828, vol. xlvi., p. 149 (D. sacchari, Guild.). It is also figured and described as the "Larger corn stalk-borer" by Mr. L. O. Howard, *Insect Life*, p. 95 (D. saccharalis, F.), Washington, 1891.

Scale-insect on Retama.—Mr. McLachlan exhibited specimens from Mr. Morris, the plants growing from 7000 to 8000 feet on the Peak of Teneriffe. It proved to be Mytilaspis pomorum, the Apple-tree scale insect. It was first described as occurring in North America. It subsequently appeared in Guernsey. It has also been found on the Broom, which is closely allied to Retama.

Euonymus Attacked by Caterpillars.—Specimens of the common Spindle tree, infested with the web-forming Hyponomeuta evonymella, were sent from Battersea Park, where they are described as doing great damage both to the deciduous and evergreen (Japanese) species of Euonymus. Another species is also attacking the Hawthorns. The best remedy is spraying the trees with some insecticide—e.g., 6 oz. of Paris Green dissolved in 100 gallons of water.

Aquilegia var.—Mr. E. J. Lowe, of Shirenewton, Chepstow, sent examples of the dark crimson Columbine, Royal Marriage, without the usual spurs; a not uncommon variety, exhibiting a reversion to the presumed ancestral form.

CRYSTAL PALACE SUMMER SHOW.

MAY 11.—The exhibition at the Crystal Palace on the above date, recalled the large shows of thirty years ago. The schedule was comprehensive, the prizes much in advance of what has been usual at Sydenham during the past few years, and the competition generally good. Not only was the whole of the centre of the nave used for exhibits, but the sides also, and some of the features were very fine. The groups of plants were on a large scale, and very striking; those of Caladiums illustrated not only the immense variety in cultivation, but also the unique character of many of the newer introductions.

Stove and greenhouse plants were represented by a fine collection of twelve specimens from Mr. J. Cypher, nurseryman, Cheltenham, who had Francisca eximia, Erica Cavendishiana, Anthurium Scherzerianum, Aphelexis purpurea grandiflora, Pimelea Hendersoni, &c.; 2nd, Mr. J. F. Mould, nurseryman, Pewsey, who had a fine Statice profusa, Erica Cavendishiana, E. tricolor Wilsoni, &c.

With six plants, Mr. Chapman, gr. to J. Spode, Esq., Hawkesyard, Rugeley, was 1st, who had a fine Anthurium Scherzerianum, with fifty spathes; Tetratheca ericifolia, Aphelexis grandiflora, Statice profusa, &c. Mr. A. Offer, The Gardens, Handcross Park, Crawley, was 2nd, a fine Aphelexis macrantha purpurea and Clerodendron Balfourianum being his best plants.

The best nine specimens of Indian Azalea came from Mr. C. Turner, Royal Nurseries, Slough, Charmer, Duc de Nassau, and Roi de Hollande being very good. Mr. A. Offer was 2nd.

In the amateur's class for six plants the specimens were poor.

Orchids.—The best twelve Orchids came from Mr. W. Howes, gr. to W. Cobb, Esq., Sydenham, who had good specimens of Odontoglossum ampliatum majus, O. Alexandræ, O. citrosum, Cattleya Mossiæ, Cypripedium caudatum, &c. The 2nd prize was withheld.

With six specimens, Mr. J. Douglas, gr. to Mrs. Whitbourne, Great Gearies, Ilford, was 1st, with capital examples of Cattleya Mendeli, C. Lawrenceana, Lælia purpurata, Dendrobium Wardianum, D. Dalhousieianum, and Cymbidium Lowianum; 2nd, Mr. J. Howes, also with good specimens.

With a group of Orchids arranged for effect, Mr. Cypher was 1st; Messrs. B. S. Williams & Son, 2nd. Messrs. J. Laing & Sons had the best Miscellaneous group, Messrs. Peed & Sons being placed 2nd.

Foliaged plants made a good feature, and formed striking groups. The best nine came from Mr. A. Offer, who had fine examples of Encephalartos Altensteinii, Crotons Warreni, Princess, and undulatus, Cycas circinalis, Dieffenbachia magnifica, &c.; 2nd, Mr. W. Finch, gr. to J. Marriott, Esq., Coventry.

Mr. Finch was 1st with six specimens, having Kentia Forsteriana, K. australis, Latania borbonica, some Crotons, &c.; 2nd, Mr. A. Offer.

With nine stove and greenhouse Ferns, Mr. Offer was 1st, having Cyathea medullaris, Alsophilas excelsa and australis, Cibotium Schiedei, Davallia Mooreana, &c.; Mr. W. Howes was a good 2nd with Gymnogramma schizophylla gloriosa, Goniophlebium subauriculatum, Nephrolepis exaltata, Adiantum Williamsii, &c. Mr. J. Douglas was 1st with six in the amateur's class, Mr. Boatwright, gr. to E. Covell, Esq., being 2nd. Mr. Offer had the best nine Crotons, staging bright examples of volutum, undulatus, Chelsoni, Nestor, Weismanni, picturatus, Queen Victoria, &c.; 2nd, Mr. H. James, West Norwood. Mr. W. Howes was 1st with six plants. With twelve Dracænas, Mr. J. Lambert, gr. to H. W. Segelcke, Esq, Herne Hill, was 1st with small, but clean, well-coloured plants; Mr. H. James being 2nd. Messrs. Offer and Carr, gr. to Mrs. S. Clarke, Croydon, were 1st and 2nd with six examples.

The best group of Caladiums came from Messrs. J. Laing & Sons, Stanstead Park Nurseries, Forest Hill, and it seemed to illustrate all that is novel and refined in this showy class of plants. Messrs. J. Peed & Sons, West Norwood, were a close 2nd, both showing very large collections. Mr. Boatwright had the best six specimens, Mr. J. Day, gr. to W. S. Gover, Esq., Herne Hill, being 2nd. Messrs. B. S. Williams & Son were 1st with nine Palms; Mr. H. James being 2nd. Mr. W. Howes had the best six; Mr. W. Finch being 2nd. Lycopods and dinner-table plants were good features.

Miscellaneous Classes.—In the way of cut flowers, Roses were poorly shown. Mr. Finch had the best twenty-four bunches of stove and greenhouse cut flowers, a very fine lot; Mr. A. Gibson, gr. to T. T. B. Atkins, Esq., Sevenoaks, was 2nd. The best eighteen varieties of cut Orchids, arranged with Fern, came from Mr. J. Douglas, a very good selection; Mr. J. Prewett, Hammersmith, was 2nd. Messrs. Paul & Son were the only exhibitors of a collection of hardy flowers, including shrubs.

Of table decorations, the best arranged table for twelve persons came from Mr. T. W. Scale, Sevenoaks. Mr. W. Clark, Balham, was 1st, with three vases; Mr. Scale being 2nd. Messrs. Perkins & Sons, Coventry, carried off all the honours with bouquets and sprays.

Extra prizes were awarded to Messrs. Laing & Sons, for a collection of cut flowers; to Mr. T. S. Ware, for single and double Begonias; to Messrs. W. Balchin & Sons, Brighton, for Leschenaultia biloba major; to Mr. W. Leakey, Norwood, for a collection of Gloxinias; to Messrs. R Smith & Co., Worcester, for a collection of Clematis; to Messrs. W. Paul & Son, Waltham Cross, for two fine collections of Roses, and cut blooms of the same; to Messrs. W. Cutbush & Sons, Highgate, for a group of plants; to Mr. H. J. Jones, nurseryman, Lewisham, for Pelargoniums; to Mr. W. Rumsey, Waltham

Cross, for cut Roses; and to Messrs. Reid & Bornemann, for a group of plants.

The only exhibitor of nine show Pelargoniums was Mr. C. Turner, who took the 1st prize with well-bloomed plants of Alice, Edward Perkins, Mons. Desmoulins, Lady Isabel, Prince Leopold, Magpie, &c. He was also 1st with nine fancy varieties, the leading ones being Ambassadress, The Shah, Cloth of Silver, Delicata, Mrs. Hart, Phyllis, and Princess Teck.

There was but one collection of eighteen Calceolarias, a very good lot indeed, from Mr. H. Guyett, gr. to T. Gabriel, Esq., Streatham.

Roses in pots, in collections of eighteen, were shown by Messrs. Paul & Son, Old Nurseries, Cheshunt, and C. Turner, Slough. The only collection of thirty plants came from the former.

Collections of hardy herbaceous and other plants were a leading feature, large and showy groups, of excellent quality, being contributed by Messrs. Collins Bros. and Gabriel, Waterloo Road; T. S. Ware, Tottenham; and Paul & Son, the prizes going in the order of their names.

Mr. T. S. Ware was the only exhibitor of twelve single, and also of twelve double tuberous Begonias, showing admirably-grown and bloomed specimens of high quality. In the amateurs' classes poor specimens were staged. Mr. Turner was the only exhibitor of twenty-four alpine Auriculas.

GARDENING AND FORESTRY EXHIBITION.

May 13.—On the occasion of the opening by the Duke of York of this exhibition an extra and competitive show, the first of a series which have been arranged for the summer months, was held in a marquee in the western gardens, at a point much nearer the exhibition buildings than the annexe in which they were held last year, and in case of rain, the show is almost connected by covered pathway with the main buildings. In some of the classes there was but little competition, although the marquee that had been prepared for their accommodation was more than full, and various exhibits were necessarily consigned to the large building. The best feature of this extra show was the five groups of plants that had been arranged for effect, and some large specimen plants of Indian Azaleas, were the best that have been shown for some time.

In the first class, which was for nine stove and greenhouse plants in flower, Mr. J. F. Mould, Exotic Nursery, Pewsey, Wilts, was an easy 1st, showing plants of Ixora Dixiana, Erica ventricosa magnifica, E. tricolor Tillsonii, a fine plant of E. Cavendishiana, E. eximia superba, Darwinia tulipifera, Statice profusa, Bougainvillea glabra, and an Indian Azalea.

Mr. C. Turner, Royal Nurseries, Slough, was the only competitor in the class for twenty-five Roses in pots, the best of which were Juno, Celine Forestier, Comtesse de Serenyi, Madame de Montchaveau and La France. He was likewise 1st for twelve show or fancy Pelargoniums, well-bloomed specimens of 3 feet in diameter. Mr. Turner was 1st again for eighteen greenhouse Azaleas in any sized pots, showing large well-grown specimen plants, such as are now seldom seen at exhibitions in these days. Very good were Countess of Flanders, Duc de Nassau, Roi d'Hollande, Etendard de Flandres, and Cannart d'Hamale. The remainder consisted of small plants of newer varieties, such as Mrs. Turner, Bernhard Andreas, Baron de Rothschild, and Madame Hermann Seidel. Mr. H. James was 2nd.

One of the best features of the show was the class for a group of miscellaneous flowering and foliage plants arranged for effect. The various groups were quite up to the average, and the 1st prize was awarded to Messrs. J. Laing & Son, Forest Hill, S.E., for a very artistic arrangement of a group which included some first-rate plants. It was strong in fine Crotons, Caladiums, Cliveias, Lælia purpurata, Anthurium Scherzerianum, A. Ferrierense, and others. The beautiful new Dracæna australis variegata Laingi appeared in it. Messrs. B. S. Williams & Son, Upper Holloway, was 2nd. The plants in this group were of superior quality, but that fact did not serve to secure for it the 1st place, pleasing arrangement being the main object in each; it was rich in Lælias, Cattleyas, Aërides, &c.

For nine fine foliage plants, the 1st prize was awarded to Mr. H. James, Castle Nursery, West Norwood, who had large Palms, Dracænas, and Crotons, showing Croton pictus roseum, Dasylirion acrotrichum, Kentia Belmoreana.

Mr. J. Ford, gr. to Sir Chas. Pigott, Bart., Wexham Park, Slough, was 1st for eighteen excellent herbaceous Calceolarias, of rich and varied colour, and good form of bloom generally.

Mr. C. Turner was the only exhibitor of a group of Souvenir de la Malmaison Carnations (eighteen specimens), and in the class for twenty-four Auriculas, for which he was awarded a 2nd prize.

Messrs. B. S. Williams were 1st for twelve Cliveias, and also for a like number of Amaryllis; they also showed Princess May, what was practically a pure white Amaryllis.

In the cut-flower section, Miss Foden, Hemel Hempstead, was 1st, for three stands or vases of flower and foliage suitable for dinner decoration; and in the other three classes for bouquets, &c., Messrs. Perkins & Sons, Coventry, were 1st in each case.

Miscellaneous groups and exhibits were numerous. Mr. Thos. S. Ware, Hale Farm Nurseries, Tottenham, had a First-class Certificate for his yellow Carnation Pride of Great Britain, already noticed in these columns, and an extra prize for a group of herbaceous and hardy-flowering plants. This was a very gay group, and included some good Lilium longiflorum var. Harrisi, Cypripedium parviflorum, and C. acaule, Delphinium nudicaule, Pyrethrums, &c. A group of lovely Ghent Azaleas was staged by Mr. A. Waterer, Knap Hill Nursery, near Woking.

Messrs. Wm. Paul & Son, Waltham Cross, had a fine group of Roses in pots, and boxes of fine cut blooms of Roses, showing them in triplets and pairs. A very attractive group of Clematises in pots, and carrying numerous blooms, was from Messrs. R. Smith & Co., Worcester.

Mr. Geo. Wythes, gr. to the Duke of Northumberland, Syon House, Brentford, staged a pretty group of foliage and flowering plants, also a collection of fruit, including Grapes, Black Hamburgh, and Foster's Seedling, Nectarine Lord Napier, Fig Brown Turkey (good), Strawberries Auguste Nicaise (good), a Seedling Melon, Peach Amsden June, and some fruits of Monstera deliciosa.

A collection of Begonia blooms, arranged in trusses, and some good Gloxinias, were from Messrs. H. Cannell & Sons, Swanley.

Messrs. Barr & Sons, King Street, Covent Garden, had three large tables full of hardy and herbaceous flowers.

Mr. Thos. A. Hester, gr. to W. G. Dawson, Esq., The Links, Plumstead Common, Kent, sent twelve dishes of Apples, and Messrs. Collins, Bros., nurserymen and florists, Waterloo Road, S., staged a good collection of hardy border plants, inclusive of many varieties of Pyrethrum roseum, Aquilegias, Centaureas, Spiræa astilboides, Trollius, Lupinus, Lilies, Irises, &c. Mr. W. Balchin, Hassocks Nurseries, had a very fine lot of Leschenaultia biloba major. Messrs. Wm. Cutbush & Son, Highgate, had a pretty table of Palms, Ericas, Dracænas, Saxifragas, &c., and another table of cut flowers of hardy and herbaceous plants.

Mr. J. Miller, gr. to Lord Foley, Ruxley Lodge, Esher, had a collection of fruits, including some Cherry trees in pots, and dishes of Strawberries, Figs, Apples, Peaches, Asparagus, and Melons. Messrs. J. Cheal & Sons, Crawley, had a collection of Apples, and a collection of Violas, and hardy flowers. Messrs.. J. James & Son, Woodside, Farnham Royal, Slough, had a group of their fine strain of herbaceous Calceolarias; and Mr. J. A. Morris, florist, Church Road, Acton, had some plants of a new Coleus, Distinction, of an exceedingly dark dull colour, which would be very effective in bedding.

The same firm had a good variety of Odontoglossum Alexandræ guttatum, a new decorative Dracæna, and a Lælia purpurata devoid of colour, which was called Princess May, but which is not of much account.

Messrs. Wm. Paul & Son had given the name of the Duke of York to a pretty little pink Rose.

ROYAL BOTANIC.

May 17.—The summer show at this garden was held under less favourable circumstances than obtained during the last of the spring exhibitions. On Tuesday the weather showed signs of breaking up, and on Wednesday there were frequent showers, than which nothing could have been more welcome to gardeners and farmers, but which in this case seriously interfered with visitors, and with the pleasure of those who did attend. The summer shows are always pretty at Regent's Park, but as for the quality and quantity of the exhibits, they appear to vary but little from year to year.

Plants.—In the 1st class for twelve stove and greenhouse plants in flower (open), there was but one exhibitor, Mr. J. F. Mould, Pewsey Nursery, Wilts. The collection contained several good plants, but the inclusion of a few very much smaller ones that were not up to the form of the others seriously depreciated the group.

In the class for six, and for amateurs, the 1st prize was given to Mr. A. Offer, gr. to John Warren, Esq., Handcross Park, Crawley, Sussex, for a fair lot of plants of rather moderate size, viz., Aphelexis macrantha purpurea, Erica Cavendishiana, Statice profusa, Anthurium Scherzerianum, Darwinia fuchsioides, and a greenhouse Azalea.

For six Cape Heaths (open), Mr. A. Offer was again 1st, with good samples of Erica magnifica, E. depressa, two plants of E. ventricosa coccinea minor, and two plants of E. Cavendishiana; Mr. J. F. Mould was 2nd.

Mr. C. Turner, Royal Nurseries, Slough, was the only exhibitor in the class for twelve greenhouse Azaleas, and again in the class for six, showing good plants in both cases, but especially so in that for six.

There were several entries for six variegated-leaved plants (open), the 1st prize going to Mr. A. Offer, for good plants of Maranta Makoyana, Dieffenbachia magnifica, Croton Nestor, Anthurium magnificum, Alocasia macrorhiza, and Croton Chelsoni variegata.

For six stove and greenhouse plants in flower (nurserymen), Mr. J. H. Mould was 1st, with a nice little plant of Erica coccinea minor, a very good Ixora Dixiana, Erica tricolor Wilsonii, E. Cavendishiana, Aphelexis macrantha rosea, and Bougainvillea glabra.

In the amateurs' class for six fine foliage plants, Mr. A. Offer was 1st with fine plants of Croton Queen Victoria and C. princeps, also Pritchardia pacifica, Encephalartos Alstensteinii, &c. Mr. H. James was 1st in the nurserymen's class, showing two Crotons, three Palms, and a plant of Dasylirion acrotrichum.

For nine Roses in pots, distinct, nurserymen, Messrs. Paul & Son, The Old Nurseries, Cheshunt, were 1st with some good old plants that must almost know their way to Regent's Park, so familiar-looking are they.

Mr. Chas. Turner was 1st for a collection of Roses, with a very fair lot of rather small plants, but some of them carrying very good blooms, especially Madame Victor Verdier, Margaret Dickson, Ulrich Brunner, &c.; Messrs. Paul & Son were 2nd, but were not quite up to their usual form.

Cut Bloom, Hardy Plants, &c.—Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, was a good 1st for a collection of hardy herbaceous plants in pots (open). He had a very good collection of well-grown plants, including Aquilegias, Spiræas multiflora compacta, somewhat of the habit of S. japonica, but rather more dwarf, and the inflorescence more dense; several Cypripediums, including C. candidum, a variety with white lip, spotted in the interior with scarlet spots, petals dull, and very narrow, rather long; also a good specimen of Verbascum phœnicum album, &c. Mr. H. Eason, gr. to B. Noakes, Esq., Hope Cottage, Highgate, was the only exhibitor of twenty-four Gloxinias; and Mr. Chas. Turner, Royal Nurseries, Slough, was the only exhibitor of six fancy Pelargoniums, and also for six Pelargoniums in 8-inch pots, in both cases staging very fine flowered specimens.

Mr. A. Offer showed very fine exotic Ferns, of the following species, Davallia polyantha, D. Mooreana, Microlepia hirta cristata, Alsophila australis, Cibotium Schiedei, and Marattia alata. Dracænas were good, the 1st prize for nine being awarded to Messrs. J. Peed & Sons, Roupell Park Nurseries, Norwood Road.

Mr. R. Scott, gr. to Miss Foster, The Holmes, Regent's Park, was 1st for six greenhouse Azaleas (amateur). For six grown in 12-inch pots, Mr. H. Eason was 1st.

Messrs. Jno. Laing & Son, Forest Hill, S.E., were 1st for twelve tuberous Begonias. The plants were well grown, and included some very excellent new varieties, a good pink double, large and deep, named Duke of Fife was awarded a Floral Certificate; and a large flowering single variety, Laing's Rival, with orange centre, changing into flesh colour at top portion of petals, was also noticeable.

Mr. Henry James was the only exhibitor of Orchids, the best of his collection being Vanda suavis, and some plants of Cymbidium Lowianum.

In class twenty-four, for a group of Caladiums,

open, Messrs. John Laing & Sons, Forest Hill, S.E., showed one of the best groups that have been seen for some time. The plants were magnificent, and included some from the largest-leaved and best-coloured varieties, even down to the small C. argyrites. Certificates were given to a variety named Mons. Léon Say, and to Mrs. H. Veitch.

Miscellaneous Exhibits.

There were many miscellaneous exhibits of very noticeable merit. Messrs. Sutton & Sons, Reading, had a large collection of herbaceous Calceolarias of an excellent strain. The flowers were very large, and of bright colours, and habit dwarf and good (Small Silver-gilt Medal). Mr. Thos. S. Ware, of Tottenham, again exhibited some large blooms of Carnation Pride of Great Britain, and obtained a Certificate of Merit. Mr. Chas. Turner had a basket of a good Pelargonium, Rosy Gem (Certificate), and some plants of his new climbing Rose Crimson Rambler; also a group of Carnation Souvenir de la Malmaison.

Messrs. Jas. Veitch & Sons, Chelsea, had a small group of new plants, including Phyllocactus Niobe, P. Diadem, Begonia decora, a very delighful little plant, dwarf, leaves of a dull crimson, with yellowish-green veins (Certificate); Rhododendron Ceres, a very bright yellow, of the javanicum type (Certificate); and R. var. Primrose, one of the most beautiful of allthe hybrids (Certificate); R. Balsaminæflora Rajah, of an orange-scarlet tint (Certificate); several very fine Gloxinias, two of which received Certificates, as did Gloxinera × Brilliant, a bigeneric hybrid between Gloxinia var. Radiance ♂, and Gesnera pyramidalis ♀. The foliage differs little from the ordinary Gloxinia, but the flowers have the form of Gesnera, and are very pretty.

Certificates were also given to Pteris longifolia Mariesii, Tillandsia Leodiensis, and for Messrs. Veitch's strain of hybrid Streptocarpus.

Some plants of Rhododendron Helène Schiffner were exhibited by M. J. T. Seidel, nurseryman, Striesen, near Dresden. The habit of this Rhododendron is dwarf, the flowers are white, and are freely produced in compact trusses (Certificate).

Messrs. John Laing & Sons had a magnificent group of plants, Orchids, &c., arranged in the most tasteful manner. Included were many new Caladiums, some of which received Certificates of Merit. Croton Comte de Germiny, also received a Certificate. This is a good variety of the broad-leaved section; the older leaves have a little dull red colour in them, but the younger ones are a bright yellow and green. Begonia Earl of Craven, a large double scarlet, was given a Certificate; also Lady Brooke, a beautiful pink-salmon, double, and large. A Certificate was also granted to Gymnogramma Mayii, a very pretty silver variety (Silver-gilt Medal).

Mr. Geo. Mount, Rose Nurseries, Canterbury, had a very fine lot of cut Roses; especially good were La France, Ulrich Brunner, Mrs. Jno. Laing, and Niphetos (Silver Medal).

Mr. H. J. Jones, Ryecroft Nursery, staged a good group of Pelargoniums in flower (Silver Medal); also a Certificate for an Ivy-leaved Pelargonium, Ryecroft Surprise, a double pink, free-flowering variety.

Some pots of very well-grown plants of Leschenaultia biloba-minor, were from Messrs. W. Balchin & Sons, and were awarded a Bronze Medal.

Mr. P. Perry, gr. to J. C. Tasker, Esq., Brentwood, Middleton, had a number of distinct blooms of Cannas, including some of the best and most recent varieties (Bronze Medal).

A group of miscellaneous stove and greenhouse plants was staged by Mr. R. Scott, gr. to Miss Foster, The Holmes, Regent's Park (Small Silver Medal).

A large and characteristic collection of cut blooms of hardy and herbaceous plants were staged by Messrs. P. Barr & Sons, King Street, Covent Garden, and was awarded a Small Silver Medal.

From Mr. John R. Box, Croydon, came a good group of Tuberous Begonias in pots, including single and double varieties. Lady Beatrice Herbert, a large double pink flower; Mrs. Jenkins, a pale primrose; and Hon. Sydney Herbert, a bright Camellia-like variety, were awarded Certificates of Merit (Silver Medal).

Mr. Anthony Waterer, Knap Hill Nursery, near Woking, sent cut sprays of Ghent Azaleas (Large Bronze Medal).

A pretty group of miscellaneous plants from Messrs. Peed & Sons was awarded a Small Silver Medal.

A large collection of cut Roses was put up from Messrs. Wm. Paul & Son, Waltham Cross; especially good were Spenser, Baroness Rothschild, Clio, &c. (Silver Medal).

Messrs. Carter & Co., High Holborn, staged a very large group of single and double Petunias, which attracted considerable attention; P. Pallas, a very pretty rose-coloured flower, with darker veining, received a Certificate of Merit (Silver Medal). Also a beautiful lot of Mimulus in variety; Mimulus gloriosa, with extra large and well-coloured blooms, and dwarf habit, was awarded a Certificate of Merit (Bronze Medal).

MOSELEY BOTANICAL, BIRMINGHAM.

May 10, 11.—The May exhibition here was chiefly noticeable for the display of floral arrangements of a high order of merit, and a handsome Gold Medal was offered as a 1st prize for a display not exceeding 9 feet in length by 4 feet, it being left to the discretion of the exhibitor as to what designs he set up, the aim of the management being to bring out new ideas and designs.

Messrs. Perkins & Sons of Coventry staged a very beautiful display, thirty-six designs, including baskets in various forms, shower bouquets of exquisite beauty, an anchor, one wreath, a central object, sprays, and other objects, the whole arranged against a background of black velvet, relieved by strips of amber-coloured satin, and won the Gold Medal easily. There was one fault, the group was crowded, and was not seen to its full advantage.

Messrs. Pope & Sons, Birmingham, won the second Gold Medal for a very fine display, but with a smaller number of designs. A fine wreath was flanked on either side by a large handsome shower bouquet, both with long sprays of Climbing Asparagus, one with Golden Marguerites, the other with the white Everlasting Pea; and there were other designs in this group.

Messrs. Perkins & Son were 1st for a bride's, as well as for a bridesmaid's, bouquet, and for a superb cross of white flowers, also for a large handsome wreath. Messrs. Pearson & Sons, Chilwell Nurseries, Nottingham, were 2nd in the class for a cross, with one so equal to that of Messrs. Perkins', as to deserve a 1st prize.

Mr. Cregor, gr. to J. A. Kenrick, Esq., Barrow Court, was 1st for a beautiful group of plants.

Messrs. Hewitt & Co., The Nurseries, Solihull, contributed a nice lot of hardy cut flowers, and a fine group of Pelargoniums and other plants, a group of P. Volunté Nationale being conspicuous, and Empress of India very fine.

From the Moseley Botanical Gardens a tray of wonderfully-fine Mushrooms were staged, grown in arches underneath the college, an enormous handsome structure, standing in 20 acres of beautiful grounds, and now known as the Moseley Botanical Gardens. The judges awarded a Silver Medal to them.

One other feature of interest here was the class for a group of cut flowers, hardy or otherwise, in a given space. Messrs. Pope & Sons were 1st, with a very good display; but the very long spell of heat and drought told against the cut-flower display.

LAW NOTES.

GRIMWOOD *v.* WEEKS.

This was an action tried in the Chancery Division, May 13, before Mr. Justice Romer, to obtain the winding up of a partnership and distribution of assets in a business of horticultural builders and hot-water apparatus manufacturers, carried on at Chelsea, under the style or firm of "J. Weeks & Co."

Mr. Abraham appeared for the plaintiffs; Mr. Chadwyck Healey, Q.C., and Mr. Leeke, for the defendants.

In opening the case for the plaintiffs, Mr. Abraham said the action was brought by the executors of a deceased partner against the surviving partners, asking that the partnership affairs should be wound up. The object of the action was to ascertain what were the rights of the parties according to the true construction of a somewhat loosely-drawn indenture-deed. To this end several points were raised. The first was, whether or not the defendants were entitled to take over the share of the deceased partner at a valuation. His learned friends who appeared on the other side contended that they were so entitled under certain of the articles in the deed. For the plaintiffs he contended that, in the events which had happened, those articles were not applicable, and therefore the law would take the ordinary course, and the assets must be realised. Suppose his lordship to decide that the defendants were so entitled, the next question would be, how was the price to be ascertained, and when was it to be paid. There was also another question, viz., whether the plaintiffs were entitled to interest, or profits in lieu of interest, from the date of the testator's death down to the time of payment. In answer to an observation by Mr. Chadwyck Healey, Mr. Abraham said he admitted that, without prejudice, they had consented to a valuation upon certain terms, and to go out of the premises, but the suggestion was indignantly rejected, and the plaintiffs were consequently compelled to go on. The learned counsel then referred to the salient points of the partnership deed, and proceeded to say that all the parties outlived the ten years' period. John Weeks died in August, 1879; George Deal in June, 1890; and Lucy Weeks, without having again married, in November, 1891. If the instalments had been strictly adhered to, the first would have been payable one year after the death of Lucy Weeks (so the plaintiffs contended), but as the defendants said, after the death of George Deal. An account was taken on the death of Deal, whose share amounted to £1142 11*s.* 6¾*d.*, and the defendants had been paying them by instalments from the death of Deal, not of Mrs. Weeks.

His lordship, interposing at this point, said the matter seemed a somewhat complicated one. As the parties were agreed as to the amount of the share, why should they not settle by arbitration the amount payable, with interest at 5 per cent. on the first portion to run from the death of Mrs. Weeks?

Mr. Chadwyck Healey, having intimated that he was prepared to act on that suggestion,

His lordship pointed out to Mr. Abraham that his clients would get 5 per cent. on the amount of their capital, except the deferred portion. Would they accept that and end the matter?

After some little discussion between Mr. Abraham and his clients,

Mr. Chadwyck Healey stating that the defendants would like to pay down the whole sum due, it was eventually agreed that an account should be taken of the deferred portion of the assets, with interest at 5 per cent. from the date of the death of Mrs. Weeks, to be paid within one month after the amount was ascertained, together with the sum due on the account to March 31, 1885, with interest from the death of Mr. Deal, defendants to have liberty to pay not less than £2000 at any time; and no costs to be allowed on either side.

MARKETS.

COVENT GARDEN, May 18.

[We cannot accept any editorial responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. Ed.]

Prices generally unaltered, with heavy supplies and business quiet. *James Webber, Wholesale Apple Market.*

Plants in Pots.—Average Wholesale Prices.

	s. d. s. d.		*s. d. s. d.*
Arums, dozen pots ...	8 0-12 0	Lilium Harrisii ...18	0-30 0
Azalea, per doz. ...18	0-24 0	Lily of the Valley, 12 pots	9 0-15 0
Adiantum, per doz.	6 0-12 0	Lobelia, per doz. ...	5 0- 8 0
Aspidistra, per doz.	15 0-30 0	Marguerite, per doz.	6 0-12 0
— specimen, each	7 6-21 0	Mignonette, doz. pots	5 0- 9 0
Cineraria, per doz.,...	6 0- 9 0	Nasturtiums, p. doz.	4 0- 8 0
Cyclamen, doz. ...	9 0-18 0	Palms, various, each	2 0-10 0
Cyperus, per dozen	4 0-10 0	— specimens, each	10 6-84 0
Dracæna, each ...	1 0- 5 0	Pelargoniums, p. doz.	8 0-15 0
Erica, various, doz.	9 0-21 0	— scarlets, p. doz.	4 0- 9 0
Ferns, various, doz.	4 0- 9 0	Primula sinensis, doz.	4 0- 6 0
Ferns, small, per 100	5 0- 8 0	Saxifrage, per doz.	12 0-18 0
Ficus elastica, each	1 6- 7 6	Spiræ per dozen ...	8 0-12 0
Genista, per doz. ...	6 0- 9 0		
Ivy Geraniums, doz.	6 0- 9 0		

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum, per doz. bl.	1 0	3 0	Orchids:—		
Azalea, dozen sprays	0 6	0 9	Cattleya, 12 blms.	6 0	12 0
Bouvardias, per bun.	0 6	1 0	Odontoglossum crispum, 12 blms.	2 0	5 0
Carnations, 12 blms.	1 0	3 0	Pelargoniums, scarlet, p. 12 bun.	4 0	6 0
Kucharis, per dozen	3 0	4 0	— 12 sprays	0 6	0 9
Gardenias, per dozen	1 0	3 0	Polyanthus, 12 bun.	2 0	4 0
Heliotropes, per doz. sprays	0 4	0 6	Primulas, dble. p. bun.	0 6	1 0
Lilac, French, per bunch	3 6	5 0	Roses, Tea, per dozen	0 6	2 0
Lilium Harrisii, doz.	2 0	4 0	— coloured, dozen	2 0	4 0
Lily of the Valley, doz. bunches	3 0	6 0	— yellow (Maréchals), per doz.	1 6	6 0
Maiden Hair Fern, 12 bunches	4 0	6 0	— red, per dozen	1 6	3 0
Marguerites, p. doz. bunches	2 6	4 0	— (French) p. doz.	0 9	1 6
Mignonette, 12 bun.	3 0	6 0	Spiræa, 12 bunches	3 0	6 0
Narcissus, various, French, p. doz. bun.	2 0	6 0	Tuberoses, 12 blms.	0 6	1 0
Myosotis, 12 bunches	2 0	3 0	Tulips, per doz. bun.	2 0	4 0
			Violets, small English, p. doz. bunches	1 0	1 6
			Wallflower, 12 bun.	2 0	3 0

ORCHID-BLOOM in variety.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples, p. half-sieve	2 0	3 6	Lemons, per case	12 0	20 0
— Nova Scotia, per barrel	10 0	17 6	Peaches, per doz.	6 0	20 0
— Tasmanian, per case	2 6	8 6	Pine-apples, St. Michael	2 0	5 0
Cobs, per 100 lb.			Oranges, per case	20 0	30 0
Grapes, per lb.	1 6	3 0	Strawberries, per lb.	1 0	3 6

VEGETABLES. — AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Beans, French, lb.	1 6	2 0	Mushrooms, punnet	2 0	
Beet, red, per dozen	2 0	3 0	Mustard and Cress, punnet	0 4	
Carrots, per bunch	0 4	0 6	Parsley per bunch	0 3	0 6
Cauliflowers, each	0 3	0 6	Seakale, per basket	2 0	2 6
Cucumbers, each	0 4	0 8	Shallots, per lb.	0 6	
Endive, per dozen	2 0	3 0	Tomatos, per lb.	1 0	2 0
Herbs, per bunch	0 9	1 0	Turnips, per bunch	0 4	0 6
Lettuces, per doz.	1 6	2 0			

POTATOS.

Trade for old Potatos is at a standstill. Best samples selling slowly, at 45*s.* to 60*s.*; ordinary, 30*s.* to 35*s.*

NEW POTATOS.—Large arrivals; prices lower; only a limited demand. Malta Rounds, 10*s.* to 12*s.*; Kidneys, 12*s.* to 16*s.*; Teneriffe Kidneys, 10*s.* to 15*s.* *J. B. Thomas.*

SEEDS.

LONDON: *May* 17.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that the recent most welcome rains are bringing forward numerous delayed sowing orders. Meantime, stocks all round are exceedingly light, and quotations exhibit extreme firmness. Mustard and Rapeseed tend upwards. For Tares there is a good demand, and as supplies are short, prices have suddenly jumped up 2*s.* a qr. Trifolium would find buyers if offered at more reasonable rates. Canary seed is quietly hardening in value; holders appear indifferent about making sales at present figures. Hempseed keeps slow. For Blue Peas more money is asked.

FRUITS AND VEGETABLES.

BOROUGH: *May* 16.—Quotations:—Spinach, 2*s.* to 2*s.* 6*d.* per bushel; Cauliflowers, 1*s.* 6*d.* to 2*s.* per dozen; Greens, 3*s.* to 5*s.* per sieve; Parsley, 2*s.* 6*d.* to 3*s.* per dozen bunches; Carrots, 3*s.* to 3*s.* 6*d.*; Egyptian Onions, 6*s.* to 7*s.* per cwt.; Horseradish, 2*s.* 6*d.* to 2*s.* 9*d.* per bundle; Apples, 7*s.* to 12*s.* per case.

SPITALFIELDS: *May* 16.—Quotations:—Gooseberries, 4*s.* 6*d.* to 5*s.* 6*d.* per half-sieve; American Apples, 18*s.* to 21*s.* per barrel; Tasmanian do., 8*s.* to 10*s.* per case; Asparagus, 1*s.* 3*d.* to 1*s.* 9*d.* per bundle of 110 heads; Cabbages, 4*s.* to 5*s.*; Cauliflowers, 5*s.* to 10*s.* per tally; Radishes, 1*s.* 6*d.* to 3*s.*; Greens, 4*s.* to 5*s.*; Parsley, 6*s.* to 8*s.*; Spring Onions, 3*s.* to 4*s.* per dozen bunches; Horseradish, 2*s.* 6*d.* per bundle; Mint, 4*s.* to 6*s.*, per dozen bundles; frame Cucumbers, 3*s.* to 5*s.*; Endive, 1*s.* 6*d.*; Cabbage Lettuces, 1*s.* per dozen; Mustard and Cress, 2*s.* per dozen baskets; Egyptian Onions, 6*s.* to 7*s.* per cwt.; Carrots, old, 55*s.* to 65*s.* per ton.

STRATFORD: *May* 16.—There has been an excellent supply of all kinds of produce at this market during the past week, and a brisk trade has been done at the undermentioned prices:—Quotations: Cabbages, 3*s.* to 6*s.* per tally; Greens, 4*s.* to 6*s.* per dozen; do., 2*s.* 6*d.* to 3*s.* 6*d.* per sieve; Carrots, household, 40*s.* to 60*s.* per ton; Mangels, 18*s.* to 23*s.* do.; Onions, Egyptian, 100*s.* to 110*s.* do.; Apples, Tasmanian, 9*s.* to 11*s.* per case; do., American, 15*s.* to 22*s.* per barrel; Gooseberries, 4*s.* 6*d.* to 5*s.* half-sieve; Radishes, 1*s.* 3*d.* per dozen; Lettuce, 8*d.* to 1*s.* 6*d.* per score; Horseradish, 2*s.* 3*d.* to 2*s.* 6*d.* per bundle.

FARRINGDON: *May* 18.—Quotations:—Gooseberries, 4*s.* 6*d.* per half-bushel; Tomatos, 4*s.* 3*d.* per 15 lb.; Apples, Tasmanian, 8*s.* to 9*s.* per box; American, 17*s.* to 20*s.* per barrel; Peas, 4*s.* 6*d.* per flat.

POTATOS.

BOROUGH: *May* 16.—English Magnums, 40*s.* to 70*s.* per ton. New: 17*s.* to 18*s.* per cwt.

SPITALFIELDS: *May* 16.—Quotations.—New: Jersey Kidneys, 17*s.* to 18*s.*; Lisbon Rounds, 7*s.* 6*d.* to 8*s.* 6*d.* per cwt. Old: 40*s.* to 60*s.* per ton.

STRATFORD: *May* 16.—Quotations:—Imperators, 30*s.* to 50*s.*; Magnums, 30*s.* to 40*s.*; do., light-land, 40*s.* to 60*s.*; Scotch Magnums, 50*s.* to 60*s.*; Bruce's, 60*s.* to 70*s.* per ton.

LONDON AVERAGES: *May* 17.—Quotations:—Magnums, 40*s.* to 70*s.*; Hebrons, 50*s.* to 70*s.*; Imperators, 40*s.* to 60*s.*; Belgians, 35*s.* to 45*s.* per ton. New:—English, 2*d.* to 4*d.*; Jerseys, 1*d.* to 3*d.*; Guernsey Kidneys, 2*d.* to 3*d.* per pound.

FARRINGDON: *May* 18.—Quotations:—Main Crop, 70*s.* to 80*s.*; Abundance (Sutton's), 65*s.* to 70*s.*; Bruces, 65*s.* to 70*s.*; Magnums, 40*s.* to 50*s.*; Imperators, 35*s.* to 45*s.* per ton. New:—Jersey Kidneys, 17*s.*; St. Malo rounds, 10*s.* per cwt.

CORN.

Averages.—Official statement of the average prices of British corn, imperial measure (quarter) for the week ending May 13, and for the corresponding period last year:—1893: Wheat, 26*s.* 4*d.*; Barley, 22*s.* 7*d.*; Oats, 19*s.* 4*d.* 1892: Wheat, 31*s.* 7*d.*; Barley, 25*s.* 2*d.*; Oats, 21*s.* 4*d.*

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 80*s.* to 126*s.*; do., inferior, 70*s.* to 75*s.*; hay, best, 85*s.* to 126*s.*; do., inferior, 65*s.* to 75*s.*; and straw, 30*s.* to 45*s.* per load.

[BY the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees — a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.

Districts.	Above (+) or below (−) the Mean for the week ending May 13.	Temperature: Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1893.	Below 42°, difference from Mean since January 1, 1893.	Rainfall. More (+) or less (−) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1893.	Total Fall since Jan. 1, 1893.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1893.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	5 +	66	0	+ 197	— 46	1 —	84	15·7	35	26
1	5 +	71	0	+ 162	— 15	3 —	67	7·4	49	33
2	4 +	67	0	+ 192	— 61	4 —	53	5·3	60	38
3	3 +	74	0	+ 252	— 33	4 —	55	5·3	73	45
4	4 +	85	4	+ 332	— 43	5 —	53	5·2	75	43
5	4 +	90	0	+ 273	— 44	4 —	51	6·0	73	46
6	5 +	80	0	+ 227	— 69	4 —	68	11·8	50	36
7	4 +	81	0	+ 298	— 90	5 —	56	7·2	63	37
8	5 +	93	9	+ 327	— 69	5 —	53	9·2	78	48
9	5 +	87	0	+ 226	— 102	5 —	69	9·4	46	30
10	5 +	93	0	+ 267	— 99	6 —	60	10·0	56	36
*	4 +	93	0	+ 372	— 52	4 —	59	7·6	88	54

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; * Channel Islands.

THE PAST WEEK.

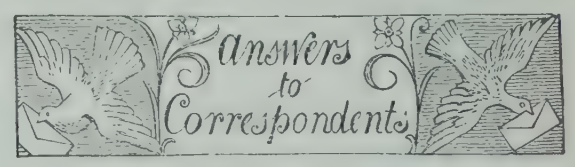
THE following summary record of the weather for the week ending May 13, is furnished from the Meteorological Office:—

"The *weather* was again very dry and fine over England and Ireland, but in Scotland the conditions, after remaining fine during the earlier part of the week, became rather unsettled towards its close, and some rain fell.

"The *temperature* continued above the mean, the excess ranging from 3° in 'England, E.,' to 4° or 5° in the other districts. The highest of the maxima were registered, as a rule, either on the 12th or 13th, and ranged from 80° in 'England, S.W.,' and 77° over the eastern, southern, and central parts of England, to 70° in 'Scotland, E.,' and to 69° in 'Scotland, W.' The lowest of the minima were recorded during the earlier part of the period, when the thermometer fell to 30° in the 'Midland Counties,' 31° in 'Scotland, E. and England, N.W., and to between 33° and 37° in most of the other districts. In the 'Channel Islands' the lowest reading was 44°. During the latter part of the week the minima were much higher, in many cases about 50°.

"The *rainfall* was altogether absent from England and Ireland, but in the east and west of Scotland the fall amounted to two-tenths of an inch, and in Scotland north to five-tenths.

"The *bright sunshine* was extremely abundant, especially over England. The percentage of the possible duration ranged from 35 to 50 in Scotland, from 46 to 56 in Ireland, and from 60 to 78 over England. In the Channel Islands the percentage was as high as 88°. The amount of bright sunshine recorded for the week in London was equal to 76 per cent. of the possible number of hours, which is higher than any percentage previously recorded in the metropolis since the sunshine instruments were established in 1880."



BOOKS: *Jasper. The Tomato: its Culture and Uses*, by W. Iggulden. Price, 1*s.* (*Journal of Horticulture*, 171, Fleet Street, E.C.)

CABBAGES DYING OFF: *W. S.* A cursory examination of the stem of the plant sent would seem to indicate the presence of the slime fungus, Plasmodiophora Brassicæ, the common cause of anbury, finger-and-toe, &c., in the Cabbage, Cauliflower, and Turnip, but on cutting through the stem at the ground level, the maggot of the Cabbage gall weevil, Ceutiorhynchus sulcicolis, came into view. All young plants having any swellings upon the stem and roots should be rejected, and all apparently sickly plants should be pulled up and burned. It only makes matters worse to throw affected plants on the rubbish heap. Gas lime dug into the soil in winter is a good remedy; as are changes of crops, not letting such crops as Cabbage follow Turnips or Cauliflowers and the like—dipping the young plants before planting in a thick puddle of soot, wood ashes, mould, and water does good where the grub is troublesome.

CUCUMBER GUMMING: *H. G.* The appearances point to eel-worms at the root, but you sent us no roots, so that we are not sure. Sometimes the disease is due to a fungus, Glæosporium orbiculare, which makes black spots on the fruit. There is no cure in either case.

DRACÆNA THALIOIDES: *Enquirer.* This plant was described by the elder Morren in the *Belgique Horticole*, 1860, p. 338, and was taken up by Baker in his paper on Asparagaceæ, *Journ. Linn. Soc.*, vol. xiv., p. 534. D. Sanderiana is a garden name, as shown by the suffix "hort. Sander" attached to it in our columns. Whether it is a variegated form of D. thalioides or not we do not know.

EARLY PEAS: *A. Gant.* Very good, especially William I. The out-of-doors-grown Potatos are remarkably good for such an early date.

INSECTS: *W. C. M.* The grubs in the Pear are those of a minute, two-winged fly, Diplosis pyrivora. Carefully collect and destroy all the young Pears that fall, and pick and destroy all those on the trees that appear to be infested. *R. McL.* — *W. N.* The large weevil on Dendrobium is a Longicorn beetle, and apparently undescribed, but it has previously been found on Orchids (from Ceylon?) in this country. Send more specimens of it, if you find any. The smaller insect is Otiorhynchus picipes—the clay-coloured weevil.

Catch them at night, by the aid of a light suddenly turned on the plants they mostly favour. The weevil and its grubs are destructive to plants.—*Oakleaf: X.* An aphis; see next week.

Lime Leaf Disfigured: *J. Odell.* The small woolly patches on the Lime leaf are supposed to be due to the irritation caused by some mite, but the nature of the growth, "Erineum," is still obscure. The red spots on the Birch leaves are also probably the work of some mite (Phytoptus).

Names of Plants: *Jno. Gould.* Heuchera glabra.—*Veseder.* 1, Spiræa prunifolia; 2, form of Spiræa trilobata.—*Dorset.* Coronilla Emerus.—*J. R.* Exochorda grandiflora.—*J. B.* 1, Pinus Pinaster; 2, Tamarix gallica.—*C. E. F.* Neottia nidus avis.—*E. M. C.* Metrosideros floribunda; the other (bulbous) plant fallen all to pieces.—*A. M.* Masdevallia Swertiifolia.—*A. Dickson.* Crinum Moorei.—*G. H.* 1, next week; 2, Raphiolepis ovata; 3, Campanula glomerata; 4, Ligustrum japonicum. *Rev. A. Flux.* Cheiranthus Cheiri var. gynantherus.—*Clover Seed.* Luzula campestris.—*Mr J. T.* Celtis occidentalis.—*X.* 3, Antennaria dioica; 4, Aquilegia seedling.—*G. P. L.* Polygala vulgaris, blue flowers, Smilax aspera.—*J. B.*, next week.—*J. U.*, next week.—*J. & A. B.* 1, Muscari comosum; 2 and 5, florists' varieties of Clematis. Send to some nurseryman who makes a specialty of them; 3, Campanula persicifolia alba; 4 Oncidium, next week.—*U. C. B., W. G., J. L., E. B., J. U., J. and A B.*, all next week.

Peaches: *G. E. C.* A bad instance of Peach mildew. There is no remedy now, but the trees should be dressed with Bouillie Bordelaise, or some other mildew exterminator. Afford an early dressing next year.

Retinospora: *Munches.*—Your specimens are interesting, as showing that the so-called Retinosporas are only stages of growth of two or three species of Thuia. One specimen shows a long shoot of the ordinary Thuia or Retinospora obtusa growing away from the green obtusa nana. It is interesting to see that the leaves on the extension shoot have attained the brown colour, whilst they still remain green on the dwarf branches. The other shoots are those of the so-called Retinospora squarrosa and of R. plumosa aurea. The decay of the branches and leaves is a natural process, like moulting in birds. It does not add to the attractiveness of the shrub, but next year all will be well. See the introductory address at the Conifer Conference, Royal Horticultural Society.

Thrips on Vines: *W. S.* The use of the "Thanatophore" with tobacco-juice would be the safest method of ridding the Vines of thrips. Ordinary fumigation with tobacco or its compounds would be the next best proceedings, repeating it at intervals of two or three days; giving in all three fumigations. The "Thanatophore" would have to be used more than once.

Worms: *A. H.* Gordius aquaticus. We do not think they are injurious to plants.

Communications Received.—Kuyk Bros., Hillegom.—J. B.—W. G. (next week).—T. J. Southern (next week).—Munches.—Lucien Linden.—A. B. S., Edinburgh.—G. G.—W. G. S.—W. J.—J. D. Sm., Baltimore.—G. F. S. E.—H. H. D. O.—Rev. A. S. F.—T. F.—F. F. will find that we occasionally give such illustrations as he desires, but they are not always suitable for our purposes.—J. O'B.—G. T., Versailles.—R. McL.—E. W. B.—S. Mottet, Paris.—E. S. D.—Barr & Son.—Dutry-Colson, Ghent.—E. Autran, Geneva.—D. T. F.—C. B. C.—J. Z.—J. O.—Riviera, Cannes.—H. E. M.—R. C. S.—Smithsonian Institute.—Ludwig Möller, Erfurt (with thanks).—J. D.—A. G.—P. Blair.—W. Watson (too late for this week).—A. O. W.—R. W. P.—J. Scowse.—W. E. G.—W. S.—J. Miller.—C. T. D.—I. of H.—W. R., Swanley.

Photographs Received.—H. W. W.

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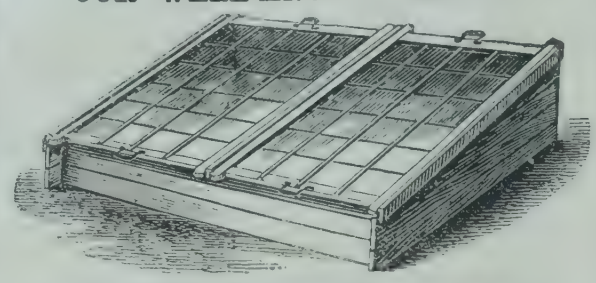

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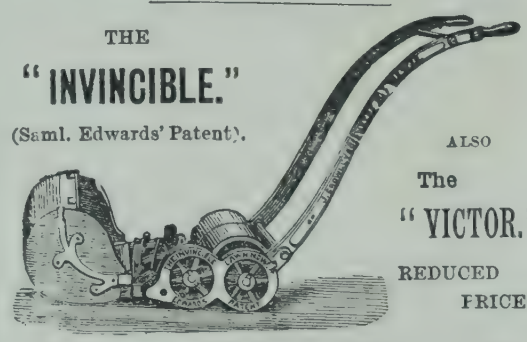

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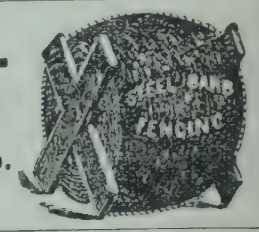

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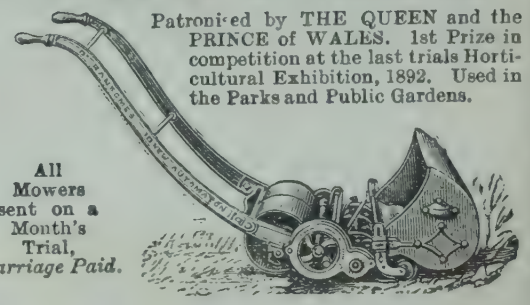

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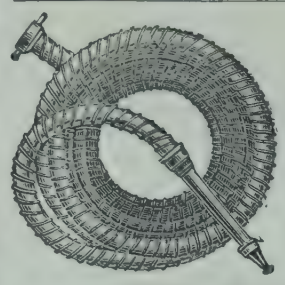

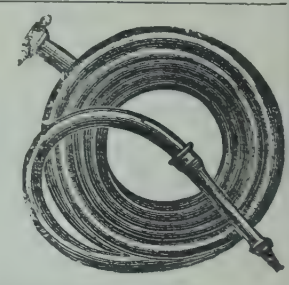

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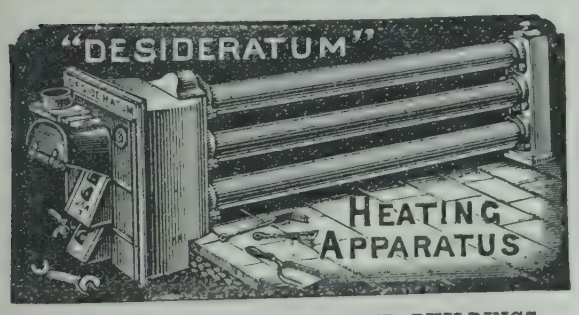

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8	,,	..	0	5	0	19	,,	..	0	10	6
9	,,	..	0	5	6	20	,,	..	0	11	0
10	,,	..	0	6	0	21	,,	..	0	11	6
11	,,	..	0	6	6	22	,,	..	0	12	0
12	,,	..	0	7	0	23	,,	..	0	12	6
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NOTICE TO ADVERTISERS.—*In many instances Remittances in Payment of Repeat Advertisements are received without name, address, or anything beyond the postmark on envelope by which to identify the sender; this in all cases causes a very great deal of trouble, and frequently the sender cannot be identified at all.*

Advertisers are requested when Remitting to give their Names and Addresses, and also a Reference to the Advertisements which they wish repeated.

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Subscribers who experience any difficulty in obtaining their copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint).

THE VESTRY of the PARISH of LAMBETH desire to ENGAGE the SERVICES of a competent GARDENER, to undertake the Care and Maintenance of the open Space surrounding Saint John's Church, Waterloo Road, to Open Gates in the morning and Lock them at night, to give whole time, and not take any other employment.

Also, a competent GARDENER, to undertake the Care and Maintenance of Recreation Ground in High Street, Lambeth, and the enclosure opposite St. Thomas' Hospital, Albert Embankment. The wages in each case to be 25*s.* per week, and age not to exceed 35 years.

Application in own hand-writing, giving references and particulars of previous employment, to be delivered not later than 3 o'clock on May 25, at the Lambeth Vestry Hall, Kennington Road, addressed to the Wages Committee.

By order, HENRY J. SMITH,
Lambeth Vestry Hall, Clerk to the Vestry.
Kennington Green, May 17, 1893.

GARDENING APPOINTMENTS.

MR. E. M. BENNETT, for the last thirteen years Gardener to N. LONERGAN, Esq., Cressingham, Reading, Berks, as Head Gardener to C. S. HARDY, Esq., Chilham Castle, Kent.

Mr. R. V. SMITH, formerly of Margery Hall Gardens, Reigate, as Head Gardener to F. E. COLMAN, Esq., Nork House, Epsom.

Mr. ALBERT PEARCE, as Head Gardener to H. C. JOBSON, Esq., Summer Hill House, Kidderminster.

Mr. CHARLES DAWSON, for the last four years Foreman at Stobo Castle Gardens, Peebles-shire, as Gardener to R. LAING, Esq., Broad Meadows, Selkirkshire.

Mr. HUGH ROBERTSON, for the last six months Foreman at Stobo Castle Gardens, Peebles-shire, as Gardener to Major Wm. THORNBURN, Craigearn, Peebles.

Mr. H. WATT, formerly Head Gardener at Rockingham Castle, Northants, has succeeded Mr. J. GILBERT as Head Gardener to the Right Hon. Earl of ANCASTER, Normanton Park, Stamford.

CATALOGUES RECEIVED.

WM. CLIBRAN & SON, Oldfield Nurseries, Altrincham, and Market Street, Manchester—General Catalogue.

H. B. MAY, Dyson's Lane Nurseries, Upper Edmonton, London—Plants.

WOOD & INGRAM, The Nurseries, Huntingdon—Bedding and Herbaceous Plants, Pelargoniums, &c.

JNO. LAING & SONS, Forest Hill, London, S.E.—Fancy-leaved Caladiums.

MERRYWEATHER & SONS, Greenwich Road, S.E., and 63, Long Acre, London, W.C.—Pump and Water Supply Apparatus, Engines, Hoses, &c.

J. VEITCH & SONS, Chelsea, London—Plant Novelties for 1893.

CHAS. P. KINNELL & Co., 65 and 65A, Southwark Street—Garden Appliances, Fittings, &c.

CLARK BROS., & Co., 65, Scotch Street, Carlisle—Summer Flowering Plants and Florists Flowers.

A. J. GUILBERT, George Road, Guernsey—Bulbs.

M. DUTRY-COLSON, 12, Rue des Champs, Gand, Belgique—Horticultural Buildings and Appliances.

T. LAMBERT & SON, Trier, Germany—Plants, &c.

WANTED, a HEAD WORKING GARDENER—two kept. Garden about 2 acres, Vines and Stove. Must be competent. Age 35 to 40. Abstainer preferred.—Apply by letter only, GAVILLER, Mr. A. Boyd, Broxbourne.

WANTED, a good SINGLE-HANDED GARDENER, near London, small Kitchen Lawn and Flower Garden, and about 60 feet of Glass; must understand ordinary Forcing. Preference given to good countryman, with first-class character, and recently had permanent situation.—State distinctly last two situations, dates of entering and leaving same, age, and wages required, Outdoors, to X, *Gardeners' Chronicle* Office, 41, Wellington St., Strand, W.C.

WANTED, IMMEDIATELY, a WORKING GARDENER for small Nursery and Pleasure Grounds. Good Tomato Grower.—Apply, A. BARKER, Finney Gardens, Hanley, Staffs.

WANTED, a good all-round GARDENER, for Market. To Grow Flowers, Cucumbers, Tomatos, Grapes, Mushrooms, out-door Fruit, &c. Abstainer preferred. Full particulars to MANAGER, Nightingale Nurseries, Grosvenor, Bath.

WANTED, SEVERAL GARDENERS, who have had practice among Vines.—Apply personally, at Claigmar Vineyard, Church End, Finchley, N.

WANTED, a GROOM-GARDENER.—If with Wife who can Cook or undertake House Parlourmaid's Work, preferred. In the house, all found, except beer.—Write, stating wages required, to Lieut.-Col. GRIFFITH, 4, Carlton Chambers, S.W.

WANTED, for July 1, a young MAN, well up in Growing all kinds of Flowers and Fruit (under Glass) for Market. None need apply who cannot produce satisfactory references for above.—Apply, stating wages required, to G. H. SMITH, Paul's Cray Hill, Kent.

WANTED, a respectable young MAN, of exceptionally good character.—Well up in growing Chrysanthemums, Tomatos, and Cucumbers for Market.—State age and wages required, to T. STACEY, Caversham, Reading.

WANTED, a young MAN for Cucumber-houses, quick at Tying, &c.—WOOLF, Shirley, Southampton.

WANTED, for one of the largest private places in the Country, an active MAN, that has had great experience in Training and Pruning Fruit Trees, Ornamental Shrubs, &c. Permanent place for a suitable man.—Apply, in writing, stating wages required, to Messrs. WM. CUTBUSH AND SON, Highgate Nurseries, London, N.

WANTED, Two active young MEN, used to Market Nursery Work, one for Tomatos and Chrysanthemums, and one for Herbaceous Plants, Bulbs and General Routine of Cut Flowers outside.—State age, experience, and wages, to B. WEBB, Hale, Liverpool.

WANTED, a young MAN, accustomed to Market Work under Glass, principally for Palms and Ferns. Wages 18*s.* per week, no fires.—Apply, stating full particulars, to H. MARSHALL, The Nurseries, Barnham, Bognor.

WANTED, for the Houses, under an English Foreman, a steady active young MAN, with two or three years' experience, to assist in a good Market Nursery. Comfortable rooms provided on the premises.—State wages, age, &c., to SAMUEL McGREDY AND SON, The Nurseries, Portadown.

WANTED, in a London Seed House, a young MAN, for Retail Shop. Able to keep Cash Account, and with some knowledge of the Seed Trade.—Apply by letter to S. M., care of Messrs. Dawsons, 161, Cannon Street, London, E.C.

WANTED, as SHOPMAN, a young Man accustomed to Retail Seed and Plant Trade.—Messrs. SMAIL AND CO., 23, Lime Street, London, E.C.

WANTED, first week in June, young LADY thoroughly experienced in all branches of West End trade. Good wages, and permanent place for suitable person.—Apply, G. D. TAVINER, F.R.H.S., Bayswater Hill, W.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. *on Wednesday will, in all probability, be held over to the next week.*

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

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RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

JOHN COWAN, The Vineyard, Garston, near Liverpool, is desirous of recommending to any Nobleman or Gentleman, who may require a thoroughly competent HEAD GARDENER, JOHN GOULD, who has been for a number of years Head Gardener at Bromborough Hall, Bromborough, Cheshire, the residence of the late R. N. Dale, Esq. Mr. Gould is a man of excellent character, and is thoroughly competent to take charge of a large Garden where a number of men are employed. He has a thorough knowledge of Orchids, as well as all other branches of Gardening. Unexceptional references. Mr. Cowan will be glad to furnish further particulars.

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GARDENER (HEAD), where two or three are kept.—Thorough good all-round general experience, both Inside and Out; four years' good references; near London preferred.—Apply, stating wages, to W. GARDENER, Effingham Park, Crawley Down.

GARDENER (HEAD); age 30, married, no family.—The Hon. R. C. TROLLOPE wishes to recommend the above; has been with him three years; leaving for no fault; thoroughly experienced in all branches.—GARDENER, Crowcombe Court, Taunton.

GARDENER (HEAD).—F. GILBERT; age 33, married, one child. Late Gardener to the Earl of Ancaster, Normanton Park, for two years and three months. For copies of testimonials and all particulars, apply to R. GILBERT, Burghley Gardens, Stamford.

£5 will be given for intimation that will secure a situation as HEAD WORKING GARDENER. Over twenty years' experience in all branches of Gardening.—R. G., 41, Wellington Street, Strand, W.C.

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GARDENER (HEAD WORKING).—Age 27, married when suited. Thoroughly experienced in all branches of Gardening. Excellent character.—GARDENER, Home Farm Cottage, Langley, Slough, Bucks.

GARDENER (HEAD WORKING).—Age 42, no family. £5 will be given to any one getting advertiser suitable situation. Can have excellent character.—G. H., 29, Langdon Road, Upper Holloway, N.

GARDENER (HEAD WORKING), where three or four are kept.—Age 42, married; life experience in all branches. Left through a death. Good references.—P. J., 99, Hamilton Road, Norwood, S.E.

GARDENER (HEAD WORKING).—Scotch; age 47, married, two girls; thorough Fruit and Plant Grower, Orchids, &c. Good Flower and Kitchen Gardener. Recommended by present employer.—S., The Stables, 7, Amberley Road, Sydenham, S.E.

GARDENER (HEAD WORKING).—Age 31, married, no family; thoroughly practical. Highest references.—GREEN, Monkton Farleigh, Bradford-on-Avon.

GARDENER (HEAD WORKING), where two or three are kept.—Single, married when suited; eleven years' good experience, with good testimonials.—H. TARGETT, Haynes' Farm, Copthorne, Sussex.

GARDENER (HEAD WORKING), where two or three are kept.—Age 35; good practical experience in all branches of Gardening. Highest references from previous and present employers.—10, Edith Terrace, Lower Woolwich Road, Charlton, S.E.

GARDENER (HEAD WORKING).—Age 30; recommended as a good and competent Gardener. Character will bear strictest investigation.—A. BOOKER, 8, Hadlow Place, Anerley Road, Upper Norwood, S.E.

GARDENER (HEAD WORKING), where three or more are kept.—Age 42, no family. Twenty-five years' experience, seventeen as Head. Vines, Cucumbers, Melons, Stove and Greenhouse, Fruit, Flower and Kitchen Garden; also forcing of Flowers and Vegetables. Good references.—F. PAY, Hawks Hill, Bourne End, Maidenhead, Berks.

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GARDENER (HEAD WORKING).—Married, no family; fourteen years' practical experience in all branches, Orchids, Stove and Greenhouse Fruit. Excellent recommendations.—M. A., 3, Pownall Road, Fulham, S.W.

GARDENER (HEAD WORKING, or good SINGLE-HANDED).—Age 34, married; experienced in all Fruits, Flowers, and Vegetables. Nine and two years' good personal character.—A. R., Broad River, St. Mary Cray, Kent.

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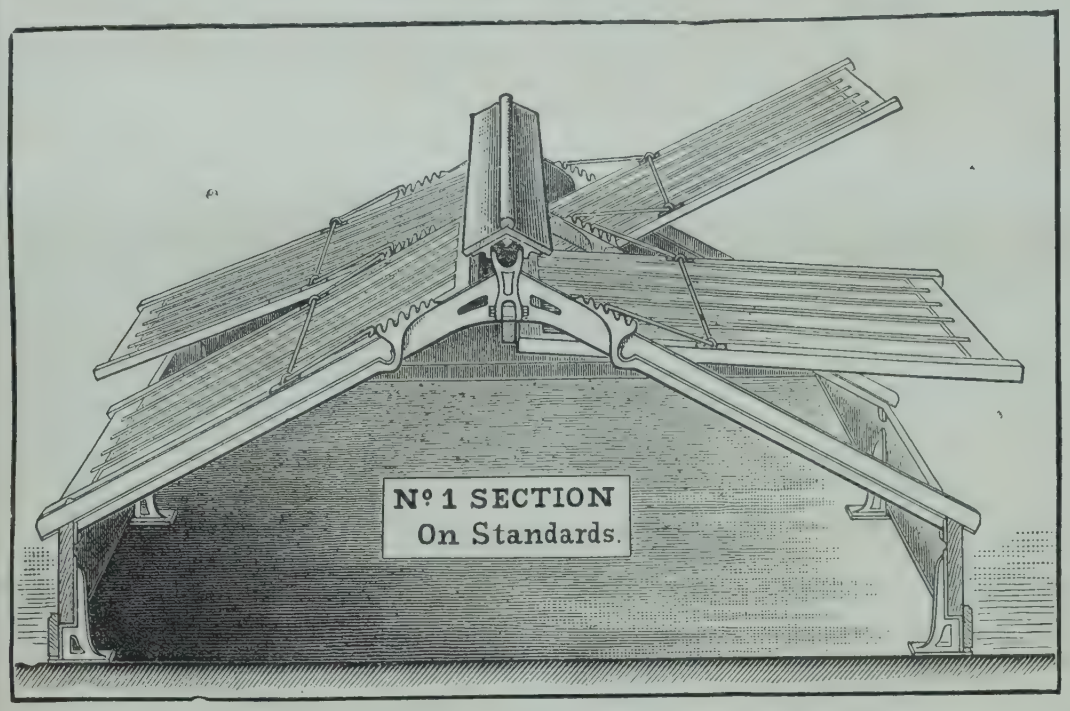

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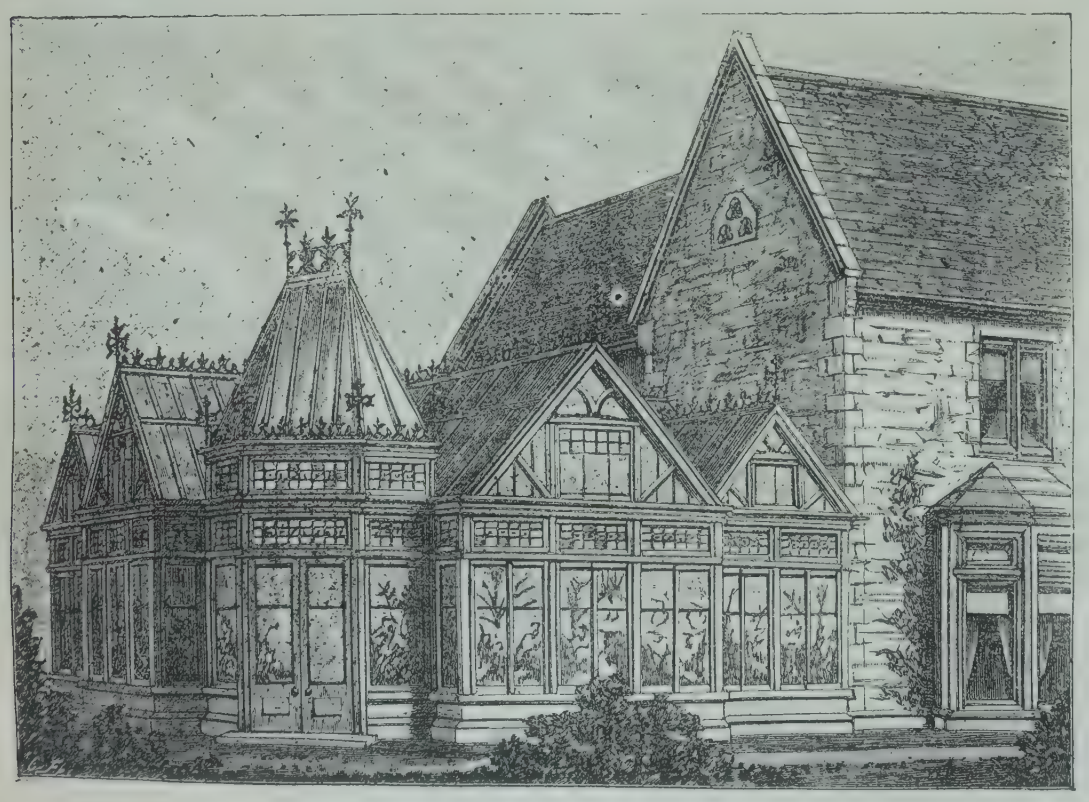

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CONTENTS.

Arboriculture in Kent ... 628
Azalea indica, growth and culture of 626
Barron, Mr. A. F. ... 633
Cannes, the recent winter at 633
Dracæna Sanderiana ... 634
Eucalyptus cordata ... 634
Finches, Lindfield, the 625
Florists' flowers 628
Carnation, the... ... 628
Hollyhocks, the ... 628
Fruit from the Colonies, transport of 626
Ghent, round 627
Horticulture, the proposed Institute of ... 635
India, notes from ... 627
Johannesburg notes ... 630
Market gardeners' compensation bill 633
New York, flower show at 637
Peach buds, the dropping of 635
Plants, new or noteworthy—
Cotyledon Barbeyi ... 624
Disa Kewensis ... 625
Gladioli, hybrid ... 625
Primula cortusoides Sieboldi 635
Richardias, treatment of 629
Societies—
Butley Tulip show ... 635
Linnean... 632
Royal Botanical of Manchester ... 632, 636
Royal Horticultural 632, 638
Technical education 632, 634
Temple show, the ... 632, 638
Trees and shrubs, picture 628
Trentham 633
Weathers, Mr. Jno. ... 633
Week's work, the
Flower garden, the ... 631
Fruits under glass ... 631
Hardy fruit garden ... 630
Kitchen garden, the ... 630
Orchid-houses, the ... 631

ILLUSTRATIONS.

Barron, Mr. Archibald F. 635
Finches, Lindfield, the 625, 629
Trentham, flower garden at. (Supplement.)
Weathers, Mr. Jno. 637

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J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings. Patentees of the Duplex Upright Tubular Boilers. King's Road, Chelsea, S.W.

THOMSON'S MANURE.—The sale of this Manure is steadily increasing, and it can be had as formerly of all the leading Nursery and Seedsmen in the United Kingdom.
London Agent, Mr. JAS. GEORGE, 14, Redgrave Road, Putney.
Agent for Channel Islands, Mr. J. H. PARSONS, Guernsey.
Sole Makers, WILLIAM THOMSON AND SONS, Limited, Tweed Vineyard, Clovenfords.

SALES BY AUCTION.

Thursday Next.
ORCHIDS in FLOWER, PALMS, BULBS, &c.

MR. J. C. STEVENS will SELL by AUCTION at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, June 1, at half-past 12 o'Clock precisely, IMPORTED ORCHIDS, including Odontoglossum Alexandræ, Lælia albida, L. purpuracea, L. majalis, Odontoglossum citrosmum, Oncidium tigrum, &c. A small Collection of ORCHIDS in FLOWER and BUD; also 2000 SEEDLING PALMS, SPECIMEN PALMS, PEARL TUBEROSES, 1000 FREESIAS, GLADIOLI, ANEMONES, &c. GARDEN SEATS and BARROWS, &c.
On view morning of Sale, and Catalogues had.

CHINESE and JAPANESE CURIOS, consisting of fine Kaga, Imari, and Satsuma ware Vases and Jars, lacquered Cabinets, Bamboo Tables, Bronzes, enamelled Vases, Screens, &c.; also a consignment of ninety lots of Indian Cloth and silk goods, including Table Covers, Dresses, Pardas and Durbas, beautifully and costly embroidered.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY, May 29, at half-past 12 o'Clock.
On view Saturday prior and morning of Sale, and Catalogues had.

Tuesday, May 30.—50,000 Havana Cigars.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY, May 30, at half-past 12 o'Clock. 50,000 genuine HAVANA CIGARS, including Murias, La Intimidads, Morales, Villar y Villar, Manuel Garcius, Cabanas, and others.—Samples may be had at stated prices three days before the Sale.
On view morning of Sale, and Catalogues had.

Tuesday Next, May 30.
SPECIAL SALE of about 300 lots of ORCHIDS IN FLOWER AND BUD.
Also an importation consisting of :—

400	DENDROBIUM FORMOSUM GIGANTEUM.
100	,, THYRSIFLORUM.
50	,, ALBUM.
40	,, AUREUM.
800	,, CYPRIPEDIUM EXUL.
20	,, ,, SUPERBUM.
600	,, SPECIES FROM SUMATRA.
200	,, CALLOSUM.
50	VANDA TERES.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, May 30, at half-past 12 o'Clock.
On view morning of Sale, and Catalogues had.

Friday, June 2.
IMPORTED and ESTABLISHED ORCHIDS.
from various owners.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, June 2, at half-past 12 o'Clock.
On view morning of Sale, and Catalogues had.

Spalding.
CLEARANCE SALE of GLASS ERECTIONS suitable for Forcing Purposes, about 250 feet of Heated Pits, Lights, Glazed Shed, 2500 feet of 3 and 4-inch Piping, Tanks and Boilers, also several thousands of BEDDING PLANTS, GREENHOUSE FERNS, AZALEAS, POT ROSES, ARUM LILIES, 200 Casts of Flower Pots, Forcing Boxes, very superior Small Market Cart, and other Items.

MESSRS. PROTHEROE AND MORRIS are instructed to SELL the above by AUCTION, on the Premises, St. John's Nurseries, Spalding, on TUESDAY, June 6, at 12 o'Clock, Without Reserve, by order of Mr. A. Moore, who is giving up the Market Garden Business on account of his health.
May be viewed one week prior to the Sale. Catalogues obtained on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Clapham; S.W. —Preliminary Notice.
ABSOLUTE CLEARANCE SALE.
EXPIRATION OF LEASE.
By order of Messrs. Charlesworth, Shuttleworth, & Co., whose lease expires at Midsummer Day next.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, 213, Park Road, Clapham, S.W., near Clapham Road Station, on WEDNESDAY and THURSDAY, June 7 and 8, at half-past 12 o'Clock, without the least reserve, the remainder of the Stock of ESTABLISHED ORCHIDS, in fine health, consisting principally of Cattleyas, Odontoglossums, Oncidiums, and Masdevallias; also the erections of six Greenhouses, 4-inch Hot-water Piping, Boilers, and Utensils in Trade.
May be viewed one week prior to the Sale. Catalogues may be had on the Premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

SURREY.—TO LET, a NURSERY of 14 acres, three Greenhouses, and Vineries, all efficiently heated. Two DWELLING HOUSES, and Out-houses. Rent, £34 per annum. Price for the Goodwill, Stock-in-Trade, and Fixtures, £500. Reasonable offer considered. Shop in the town close by, worked in connection with the Nursery, and rented at £24 per annum, may be had.
Full particulars of Messrs. PROTHEROE AND MORRIS, 67 and 68, Cheapside, E.C. (Folio 7926.)

London, S.W.—the Main Thoroughfare,
close to Station.

FOR SALE, in consequence of Ill-health, the LEASE of a prominent FLORIST'S SHOP, beautifully fitted up, and Nine-Roomed Residence, together with the Goodwill. Good Trade attached. Lease, 69 years. Low rent (£65).
Full particulars of Messrs. PROTHEROE AND MORRIS, 67 & 68, Cheapside, London, E.C.; or 13, High St., Putney.

FOR DISPOSAL.—The old-established NURSERIES and Cotswold SEED STORES, Cirencester (Nurseries containing about 6 Acres). The Proprietor, having recently lost his son as Manager, and himself advanced in years, is desirous to retire. This offers an excellent opportunity for an energetic man of business with a moderate capital. To principals, all information will be supplied, and every facility given on application to R. F. DARBY, as above.

FLORIST'S BUSINESS.—Old-established, in full working order; situated in Main Thoroughfare, with good connection. Six-roomed House, Stable, &c., seven Greenhouses, all heated, and well stocked with useful and valuable stuff. A Bargain if sold at once. Rent moderate, or Freehold would be sold.
WILSON, 149, Markhouse Road, Walthamstow.

TO BE SOLD, the FREEHOLD NURSERY, containing 1½ acres of Land, with 720 feet run of Glass, Stock, &c. For full particulars, apply to—
J. STACEY, Caversham, Reading.

To Lovers of Forestry and Gardening.

THE LEASE of a charmingly-placed HIGH CLASS RESIDENCE, in 40 acres of luxuriantly-timbered Grounds, for SALE, eight or nine miles from the City and West-End. A Gentleman's Residence in every respect.
Apply to Messrs. HARMAN BROS., Auctioneers, 75, Aldermanbury, E.C.

NURSERY for SALE, or to be LET, near Blackheath, S.E., in working order. Land, 442 feet by 150 feet (more or less), at low ground rent. Contains seven Glass Houses, about 100 feet to 123 feet long, heated by three Boilers; three Cold Frames, about 100 feet long; Planting Ground, &c. Stock at valuation, if desired.—Apply to THOMAS PEACOCK, Warwick Square, London, E.C.

LONDON, S.E.—A well-situated FLORIST and JOBBING BUSINESS. Five Glasshouses and half an Acre of Land. Rent £10. To be SOLD, Owner having bought a larger Business. Full particulars of B., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

TO BE SOLD, the LEASE and STOCK of a MARKET NURSERY, 18 miles from Covent Garden Market. About 1000 feet run of Glass on 1½ Acres of land. Well stocked.—F. R., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

NURSERYMAN'S and FLORIST'S.—Old-established; doing a first-class business. Extensive Glass-houses, Dwelling, and Premises. Lease about 50 years; low rent. Price, £300. Stock at value.
WILES, 153, Stanstead Road, Forest Hill, S.E.

LONDON, S.W.—Lucrative West End FLORISTS' BUSINESS for DISPOSAL. Excellent position. Commanding Shop and Premises; upper part let off. Lease, nineteen years unexpired, at moderate rental. Price for Lease, £1000. Goodwill, Fixtures, and Stock, £2000. Open to Offer.
Full particulars of Messrs. PROTHEROE AND MORRIS, 67 and 68, Cheapside, E.C. (Folio 7910).

GREENHOUSE for SALE, a Bargain.—Span-roof, 30 feet by 13, complete, with Heating Apparatus, erected near London, and as good as new. Can be inspected.—ODGERS, Messrs. Wrinch & Sons, 57, Holborn Viaduct, E.C.

BY ORDER OF THE LIQUIDATOR.

GREAT SALE

OF THE ENTIRE STOCK OF

ORCHIDS, TEA ROSES, FERNS, PALMS,

And General Stock of

STOVE and GREENHOUSE PLANTS, GRAPE VINES, &c.,

THE PROPERTY OF THE

LIVERPOOL HORTICULTURAL COMPANY
(JOHN COWAN, Limited).

The Company are now selling their entire Stock as above, at extremely low prices, and in addition to the low prices quoted in the Catalogues, very large discounts are allowed.

Inspection is earnestly invited.

The Company are also offering, for the first time, their splendid NEW GRAPE VINE, HAMBRO-COLMAR.

Descriptive and Priced CATALOGUE of the entire Stock will be sent, post-free, on application to the Company.

THE VINEYARD and NURSERIES,
GARSTON, near LIVERPOOL.

TO THE TRADE.—Having just imported large stocks of the undermentioned BULBS, in splendid condition, I shall be pleased to quote Low Cash Prices for really good Bulbs :—
PANCRATIUM CARIBÆUM, P. AMŒNUM, CRINUM KIRKII, C. ZEYLANICUM, ZAMIAS, AMARYLLIS, HÆMANTHUS, CALLAS, NERINES, WATER LILIES, FREESIAS, IXIAS, BABIANAS, AMMOCHARIS, TUBEROSES, and ORCHIDS. Also New Seeds of TEA, COFFEE, CAPE SILVER TREE, &c. Send for LIST.
J. JAMES, New Malden, Surrey.

NEW CATALOGUE (134 pages), of FORBES' CELEBRATED FLORISTS' FLOWERS and HERBACEOUS PLANTS for 1893, will be posted free on application.
JOHN FORBES, Hawick, Scotland.

PRIMULAS! PRIMULAS! PRIMULAS!
William's superb Strain, 1*s.* 6*d.* per dozen; 10*s.* per 100. CINERARIAS, same Price; also DOUBLE WHITE PRIMULAS, 6*d.* each. Package and Carriage free for Cash with Order.—JOHN STEVENS, The Nurseries, Coventry.

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14 First Prizes, Œuvre d'Art; 4 Gold Medals at the Quinquennial Show.
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ALBA and ROSEA SUPERBA.
Extra fine Plants.
Prices and sizes on application.
JOHN S. IRELAND, 81, Princes Street, Edinburgh.

CHRYSANTHEMUMS.—Fair Maid of Guernsey, strong rooted Cuttings, £2 10*s.* per 1000, or 6*s.* per 100; Lady Lawrence, strong rooted Cuttings, 7*s.* per 100. Cash with Order.
P. BOULTON, Beechenlea Nursery, Swanley.

BEDDING GERANIUMS.
All Autumn-struck, and fine plants in bloom.
Henri Jacoby, 15*s.* per 100.
Vesuvius, fine, 14*s.* per 100.
Various Silver-leaf, Bronze, Prince Silverwing, Pinks, and Scarlets, all at 14*s.* per 100; out of pots, 12*s.* per 100.
Apply to N. LAWRENCE & SON, Florists, Chatteris, Cambs.

Specimen H.P. Roses in pots.

W. RUMSEY has decided to Reduce his Stock of large SPECIMEN POT ROSES, which have gained First and Second Prizes at leading London Shows for several years past.
LIST of Names and Prices on application.
Joyning's Nurseries, Waltham Cross.

CLEARANCE SALE of BULBS for Summer and Autumn Flowering. PRICE LIST on application.
Finest named Gladioli, 3*s.* 6*d.*, 5*s.* 6*d.*, 7*s.* 6*d.* and 10*s.* 6*d.* per dozen. Finest Mixed Gladioli, per 100, 15*s.*; per dozen, 2*s.* 3*d.* Lemoine's Beautiful Butterfly Gladioli, mixed, per dozen, 4*s.* 6*d.* Lilium auratum, 7*s.* 6*d.* and 10*s.* 6*d.* per dozen. Anemone fulgens, per 100, 5*s.* 6*d.*; per dozen, 1*s.* Red Tiger Spotted Flower (Tigridia), White Tiger Spotted Flower, Yellow Tiger Spotted Flower, all at 15*s.* per 100; per dozen, 2*s.* 3*d.* Single Begonias, mixed, 3*s.* 6*d.* per dozen, &c.
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ILLUSTRATED CATALOGUE OF FERNS (No. 22), the most beautiful and complete ever published, 2*s.*, post-free. It contains 150 illustrations, and an immense amount of interesting and instructive matter of great value to all Fern cultivators.

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THE BLUE CACTUS DAHLIA—"ROBERT CANNELL."
The Best and Most Distinct—a Real Gem—2*s.* 6*d.* each.
6 Best New Cactus Dahlias, including "Robert Cannell" 6*s.* 0*d.*
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6 Finest New Varieties, Single ...	2*s.* 6*d.*, 12 for 4*s.* 6*d.*
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SPECIAL SHOW OF CUT ROSES

Owing to the exceptionally early season a SUPPLEMENTARY SHOW of **CUT ROSES** will be held on **June 14 and 15.** A SPECIAL SCHEDULE is NOW READY, and may be had on APPLICATION to Mr. H. E. MILNER, the Chairman.

Regular Fortnightly Shows will be held on the following dates:—

JE 28.—SHOWS of ROSES (Open and Amateur Classes), GLOXINIAS, BEGONIAS, [FRUIT, &c.
LY 12.—Further GREAT SHOW of ROSES, FRUIT, &c.
LY 26 and 27.—SHOW of CARNATIONS, PICOTEES, HARDY FLOWERS, GRAPES, PEACHES, &c.

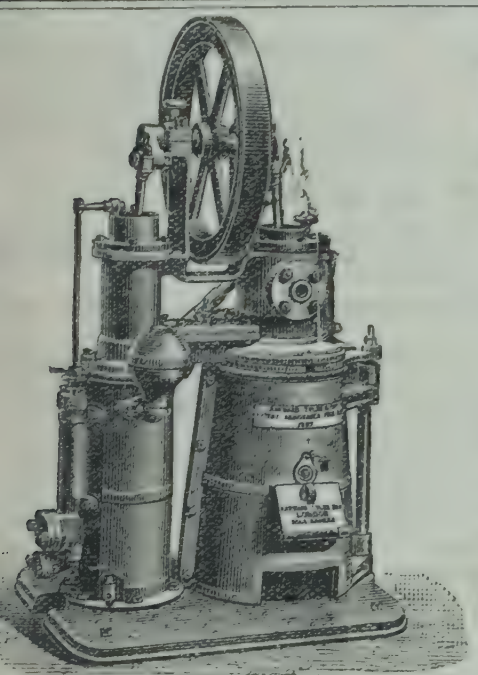
AUGUST 9 and 10.—SHOW of FLOWERING and FOLIAGE PLANTS.
AUGUST 23 and 24.—SHOW of GLADIOLI, DAHLIAS, ASTERS, &c.
SEPT. 13 and 14.—SHOW of DAHLIAS and AUTUMN FLOWERS, CHRYSANTHEMUMS.
SEPTEMBER 27, 28, and 29.—SHOW of HARDY FRUITS, &c., VEGETABLES, &c.

Meritorious Exhibits not named in the Schedule will be recognised. Prizes, Medals, and Certificates awarded for every Show.
All applications for entries, schedules, regulations, and further information should be addressed to Mr. H. E. MILNER, the Chairman, at the Offices of the Exhibition, Earl's Court, S.W.

H. E. MILNER, Esq., F.L.S., C.E., *Chairman.*
GEORGE CADELL, Esq. (late) Indian Forest Department, *Vice-Chairman of Committee*, Forestry Section.

HARRY TURNER, Esq., F.R.H.S., *Vice-Chairman of Committee*, Horticultural Section.
G. A. LOVEDAY, B.A., *Secretary.*

ADMISSION to the Exhibition Building, Flower Show, and the Central and Western Gardens, **ONE SHILLING.**
OPEN DAILY, from 11 A.M. to 11 P.M. SEASON TICKETS £1 1*s.*, to be obtained from the usual Agents and the Secretary.



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Raises 1000 gallons 80 feet high for an expenditure of ONE PENNYWORTH of Fuel.

CRANSTON'S NURSERIES say:—"We should be very sorry to be without it now."

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Every description of GREENHOUSES, LIGHTS, &c.

PIT LIGHTS.

Best quality and workmanship, 2 inches thick, 6 ft. by 4 ft., iron bar across, and very strong, 4*s.* 6*d.* each, 50*s.* doz., £10 for 30 lights, free on rail in London. Cash or reference with order.

CUCUMBER HOUSES.

Timber sufficient to build 100 feet by 12 feet house, Roof Ventilators, Door, &c. Put on rail in London. Price, £9 10*s.* Send for detailed specification, to

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Cheques should be crossed "DRUMMOND."

G. C.
May 27, 1893.

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KINGSWOOD, ST. GEORGE, and WEST GLOUCESTERSHIRE HORTICULTURAL SOCIETY. ANNUAL EXHIBITION on WEDNESDAY, August 16, 1893. Over £200 in Prizes, including Valuable Cups. Open to all Amateurs. Schedules can be obtained of—

FRED. H. JULLION, St. George, Bristol. } Hon. Secs.
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FOR ORCHIDS and GARDENERS to Grow Them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

OAK STAKES, a large quantity for Sale, suitable for Roses, &c., 4 feet long, ½ inch, ¾ inch, and 1 inch square. Price, 4*s.* 6*d.*, and 8*s.* per 100.
SHENSTONE, Grange Road, Leyton.

Important to Mushroom Growers.

CUTHBERT'S SPÉCIALITÉ MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5*s.*
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BOUVARDIA PURITY, the best White for cutting, large and free. 3*s* per dozen, 15*s* per 100.
RIDER CARNATION GERMANIA, best yellow, 5*s.* per dozen, 35*s* per 100.
LA NEIGE best White Winter-flowering Carnation, 4*s.* per dozen, 12*s.* 6*d.* per 100.
TUBEROUS BEGONIAS, unsurpassed strains, large flowers, mixed colours, 2*s.* 6*d.* per dozen, 15*s.* per 100. For cash only.
CRANE AND CLARKE, Hillside Nursery, March, Cambs.

HORTICULTURAL SHADINGS, NETTINGS, TIFFANY, WADDINGS, COTTON WOOL for Packing Flowers, CANVAS, TWINES, &c., manufactured and supplied wholesale by JOSEPH COOKSON, 21, New Cannon Street, Manchester.

ARTISTIC ROCKWORK. For beautifying Conservatories and Ferneries on large or small scale.
All designs executed under the personal supervision of J. McGREGOR, who invites inspection of Rockwork Samples at his Nursery—
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MERRYWEATHER & SONS have a good Selection of Hand-Worked Fire Engines (new and second-hand), from 4 to 30 men-power — suitable for all kinds of Watering Fruit Gardens, Plantations, &c. Write or call, 63, Long Acre, and Greenwich, London, S.E.

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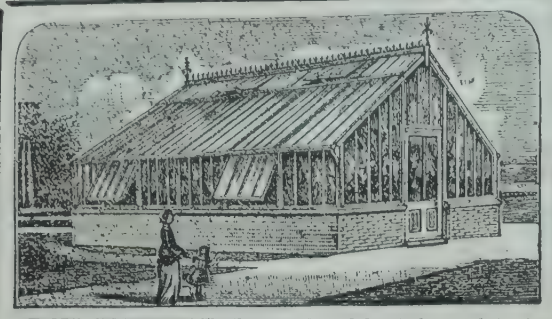
COCOA-NUT FIBRE REFUSE,
4*d.* per bushel; 100 for 25*s.*; truck (loose, about 2 tons), 40*s.*; 4-bushel bags, 4*d.* each.

SPECIALLY SELECTED ORCHID PEAT.
LIGHT BROWN FIBROUS PEAT, 5*s.* 6*d.* per sack; 5 sacks, 25*s.*; sacks, 4*d.* each.
BLACK FIBROUS PEAT, 5*s.* per sack; 5 sacks, 22*s.*; sacks, 4*d.* each.
COARSE SILVER SAND, 1*s.* 9*d.* per bushel; 15*s.* per half ton; 26*s.* per ton, in 2-bushel bags, 4*d.* each.
YELLOW FIBROUS LOAM, PEAT-MOULD, and LEAF-MOULD, 1*s.* per bushel.
SPHAGNUM MOSS, 8*s.* 6*d.* per sack.
MANURES, GARDEN STICKS, VIRGIN CORK, TOBACCO CLOTH, RUSSIA MATS, &c. Write for Price LIST.—
H. G. SMYTH, 21, Goldsmith Street, Drury Lane, W.C.



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Superior Portable Frames, large stock ready for immediate use, well made, painted four coats, glazed with 21-oz. glass, carriage paid:—1-light frame, 4 × 6, 36*s.* 6*d.*; 2-light frame, 6 × 8, 58*s.*; 3-light frame, 12 × 6, 85*s.* 6*d.*

Span-roof Frames, 9 × 5, £3 15*s.*; 12 × 6, £5; 16 × 6, £7 10*s.* Can send off same day as ordered.

HARDY BRUIN & CO., Graham Street, **LEICESTER**

"FRIGI DOMO" CANVAS.

Made of prepared Hair and Wool, a perfect protection to all Plants and Blooms. Cheaper than any kind of mat, and will last for years.

To be had from all Nurserymen and Seedsmen.

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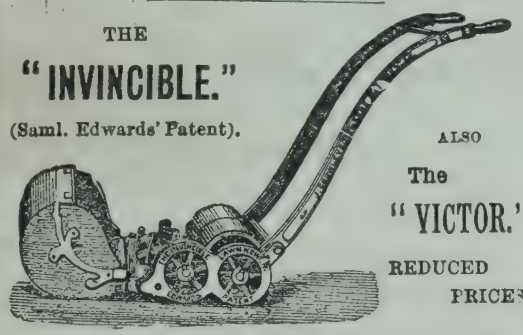
THE

"INVINCIBLE."

(Saml. Edwards' Patent).



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AND FOR ALL GLASS STRUCTURES THAT REQUIRE SHADING.

Sold in Packets containing 8 oz., sufficient for 125 feet of glass, 1*s.* each; or in Bags, 7 lb., 10*s.* 6*d.*; 14 lb., 20*s.*

Be sure to ask for "SUMMER CLOUD," it being the Original and only Genuine article. Each packet should bear the Trade Mark, as above.

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HIGH-CLASS

GARDEN HOSE.

Horticultural Exhibition, 1892.

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FOR

SPHINCTER GRIP HOSE.

Other Makers awarded Bronze Medal only.

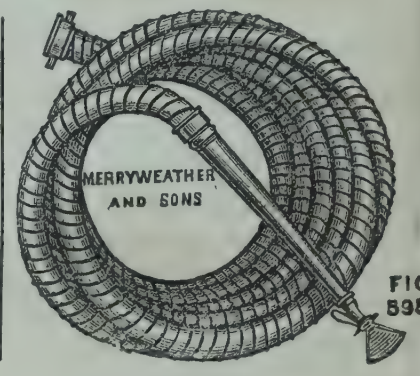

FIG 595.

NON-KINKABLE
Red-Grey Hose.

In many cases preferable to Sphincter Grip Hose.

Important Reduction
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SPHINCTER GRIP
Armoured Hose.

Made by Merryweathers, the **original introducers** and **first makers** of this Hose in England.

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WRITE FOR PRICE LISTS FROM THE OLD ESTABLISHED FIRM.

MERRYWEATHER AND SONS continue to guarantee all their High-class Garden Hoses to pass the severe British Government Tests.

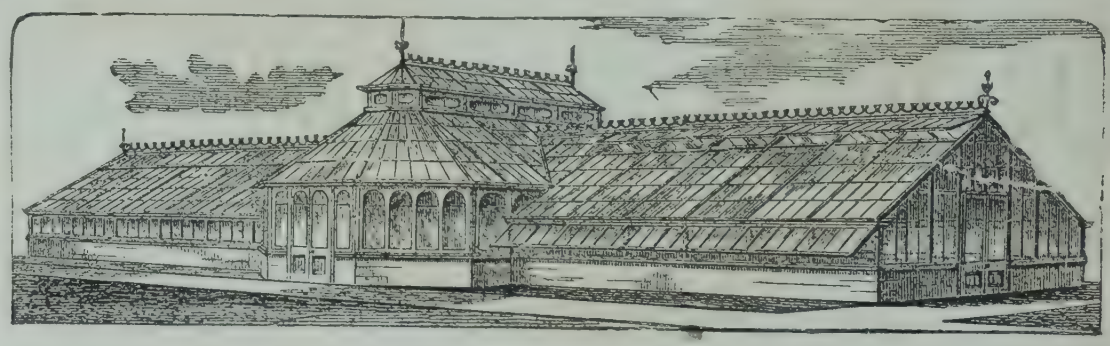
The ends of the Rubber Hoses are sealed, thus preventing the water percolating between the canvas plies, and destroying same.

IMPORTANT DECISIONS Re SPHINCTER GRIP HOSE,
IN THE HIGH COURT OF JUSTICE.
Judgment in favour of MERRYWEATHERS, with costs in all actions.

FIRE and GARDEN ENGINES, FOUNTAINS, SYRINGES, &c.
WRITE FOR GARDEN CATALOGUE.

MERRYWEATHERS, 63, LONG ACRE, LONDON, W.C.

Five 1st Prize Medals recently awarded in open competition.



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HOTHOUSE BUILDERS and HOT-WATER ENGINEERS,

ROYAL HORTICULTURAL WORKS, MIDDLETON, MANCHESTER.

Vineries, Stoves, Greenhouses, Peach Houses, Forcing Houses, &c., constructed on our improved plan, are the perfection of growing houses, and for practical utility, economy, and durability cannot be equalled. We only do one class of work, and that THE VERY BEST.

Conservatories and Winter Gardens designed architecturally correct without the assistance of anyone out of our firm, from the smallest to the largest. **Hot-water Heating Apparatus,** with really reliable Boilers, erected, and success guaranteed in all cases. **Melon Frames, Sashes, Hot Bed Boxes, &c.,** always in stock.

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Our Maxim is and always has been—

MODERATE CHARGES. FIRST-CLASS WORK. THE BEST MATERIALS.

The "CLIMAX" WEED KILLER

Kills all Weeds on Garden Walks, Carriage Drives, &c., &c. Brightens the Gravel. One application will keep the Walks clear of Weeds for a whole season. Acknowledged by all who have tried it to be the most effective Weed Killer in the World. Compare the prices and using strength with others.

ONE GALLON MAKES 51 GALLONS FOR USE

— PRICES. —

1 gallon, 3/- (tins included); 5 galls., 2/9 per gall.; 10 galls., 2/6 per gall.; 20 galls., 2/3 per gall.; 40 galls., 2/- per gall. Carriage paid on 5 galls. and upwards.

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NON-POISONOUS.

The only Insecticide that improves and brightens the foliage while at the same time it is certain death to all Insects.

ONE PINT MAKES SIX GALLONS FOR USE.

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Convenient, inexpensive, and easily applied, lasting, and yet easily removed by rubbing at the end of the summer.

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BLIGHT PREVENTOR

The most effective remedy for Blight or Fungi on Tomatoes, &c. Will not injure the Plants or Fruit.

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NO TOMATO GROWER SHOULD BE WITHOUT IT. Its use will save pounds worth of Fruit.

COMPLETE SATISFACTION GUARANTEED TO USERS OF THE "CLIMAX" PREPARATIONS.

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PORTABLE PLANT PRESERVER.

6 ft. by 3 ft. £1 18 0 | 6 ft. by 4 ft. £2 3 0
12 ft. by 3 ft. 3 0 0 | 12 ft. by 4 ft. 3 12 0

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NEW SPAN-ROOF GARDEN FRAME.

4 ft. by 6 ft. £2 14 0 | 12 ft. by 6 ft. £5 14 0
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Carriage paid on all orders of 40s. value to any goods station in England and Wales; also to Dublin, Cork, Glasgow, and Edinburgh.

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HORTICULTURAL BUILDERS
Conservatories, Vineries, Peach Houses, Ferneries, Orchid Houses, Garden Frames, &c.
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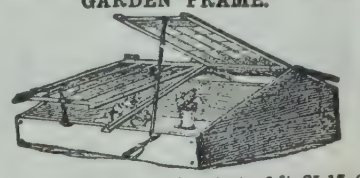

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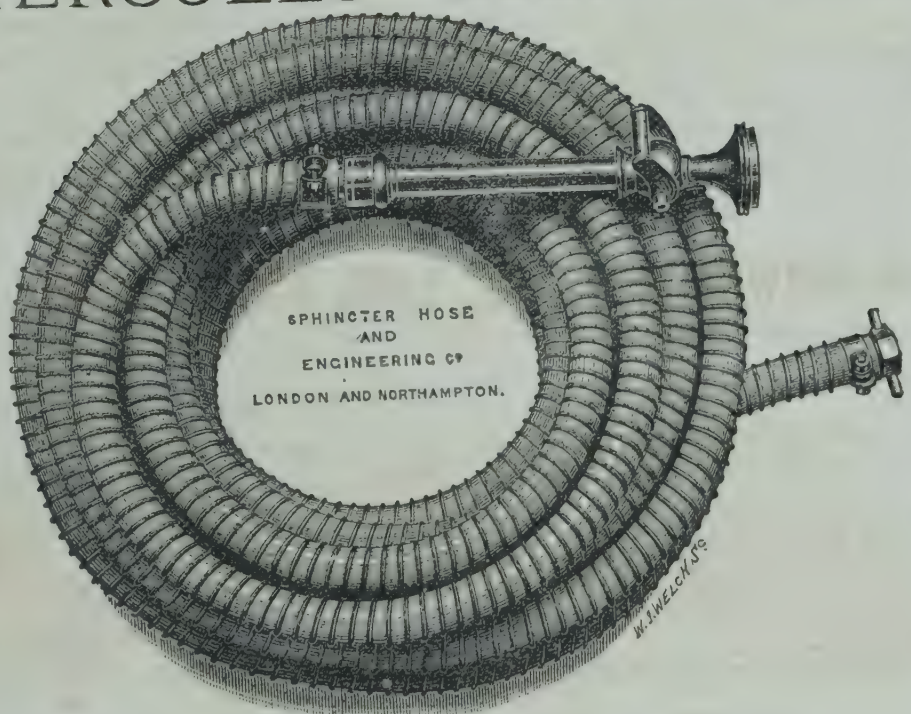

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10 Recent and Highest Awards at Principal Exhibitions.

CAUTION.—No Medal or Exhibition Award has ever been secured by any Firm except this Company for Sphincter Grip Hose, exclusively and distinctively.

Beware of Worthless Imitations and Foreign Importations, of which there are many, and of the goods supplied by any firm or firms making misleading statements. All this Company's Hose made from best Para Rubber, and English materials and labour only, to pass English Government Tests; this last feature in itself a guarantee of quality.

THE BEST, AND THEREFORE THE CHEAPEST.

Orders Executed same day as received. LARGER STOCK KEPT, and SALES GREATER than by any other Firm in the United Kingdom. Write for full Descriptive Price List of above, and of GARDEN PUMPS, HOSE, REELS, and FITTINGS. Post-free.

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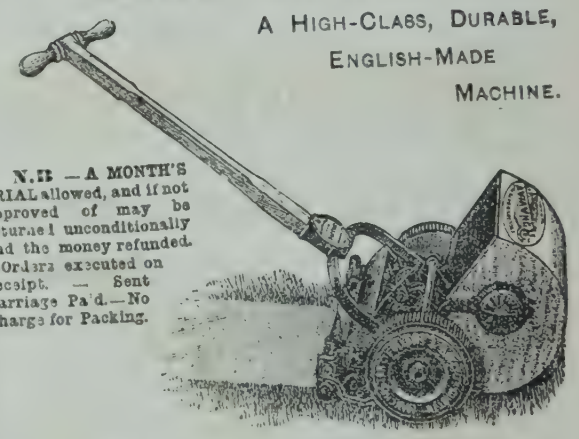
A HIGH-CLASS, DURABLE, ENGLISH-MADE MACHINE.



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Easy to Work.
Silent in Action. Cuts long or short grass.
Recommended for Amateurs or Gardeners.

Made in five sizes, viz.:—
9in., 11in., 13in., and 17in. cutting width.

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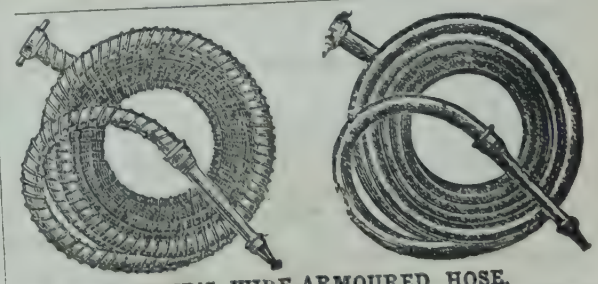
☞ *To be obtained promptly from all respectable Ironmongers and Seedsmen. PRICE LISTS POST-FREE.*



POTTER'S WIRE-ARMOURED HOSE.

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ARMOURED. The Excelsior Wire-armoured Hose secures a PERFECT grip. will not uncoil when cut at any part, stands enormous pressure, and wears for years		PLAIN. Unkinkable smooth surface Hose, will not crack, is made of pure rubber and canvas. Quality guaranteed.	
Diam.	PRICES. s. d.	Diam.	PRICES. s. d.
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Carriage paid, and dispatched same day as ordered. Awarded 10 Gold and Silver Medals. Oldest and most reliable house in the trade. Also maker of Hose for Delivery, Steam, Fire, Suction, Liquid Manures, &c. Over 3,000,000 feet in use. Catalogues of above and all kinds of Belting, Roofing Felts, &c., post-free from—A. POTTER, Melbourne Works, Wolverhampton. Maker to Her Majesty the Queen, and H.R.H. The Prince of Wales.

NEW PLANTS FOR 1893.

WM. CLIBRAN & SON *have much pleasure in drawing attention to their* **NOVELTIES** *for the present Season. All are of the highest merit, several being quite unique.* **THE MOST REMARKABLE IS—**

URCEOCHARIS CLIBRANI.

This splendid introduction has created no small amount of interest amongst Botanists as well as Cultivators. It is admitted by all to be a **SENSATIONAL NOVELTY, AND ONE OF THE MOST IMPORTANT HYBRIDS** of the last few years. The flowers are pure white, very graceful, and produced in profusion. It is a grand addition to the list of plants for cut flowers, and also for decorative purposes.

For Illustration and Full Description, see NEW CATALOGUE, No. 121, *post-free.*

Price, in June, 21s. each, and a few extra strong Bulbs at 31s. 6d. and 42s. Orders executed in strict rotation.

PRESS NOTICES.

GARDENERS' CHRONICLE, August 20, 1892, p. 214:—"So beautiful and so interesting. . . . The flowers are curiously intermediate between the two parents in form. . . . As to its value for decorative purposes, we may safely allow the illustration to tell its own tale." (The illustration referred to is reproduced in our new catalogue, W. C. & Son.)

GARDENERS' MAGAZINE, December 31, 1892, p. 790:—"Of the many garden hybrids introduced to public notice during the past year, Urceocharis Clibrani is one of the most important, and promises to become valuable for the supply of cut flowers, whilst its distinct character enhances its usefulness for the embellishment of the plant stove. . . . Messrs. Clibran may be heartily congratulated on having obtained so valuable a novelty."

JOURNAL OF HORTICULTURE, March 2, 1893, p. 183:—"Being pure white, and extremely beautiful in appearance, the flowers will prove invaluable for decorative purposes. It will no doubt be extensively grown."

THE EDITOR OF "THE GARDEN," March 4, 1893, p. 164, states:—"A lovely, distinct, and first-rate thing."

IN THE AMERICAN "GARDEN AND FOREST," No. 256, p. 28, Mr. W. WATSON, of Kew Gardens, London, writes as follows:—"As a garden plant this hybrid is likely to prove useful, the flowers being pure white, graceful, 3 inches long, and 2 inches across the mouth. The buds are white, with green tips."

CLIBRAN'S GRAND NEW DOUBLE BEGONIAS.

These are all marked improvements, and will prove valuable acquisitions to the most superb collection. Price 7s. 6d. each.

Carnation, apricot, tipped and suffused rose, similar colourings to Mrs. Reynolds Hole Carnation.
Indian Chief, deep rich crimson.
Percy Unsworth, bronzy yellow; one of the best yellows.
Rosetta, a most pleasing shade of clear rose.
Sir William Harcourt, charming salmon pink. A splendid variety.
Terra Cotta, beautiful shade of terra cotta passing to apricot.

SUPERB NEW FUCHSIAS.

The undernoted are superior to varieties now in commerce, and embrace all the good points desirable in Fuchsias; being of good habit, very floriferous, and producing large well-formed flowers. Those marked * are double varieties.

Ambassador, sepals rich crimson scarlet, very dark purple corolla. 1s.
***Bonnie Princess,** the nearest approach to a yellow, and very distinct. 1s. 6d.
***Cestrian,** bright crimson sepals, pure white corolla, flaked rose. 1s.
***Clibran's Triumph,** magnificent variety, sepals rich crimson; corolla nearly as long as that of "General Roberts," but a beautiful double white, shaded with purplish-rose. 1s. 6d.
***Oldfield Glory,** sepals bright rosy-carmine, beautiful white corolla, veined rose. 1s. 6d.
***Snowdon,** bright coral-red sepals, pure white corolla. 1s.
***Superlative,** the largest double white corolla of any in cultivation; sepals coral red. 1s. 6d.
The Premier, rich crimson sepals, deep purple corolla. 1s.
The Sultan, dark crimson sepals, rich plum-coloured corolla. 1s.

The set of 9 varieties, 9s.; 6, in 6 varieties, our selection, 5s.

NEW SINGLE ZONAL GERANIUMS.

Valuable acquisitions on account of their superior habit, form, substance, and free-blooming qualities.
Price 2s. 6d. each, or the set of 6 varieties for 12s. 6d.

Bronwen Lewis, rose-pink, white blotch on upper petals.
Cader Idris, salmon scarlet.
Caradoc, clear salmon, lighter edge.
Llewellyn, bright lilac-pink.
Snowdonia, pure white.
Tudor, bright salmon.

SPLENDID NEW CALADIUMS.

"The collection of Caladiums is one of the finest in the kingdom."—*Gardeners' Magazine,* September 24, 1892.

Duchess of Portland, ground colour creamy-white, slightly shaded soft green, centre pale rose, veined white, bold and striking. 7s. 6d.
Duke of Devonshire, bronzed, veined deep crimson, spotted red, broad leaf. 7s. 6d.
Duke of Portland, carmine, veined claret-crimson, well-defined pale green margin, large handsome foliage. 7s. 6d.

GRAND NEW GLOXINIAS.

The flowers are large, of grand form, and of the most lovely shades of colour. All are erect flowering excepting Clara.

Agnes, lobes white, spotted and netted lilac. 2s. 6d.
Clara, white, spotted rose. 2s. 6d.
Dora, white, delicately spotted lavender. 2s. 6d.
Edith, white, spotted blue. 2s. 6d.
Emily, lobes white, spotted and veined rose, white edge, throat white, spotted rose. 2s. 6d.
Fanny, lobes puce, edged lighter. 2s. 6d.
Mary, crimson, spotted white. 2s. 6d.
Mrs. Towler, pure white, undoubtedly the finest white variety in cultivation. 3s. 6d.
Norma, lobes and throat violet-purple, broadly margined blue. 2s. 6d.
Picturata, rich purple lobes, edged light blue, base of throat white. 2s. 6d.

The set of 10 varieties for 22s. 6d.; 6, in 6 varieties, our selection, for 12s. 6d.

NEW SWEET-SCENTED PASSION FLOWERS.

We are only acquainted with one variety that has really fragrant flowers, viz., Watsoniana, and the value of our two new kinds is greatly enhanced by both being deliciously fragrant. In addition to this, the flowers are distinct from all other varieties.

Passiflora Fragrant Beauty.—A pretty variety, very suitable for small houses, as the foliage is not so large, and the growth slender, petals pure white; the rays of the corona are in two circles—the centre is a pretty chocolate-brown, zoned white in middle, the upper portion is a lovely bluish-purple shade, which contrasts beautifully with the other parts of the flower. This variety does well in a cool house. Flowers about 4 inches across, deliciously fragrant, and freely produced. Small plants, 3s. 6d.; stronger, 5s. and 7s. 6d.

Passiflora Oldfield Gem.—Foliage distinct and handsome, habit free, but not rampant like the large-leaved kinds, therefore suitable for small or large houses. Remarkably free flowering, every lateral growth having bloom. Flowers about 4 inches over, and deliciously perfumed, petals white, delicately netted rose, rays of the corona in two circles, and being of wavy outline they greatly enhance the appearance of the flowers; centre rich velvety maroon, clear white zone, upper portion purplish-violet. Small plants, 3s. 6d.; stronger, 5s. and 7s. 6d.

CLIBRAN'S NEW "RACE" OF TYDÆAS.

These are the first of a new race of Tydæas raised in our Nurseries. They are quite distinct, and in every way superior to the old kinds, both in habit, size, and substance of flowers, and freedom of bloom, and will, when known, become very popular. The flowers are large and handsome, and marked in a pleasing and attractive manner. The plants are of vigorous and robust habit, and the foliage is bold and striking. If these New Hybrids are kept growing, and not allowed to become dormant, they will flower freely throughout the winter, and form fine stove or warm conservatory decorative plants of noble habit; they are of easy cultivation, and very little liable to insect attacks. Price, 2s. 6d. each; or the set of four, 8s. 6d.

Clibran's Beauty.—Corolla large, covered with delicate silvery hairs, lobes rounded, of a greenish-yellow shade, densely spotted purple; throat pale rose, marked with large purple dots.
Elegans.—Large flowers, tuberose, perfectly rounded lobes, ground colour pale sulphur, heavily netted rich purplish maroon, throat blush-white spotted rose.
Marmorata.—Large well-formed flowers, densely spotted and marbled purplish crimson on a white ground.
Spotted Gem.—Large handsome flowers, of perfect form, heavily spotted and marbled rich velvety maroon on a sulphur-white ground, tube deep rosy red.

GRAND NEW TROPÆOLUMS.

Mrs. Clibran.—*The New Golden Bedding Variety.*—To those requiring flowers of a fashionable and lovely shade, this will be indispensable; its flowers last several days in water, and is a grand addition to the list of plants for table and window decoration. As a bedding plant it will take rank with the now universal "GOLDEN PYRETHRUM." For ribbon lines, dot plants, carpet bedding, or for a distinct mass of lovely colour, "Mrs. Clibran" Tropæolum will be grown by thousands. Habit dwarf and compact, about 6 inches in height, and it blooms profusely throughout the season, its beautiful golden-yellow flowers producing a brilliant display. It also has the advantage in gardens where Calceolarias die off, that it can be depended upon in the hottest summer for the effect required. Awarded several certificates. 9d. each, 6s. per dozen.

For Press Notices and Testimonials see Catalogue.

Crimson Bedder.—Magnificent free-flowering variety, and a valuable addition. Flowers dark-crimson, almost as deep as those of "Clibran's Gem," foliage is of a dark green shade; dwarf and compact habit. 6d. each, 5s. per dozen.
Scarlet Bedder.—By far the most effective of the Scarlet Bedding Tropæolums, surpassing all others in brilliancy of colour, size and substance of flower, free blooming qualities, and robust constitution. The flowers are an exact counterpart of the popular climbing variety, "Dr. Mules. 6d. each, 5s. per dozen.
Clibran's Gem.—This is one of the finest climbing Tropæolums, and like "Mrs. Clibran" in "Dwarfs," is the admiration of all. Colour rich dark crimson, and the blossoms are produced in profusion through summer and winter. For greenhouses, or as an outdoor summer climber, or for training along window-boxes, &c., no other plant approaches it in its beautiful rich colour. Awarded several certificates. 9d. each, 6s. per dozen.

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CACTUS DAHLIAS.

THE GRANDEST NOVELTIES OF THE SEASON.

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SPECIAL CHEAP OFFER
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FREESIA REFRACTA ALBA, 20*s.* to 30*s.* per 1000; 3*s.* 6*d.* per 100. This pure white, sweet-scented, easily-grown flower should have a place in every garden.—J. JAMES.

Please note price of undermentioned, all first-class goods:—Amaryllis, in sorts, large bulbs, sure to please, 30*s.* per 100; 5*s.* per dozen. Callas, in sorts, grand bulbs, 18*s.* to 25*s.* per 100; 3*s.* per dozen. Nerine corusca and sarniensis, Spider Lilies, 35*s.* per 100; 5*s.* per dozen. Ixias, in sorts, 12*s.* per 100. Babianas, in sorts, 15*s.* per 100; 2*s.* per dozen. Pancratium caribæum, 8 to 10-inch bulbs, 50*s.* per 100; 8*s.* per dozen P. amœnum, large bulbs, 35*s.* per 100; 6*s.* per dozen. Water Lilies, 6*s.* per dozen. Crinum Kirkii, very large bulbs, 18*s.* per dozen; 2*s.* each. C. asiaticum and C. zeylanicum, same price. Hæmanthus in sorts, large bulbs, 2*s.* each. Ammocharis, very large, 2*s.* 6*d.* each. Zamias in sorts, 2*s* each. Orchids, from 6*s.* per doz. New Seed of Tea, Coffee, Silver Cape Tree, 1*s.* per packet. Cash with order. New LIST free. All other Bulbs at low rates. Trade supplied.

J. JAMES, Importer of New and Rare Bulbs, Plants, and Seeds, New Malden, Surrey.

NEW COLEUS, "DISTINCTION."

INTRODUCED 1892.

To the Trade, 9*s.* per dozen, in Small Pots.

This is undoubtedly the finest introduction in the way of Coleus yet announced, and will prove a most valuable acquisition for Bedding or Decorative Purposes, the foliage being of a striking reddish rich maroon, and darker in colour than any other variety; it is also of a very sturdy growth, and hardy character.

Award of Merit from the Royal Horticultural Society, August 22, 1892.

J. A. MORRIS, Nurseryman Church Road, Acton, W.

ENORMOUS SALE.

FRIDAY, JUNE 9.

5000
DENDROBIUM PHALÆNOPSIS SCHRODERIANUM.

A Magnificent Importation
SOUND and PERFECT.

DENDROBIUM PHALÆNOPSIS SCHRODERIANUM

Is universally acknowledged to be the Finest Orchid ever Introduced.

Also we shall offer a new Cypripedium

CYPRIPEDIUM VICTORIA-MARY,

A grand new addition to this most popular genus.

It flowered on the day of the announcement of the betrothal of H.R.H. the Duke of York and the Princess Victoria Mary — hence its dedication.

A GRAND LOT OF

CATTLEYA LABIATA (TRUE)

Will also be included in the Sale,

And many other fine things, which will be announced in next week's issue.

AT PROTHEROE & MORRIS',

67 & 68, CHEAPSIDE, LONDON, E.C.

BY ORDER OF

F. SANDER & CO.,

ST. ALBANS.

THE

Gardeners' Chronicle.

SATURDAY, MAY 27, 1893.

TRENTHAM.

THE name of this magnificent seat of the Duke of Sutherland is not derived from the Trent, although that river flows through the pleasure grounds. It is derived from an old Saxon word signifying home or habitation. In common with so many other noblemen's seats, it was formerly church property. As far back as the year 680, St. Werburgh, sister of Ethelred the Unready, founded a nunnery at this place, and died there as abbess. In Henry the First's reign a priory of the order of St. Augustine was established in the stead of the deserted convent. On the dissolution it was given by Henry VIII. to his brother-in-law, Charles Brandon, Duke of Suffolk, the only peer in the realm who could hold his own with Henry in tournaments. The Duke sold it to Sir Richard Leveson, the head of an old Staffordshire family of that name. The house erected by Sir Richard was castellate, with the usual moat, drawbridge, and portcullis. It is amusing to think how different it must have been from the immense pile of building in the style of Buckingham Palace erected by Sir Charles Barry, which now occupies the same site. The only part of the present building that could possibly be called castle-like is the Belvidere tower. The date of the Marquisate is 1786, and of the Dukedom, 1832.

THE FLOWER GARDEN.

With the exception of Chatsworth and Alton Towers, Trentham is, perhaps, the most elaborately laid out place in England; of course, a great deal of it cannot but be of a formal nature; this formality, however, is chiefly noted in the huge flower garden. The pleasure-grounds are saved in great measure from any precise appearance by the fact of the Trent running through them, and by high wide-spreading Beech trees. An understanding visitor cannot but admit that great discernment of future effect must be attributed to those who were responsible for the laying out of the estate, for nothing in the nature of a glaring mistake is to be seen in any part of the grounds. To a former Duchess, who was grandmother of the present Duke, is due in great measure the credit of this happy result of the original plans. She was a lady of nice judgment, who loved her Staffordshire "home" almost as fondly as her northern castle, and would not allow anything to be done that was incongruous or offended the eye.

A parapeted stone-paved terrace, which in places becomes a gallery, filled with plants, is continued from the main entrance all round the building. From this terrace a good view of all the environment can be had by merely walking round. It is also the best point of view to see, as a panorama, the lovely prospect from the south-west terrace. It is so beautiful of its kind, that if Mr. Blair had slightly parodied Shakespeare's words, and said,

"Feast your eyes with the view a while," instead of "Feast your ears with the music a while," I would have done so willingly, but gardeners are too busy to allow time for moralising.

The view [see our Supplementary Illustration. Ed.], as an entirety, may be compared to a large picture, the 10 acres of flower garden, and the lake beyond it, representing the painted canvas, the wooded acclivity in the distance, and the high trees and wall of green climbers on the sides representing the framework. A mere statement like this, however, does not give any real idea of the beauty of the prospect. It is beyond the power of word-painting to give an adequate conception of the brilliant effect produced by so many thousands of bright-coloured flowers massed together, and relieved from all sameness by statuary; or to describe how, in the near distance, the great lake, flashing with a steely sheen, stands out against the darkling green of the afforested background, which seems to ascend into the azure sky. This is the straight-forward view. On the right hand, a wide expanse of green sward curves gradually down to the water's edge from a line of high Beech trees. On the left, the lake incurves into the pleasure grounds, which, at this distance, seem to form a verdurous mass without any break. The flower garden is in three stages. First comes what is called the terrace garden, where the beds are cut in the shape of an S (Sutherland); next, the Italian garden, and, lastly, a lawn with much larger beds of plants, like the red and purple Pentstemons, single-flowered Dahlias, and the Lythrums. The Pentstemons and Lythrum roseum literally glowed with colour, and could be seen from a long way off. It would make the account far too long to give a list of all the bedding plants used. It must suffice to say that all the common ones are to be seen, and many that are not generally used have been found by experiment to be useful. The fountain in the centre of the Italian garden presents a very unique and attractive appearance. Round it were smaller stone basins, about a yard in diameter, filled alternately with Agapanthus and Bullrushes, which harmonised very well together. The inevitable standard Laurels and clipped Yews were standing at the angles, and along the horizontal paths. Two of the bronze statues are very well worth a close examination. One is a Perseus and Medusa, and the other a perfectly-modelled Mercury.

As the lake comes right up to the foot of the flower garden, it is a good *locus standi* to see to advantage its great extent and graceful contour; and two woody islands, that were only dimly visible from the terrace, now loom much more into the view. It is just the right distance, too, to study the architecture of the palace, for this is the only word to describe it.

The Pleasure-grounds.

These extend both sides of the lake, and are about 80 acres in extent. The walk to the right leads past a succession of high wide-spreading Beech trees; in some cases where the trailing branches have re-rooted, they look like leafy knolls. Further on it becomes a path through woodland, upon which at high-noon the sun traces a faint lattice-work of light and shadow, and finally terminates at the monument to the First Duke of Sutherland at Tittensor. The other side of the lake may be termed a paradise of

Rhododendrons.

It was indeed Rhododendrons, Rhododendrons everywhere. How many thousands there were, all exulting in vigorous health, would be beyond computation. I immediately registered a vow to try to see them in flower. Although the Rhododendrons are such a prevailing feature, the clumps do not seem too close together, for the lawn winds in and out between them, and sometimes opens out in wide expanses. It must not be thought, however, that the Rhododendrons alone monopolise these beautiful preserves. By no means; there are large beds of Azaleas, Irish Heaths, and American shrubs, such as Kalmias and Andromedas, and most striking of all were those that were planted with Golden Queen and Milkmaid Hollies. Three Retinosporas, R. aurea, R. plumosa, and R. Fraseri are also used for the same purpose. This is the part of the grounds through which the Trent flows. A beautiful view can be had from the bridges, either looking up or down. Fresh green lawn form the brinks, interrupted now and again by shrubs; while sturdy Cedars of Lebanon and Scotch Firs cast sable shadows on the water. Why the Trent was not seen from the terrace is, because it is quite hidden by a long wire arcade grown over by Clematis, Vines, Roses, and other climbers, and the wall of green mentioned in the description of the view from the south front. From a conservatory for Roses facing the river there is a pretty view over the lake. It is also a good place to make one realise the amount of work and care a place like Trentham must involve to those in charge. The park also abuts on this side of the grounds, and Roger's line—

"Here hid by shrub-wood, there by glimpses seen,"

just describes the quick hurried views afforded by the vistas and winding walks. The park is 400 acres in extent, but a long bold escarpment, which runs nearly the whole length of it, causes the acreage to look much smaller than it is. The grounds are so extensive that a detailed account would be perhaps tedious to read. On that account I have only tried to describe what riveted the attention most, and what seem to me the distinguishing features of the place.

The Forcing-houses.

The kitchen garden contains an enormous quantity of glass. All the way round is a glass gallery, built on the wall. I use the word gallery because they are roofed with glass, and have room in front to put fruit trees in pots. Different fruits are planted in each side of this gallery, the southward-facing the longest, 200 yards in length, contains Peaches and Vines, and the others, Cherries and Plums. The Hamburghs in this class of house of course come in rather late, and are very useful. Underneath the front light in the Peach-gallery pot trees of Calville Blanche Apple, brought from Paris in the time of the Revolution, are standing in a row, nearly the whole length of it. They still bear fair crops of fruit of enormous size, eight or nine ounces being a common weight, and in a few cases over one pound has been attained to. As there are also two parallel galleries, almost as long, the quantity of fruit produced from these galleries is enormous. There are also the usual long ranges of vineries and peacheries, bearing heavy crops, with the back walls in many instances covered with Camellias, which succeed wonderfully in that position, and begin to flower in the end of September, and keep on all the winter. The half of one vinery is devoted to the Duke of Buccleuch Grape, which is very well grown here, and is a great favourite with the wasps. Rivers' large Elruge seems to be a Nectarine that is well worth growing. Figs are abundantly grown, the favourite variety being Violette Sepor, a very large and prolific Fig, sent out by Messrs. J. Veitch & Sons. Tomatos fill six or seven houses. Mr. Blair thinks Suttons' A 1 the heaviest cropper, and one of the best for marketing. Cucumbers and Melons are largely grown. Six thousand Strawberry plants are forced annually, and those intended for next year were very forward.

The Plant Houses,

as might be expected in a place like Trentham, contain all the stove and greenhouse plants that are usually grown, many of them having reached a great size. The Orchid-houses are famous, and separate houses are devoted to certain families. One long house is entirely given up to Odontoglossum crispum and O. Harryanum, and separate houses to Dendrobes, Masdevallias, Phalænopsis, Cattleyas and Lælias, and Cypripediums. There are a great many rare and choice varieties among them, and some enormous plants, Cymbidium Lowii being very noticeable in this latter respect. Houses are also devoted to Calanthes, Caladiums, and Lapagerias. I shall never forget the perfect sight the house filled with the white Lapageria afforded. It is a long lean-to, with the roof entirely covered by this climber, from which the pure white bells were hanging in such numbers as almost to hide the foliage. As many as 3000 blooms, Mr. Blair said, had been cut in a day. The red Lapageria is planted on the back wall of a house in which are plants. As it has not here the same scope to roam, the flowers are not produced in such lavish profusion, although any reasonable quantity could always be cut. If his flowers are not decorated with the right colour at the shows, I shall be very much surprised.

Fruit.

The fruit trees are mostly grown on wire arcades, arching-in the grass-walks. There was only a very scanty crop from this method of growing, and not many more were to be seen on the standards or wall trees. *Vagabond.* [The remarks of our correspondent apply to a late part of last year, when he visited the place. Ed.]

New or Noteworthy Plants.

COTYLEDON BARBEYI, *Schweinf. ined.**

This new Cotyledon is a native of the mountains of Arabia Felix, in the Province of Yemen, at an altitude of 7000 feet above sea-level. It has been already mentioned in the *Gardeners' Chronicle* in a list of the plants lately brought into cultivation by Messrs. Dammann & Co., to whom I am indebted for a living specimen, but I believe it has not yet been described. We have a dried specimen in the Kew Herbarium, collected by Dr. Schweinfurth in February, 1889. It is nearly allied to the well-known Cape Cotyledon orbicularis, Linn. (*Bot. Mag.*, t. 321). It is interesting to get a Cape type on the high mountains of Arabia. In the same expedition, Dr. Schweinfurth got several Aloes which are nearly allied to the Cape species.

Perennial, with tall branched stems, with a similar habit to C. orbicularis (*Bot. Mag.*, t. 321). Leaves at the base of the flowering-stem spaced out, decussate, sessile, ascending, obovate-cuneate, fleshy, glaucous, about 3 inches long, by above 1 inch broad

* *Cotyledon Barbeyi*, Schweinf. ined. — Foliis caulinis dissitis sessilibus obovato-cuneatis glaucis; pedunculo nudo, elongato; floribus pluribus in paniculam cymosam dispositis; pedicellis productis; calyce campanulato; tubo brevissimo; segmentis ovatis; corollæ lobis lanceolatis; tubo subæquilongis; genitalibus flore subæquilongis.

third of the way down. Peduncle long, naked, straight or flexuose. Flowers many, arranged in a subglobose panicle 5 to 6 inches broad, with cymose branches; pedicels ½ to ¾ inch long. Calyx fleshy, campanulate, ⅓ inch long; tube very short; segments 5, erect, ovate. Corolla 1 inch long, yellowish-green tinged with red; lobes lanceolate, falcate, about as long as the cylindrical tube. Stamens as long as the corolla; anthers small, orbicular-reniform. Style as long as the cylindrical carpel.

Hybrid Gladioli.

I am also indebted to Mr. Sprenger for specimens of the following hybrid Gladioli: 1, communis crossed with Colvillei; 2, communis crossed with Colvillei albus; 3, communis crossed with cardinalis; 4, ramosus crossed with cardinalis; 5, Papilio crossed with cardinalis; 6, Papilio crossed with gandavensis; 7, Papilio crossed with angustus. *J. G. Baker.*

Disa kewensis×.

This plant is a cross obtained from D. grandiflora and D. tripetaloides, the former being the mother parent. It is now flowering at Kew, where it was raised, the seeds having been sown in November, 1891. Various other Disa crosses were made at the same time, a considerable number of seedlings being the result, but only one plant of the cross above named has as yet flowered. It resembles D. Veitchii×, the beautiful variety raised by Messrs. J. Veitch & Sons from D. grandiflora and D. racemosa, but the flowers are smaller, and the concave dorsal sepal is spotted with red. The plant which is in flower has semi-erect leaves, 5 inches in length, ⅝ inch in breadth, and a scape measuring 18 inches in height, bearing two open flowers and four buds. The flowers are 1½ inch across, and have bright rosy-pink lateral sepals, the dorsal sepal, which is shell-like and spurred, being of a paler shade of pink, and marked with red spots. The labellum is concave, yellowish inside, and spotted with crimson. There is a large group of D. racemosa, D. tripetaloides, and D. Veitchii now in flower at Kew. These Disas, it may be here remarked, are easily cultivated, and as they flower freely, they are likely to become popular when they are better known. *W. Watson.*

THE FINCHES, LINDFIELD.

This, the residence of W. Savill, Esq., is situate in a very pretty part of the county of Sussex, in close proximity to the village of Lindfield, and about 1¼ mile distant from Hayward's Heath Station.

From the house (see fig. 91)—a fine picturesque modern structure—and from many points in the grounds, are some extensive views of the South Down Hills. The south front of the mansion is completely covered with Ampelopsis Veitchii, the growth of which for freedom and abundance I have seldom seen equalled, forming in early summer a bright covering of tender foliage, developing in the autumn into a mantle of most gorgeous colouring.

Fig. 91.—THE FINCHES, LINDFIELD: VIEW OF THE HOUSE AND PART OF LAWN.

The pleasure grounds are extensive and pretty, and have a gentle trend to the south, and were well laid out and planted by the Messrs. Cheal & Sons of Crawley. In looking round these grounds, we cannot help noticing the effective manner in which the best of the native subjects, especially the Oaks, have been made use of in producing a mature, park-like appearance. This matter is sometimes lost sight of in the re-arrangement of old and the formation of new gardens, but where timber is present, its advantages are readily made of use in the landscape by the experienced landscape gardener.

In the flower gardens and grounds (fig. 92) about the house, comprising five or six acres, Rhododendrons and Ghent and Mollis Azaleas are the chief feature. Here these species seem to thrive in the heavy clayey loam of the district—not so much, perhaps, in vigour of growth as in their floriferousness and the healthy look of the thick leaves, which was, in regard to the former, well shown by the quantity of last year's seed-pods—which should, of course, have been removed—and the crowded state of the flower-buds. Some fine specimens of Retinosporas are here to be seen in combination with other trees, and also as isolated specimens, the colouring of the trees being bright, owing to the pure air of this district.

Another excellent subject for ornamental as well as free planting, the Douglas Fir—of which I noticed several very promising specimens—grows here with great freedom; in short, all species of Conifers do remarkably well on the clay loams of Sussex.

Mention must be made of the Lily pond, situate at the extreme west end of the grounds, in which a variety of aquatics is planted, although chiefly devoted to the best species of hardy Nymphæas. At the edge of the water Japanese and other Irises are planted, the whole forming, I was assured, in the flowering season a charming picture.

The Fruit Garden.

Passing into the fruit garden I was astonished at the large number, and still more so at the healthy appearance of the trees, taking into account the nature of the soil and subsoil here—the former a heavy clayey loam, and the latter most tenacious Wadhurst clay, a combination which most fruit-growers would sedulously avoid if they had a choice of soils. Nevertheless, fruit-growing is the feature of the place, and that it is carried out successfully the many medals and cultural commendations from the Royal Horticultural Society, and first-class certificates for specimens of the Queen Apple from the Royal Botanic and Horticultural Society of Manchester, fully testify. That the results obtained are so satisfactory must, I think, be set down to the fact that Mr. Voss, the able head gardener, is an enthusiast in the matter of fruit culture.

The style of training most in vogue for the Apple is the espalier, and these are planted at the sides of

all the vegetable quarters. Each of these trees is a model of training: the branches are at intervals of 14 inches, the bark clean and bright—true signs of vigour and strength. They bristle with short fruit spurs, and terminate with large, plump flower-buds. Espaliers are often found in gardens which are not models of what such trees should be, the top tiers of branches looking more like a newly plashed quick-set hedge than aught else. But with regard to trees of this description, their condition is doubtless attributable in a great measure to the stocks they are worked on, these being altogether too free for the space the heads are to occupy.

To produce the heavy crops of fine fruit obtained here, much labour and personal supervision of the work by the gardener are entailed, especially when it is taken into consideration that a large proportion of these trees is re-lifted annually, and in many instances new sites formed for them. In the bottoms of these are laid slabs of stone, tiles, slates, and brickbats, and in replanting the trees the roots are brought near to the surface of the soil. The varieties of Apples found to succeed are Cox's Orange Pippin, and of this variety cleaner trees and plumper flower-buds I have never seen on any soil. Hormead's Pearmain, Adams' Pearmain, Warner's King, Frogmore Prolific, Ecklinville, Loddington, Hollandbury, The Queen, &c. My attention was called to several trees, notably Lord Suffield and Cellini, which had been attacked by canker, and were re-lifted a year ago. These are now unmistakably showing healthy bark under the cankered patches. In this soil, Mr. Voss assured me that nothing short of re-lifting would arrest canker, for whenever the roots got down into the subsoil, they were certain to become cankered.

Pears are capitally done, and receive, if possible, even more attention than the Apples. As will be easily assumed from the description of the soil, that few of the best varieties of Pears are trusted in the open quarters, but find a place on walls, one of which is entirely devoted to cordons, a form of training which, when the trees get proper care, is capable of producing the finest fruits. The varieties under cultivation are numerous, but those found to succeed the best as cordons, are Marie Louise, Louise Bonne of Jersey, Duchess d'Angoulême, Doyenné du Comice, Comte de Lamy, Bergamot d'Esperen, Doyenné Boussoch, Josephine de Malines, Beurré Diel, B. d'Amanlis, and B. Hardy, Clapp's Favourite, fine when often re-lifted; Winter Nelis and Glout Morceau, the last two unsatisfactory, the soil being too cold for them. Plums, of which a fine selection is under cultivation, grow well and bear freely. The Strawberry seems here to be in its element, so far as is shown by the vigour of the crowns; but I was assured that they bore enormous crops of fruit.

Passing along inside a Peach-house, I found the trees in keeping with those outdoors, having fine strong young wood, brown as a berry, and studded with flower-buds, and this too, notwithstanding the fact that these trees are heavily cropped each year. One of these trees, covering a space of about 70 square feet, carried last year 150 fine fruits. No more wood is laid-in during the summer than will be sufficient to carry a good crop, consequently it is trained-in at wider distances apart than is the practice of most gardeners. The chief varieties are Walburton Admirable, Grosse Mignonne, Stirling Castle, Barrington, Galande, and Violette Hâtive; Nectarines—Humboldt (highly thought of), Victoria, Elruge, Violette Hâtive, and Lord Napier.

In the front of the Peach-house a large number of early Strawberries were coming on, and great numbers of Chrysanthemum cuttings were being struck. The latter are made a specialty of here, and the collection consists of the best and newest varieties. Mr. Voss is an excellent cultivator of Chrysanthemums, last year securing the National Chrysanthemum Society's Certificate for a stand of Stanstead White, supposed to be the best ever exhibited.

The Vines here call for no comment, being old, and they are now undergoing the process of renovation by cutting out the worn-out rods, and laying in young ones, involving an expenditure of some little time, but which will ultimately repay the trouble taken; the borders also coming in for a share of attention.

Plant-houses, pits, and frames were filled with a miscellaneous collection of plants, and everywhere quantities of various bedding-plants, of which many thousands are required. The vegetable garden is not neglected. The family and establishment being large, an abundant supply of all kinds is provided. Throughout the place, good order and cleanliness rules, and in minor matters a neatness of detail which bespeaks the careful supervision on the part of the head gardener. *Pomum.*

TRANSPORT OF FRUIT FROM THE COLONIES.

With one consent, our colonial friends assert that the fruit of each colony is the very best of its kind, the Apples grown in one being "of necessity" better than those grown in another. This is a thing of course; also of course, perfection is not yet attained in the matter of transit—all fruits do not arrive in fine saleable condition. As a salesman remarked last week, "Some's good, and some's bad—looks like having been baked." When this occurs in large quantities of fruit perfectly sound at the time of shipment, blame is attributed to the carriers, who in turn retort on the shipper, or the packer, or the grower, or anyone save himself. This also is a matter of course. But discredit attaches to the locality whence the fruit was derived, and thus serious harm to the grower or exporter is very apt to follow, and has followed. Some Grapes from a locality the produce from which last year made 30*s.* per box, we are informed, bringing only 9*s.* this season; the beauties of last season are not apparent to-day. Then, how is this condition of things to be avoided? Demonstrate the cause, and cure is a matter of certainty. The engineer on board produces his log, and with that record before him insists that any failures are due either to packing or immaturity of growth, or bad selection of varieties for shipment. This looks reasonable on the face of it, but the curious wish to know if the log correctly records the temperature kept in the cool-room, the grower and exporter pooh-poohing the remarks about fitness of variety or method of packing, who or what shall decide in this contradictory state of things? We think an automatic recorder, quite independent of engineer or anybody on board ship—a recorder which cannot be tampered with, and warranted to act for at least two months without resetting, is required. In conversation the other day with Mr. Perceval, the Agent-General for New Zealand, that gentleman informed us that he had placed these views of the case before Mr. Negretti (Negretti & Zambra, philosophical instrument-makers, &c.), who intimated his willingness to attempt the task of constructing the "Temperature Recorder."

The public interested in cheap and wholesome fruit are much indebted to Mr. Perceval; they will, of course, be much more so to the maker of the proposed instrument. We have paid a visit to the makers, who are sanguine of achieving success at an early date. The inventor inferred that perfect action must not be expected on the first go-off; but any imperfection will only be noticed in small mechanical details capable of easy rectification.

No thoroughly conscientious engineer, one, that is, who insists on the work of his department being thoroughly executed, can object to his log being tested by the proposed recorder. If the result obtained be a nearly even temperature in the cool-room, it must then follow that any failure in the fruits must be placed at the door of bad packing, immaturity, or over-ripeness; or, finally, bad selection of fruits or varieties grown. Saleable Oranges have been brought from Queensland; Pine-apples in the same steamer were found to be rotten on arrival in the port of London. Possibly irregularity in the temperature frequently repeated might have worked ruin to the Pine-apples, but the information is insufficient. Pine-apples have now to go to Sydney, where they are taken in large quantities, and canned for intercolonial and other consumption. We wait with some degree of interest the advent of the new instrument, and the solution of the problem of fruit-carrying from the colonies.

ON THE GROWTH AND CULTURE OF AZALEA INDICA.

A useful pamphlet on the above subject has recently been issued from the pen of M. Georges Truffaut, of which we give an abstract. The author, in dealing with the history of the Azalea, says that the culture of the Azalea indica has widely extended during the last thirty years, the centre of production in France being Versailles, whence the nurserymen annually send more than 100,000 plants into the market, and even this does not satisfy the increasing demand. In fact, as the horticultural trade cannot find in France a sufficient quantity of these plants, they are forced to buy extensive quantities every year from the Belgians, who appear to have at their disposal, and at a comparatively low price, a leaf-mould improperly called "Ghent heath-mould," which is the ideal soil for the culture of Azaleas. The French, like the English horticulturists, have to obtain with great trouble and considerable expense, leaf-moulds of very inferior quality. The author has, therefore, devoted much attention, and has made valuable scientific researches, in order to overcome the difficulties of the situation. His method was first to find out what chemical plant-food the Azalea abstracts from the soil during its growth. Then by submitting to analyses various leaf-moulds in which cultivation has shown the best results, to ascertain what are those elements which, by their abundance, produce a greater fertility; and, as a consequence, what are the constituents lacking in an inferior leaf-mould that must be added through the agency of manure to ensure success.

Soils Suitable for Azalea Culture.

At Versailles, during the first and second periods of growth of the these plants, the horticulturists employ peat-moulds, obtained from the neighbourhood of Maurepas (Seine-et-Oise), which are similar to those coming from the district of Rambouillet, of which we have previously given particulars (see *Gardeners' Chronicle*, Jan. 28, p. 110, and Feb. 25, p. 227).

In regard to the different moulds examined, the author says:—"As to the Ghent leaf-mould, its density or compactness is very nearly identical with that found in the vicinity of Maurepas, although there is in its composition a greater quantity of vegetable refuse, in a not very advanced stage of decomposition." Therefore the quantity of fine mould after passing through a sieve was less than in the case of the Maurepas leaf-mould. The Belgian mould, however, is more permeable, and renders less obstruction to drainage.

The peat-mould of Maurepas possesses less density than the leaf-mould, on account of the considerable bulk which the decomposing roots occupy.

The following Table shows the comparative value and the chemical composition of four descriptions of leaf-mould.

Analyses of Leaf-moulds, constituents given in parts per 1000.

	Leaf-mould from Rambouillet.	Leaf-mould from Maurepas.	Peat-mould from Maurepas.	Leaf-mould from Ghent.
Quantity of Fine Mould in 1000 lb. bulk.	800	615	730	590
Nitrogen	5·87	4·70	5·00	11·65
Phosphoric acid	1·16	1·30	0·64	1·60
Lime	2·60	1·77	1·93	3·50
Potash	3·50	4·98	3·06	1·43
Silica	836·00	805·50	790·50	341·00
Iron oxide	...	1·70	2·64	...
Organic matter (humus)	95·30	170·00	188·00	640·00

The data thus given, show that the Ghent mould is exceedingly rich in nitrogen, which is to be

accounted for by the greater abundance of organic matter, and its large proportion of lime which favours nitrification. The three other moulds from the neighbourhood of Versailles contain only about one-half as much nitrogen as the Ghent mould, and they do not vary very greatly among themselves in this constituent—the Maurepas soils coming nearest together, in the amount of nitrogen, lime, and organic matter.

We know that the production of nitrates in a soil is of the greatest importance to vegetation, nitrates being the form in which nitrogenous food is chiefly assimilated by plants; the abundance or poverty of nitrates in a mould thus determines to a large extent the luxuriance of plant-growth which the soil is capable of producing.

In a fertile soil, the formation of nitrates is always in progress. It takes place most abundantly in soils well supplied with organic matter (humus), the remains of previous vegetable and animal life, and in which lime is a marked ingredient, and to which the access of air is most free. Hence, we can easily understand the exceeding richness of the Ghent mould, each one thousand pounds containing 640 pounds of organic matter, and 3½ pounds of lime, with 341 pounds of sand (silica), to assist aëration and drainage.

Phosphoric acid is also very abundant in Ghent mould, the quantity of this constituent in the Maurepas peat being very small.

On the other hand, while the leaf-moulds from Versailles are slightly weaker in phosphoric acid than the Ghent mould, they are considerably ahead in potash, containing on the average just about three times as much.

It seems fairly evident, therefore, that the superiority of Ghent mould for the culture of the Azalea, consists in its richness in humus and nitrogen.

It is probable also that, independently of its liberal supply of organic matter, of lime, potash, and phosphoric acid, its beneficial effects are in a considerable degree due to its influence on the mechanical condition of the soil, rendering it more porous and easily permeable to the surface-roots, upon the proper development of which the success of Azalea culture so much depends. *J. J. Willis, Harpenden, Herts.*

(To be continued.)

ROUND GHENT.

(Continued from p. 607.)

Société Louis Van Houtte, Père.

Out of the 250 or more nurseries in Ghent, this is one of the best known to British gardeners and nurserymen. In the time of the esteemed founder, it had one of the most varied collections of plants in Europe, and especially of bulbous plants, Gesneriaceæ, &c., and although the establishment has to keep up with the spirit of the times, and cultivate largely Palms of the decorative kinds, such as Kentias, Latanias, Cocos, Coryphas, &c., all of which are grown by the thousand in seemingly interminable ranges of low, span houses, still large quantities of bulbous, tuberous, and other plants are grown there. Tuberous Begonias are cultivated in immense quantities, and the Van Houtte strain is one of the finest. The varieties of Azalea indica, too, are a specialty, and many of the finest have emanated from this establishment, and the houses devoted to them there were literally a mass of bloom. In one of them some greenhouse Rhododendrons were grouped together, some fine heads of bloom being noticed on a large specimen of R. Falconeri. The collection of Camellias is in fine condition. Some idea of the extent to which these plants are cultivated here, may be formed when we say, that in the propagating-houses we saw 35,000 stocks of Azalea alone, in preparation for this year's grafting.

Passing through the houses of Araucaria excelsa, the Orchid-houses (in which some of the showy species were in bloom), to the new-plant houses, where there were some novelties in Sonerila obtained by crossing S. orientalis, some very handsome new Bertolonias, &c., we passed to the very extensive grounds for hardy herbaceous plants, and that for shrubs, and the quarters of the standard and pyramid Bays, which seem a necessary part of the principal Ghent nurseries.

M. Alf. Van Imschoot.

In Belgium we do not look for collections of plants of botanical interest, the showy species being the more popular there; but in his neat garden at Mont St. Amand, M. Alf. Van Imschoot has happily combined the showy and the curious species of Orchids in his now well-known collection. At the time of our visit the greater part of the plants in flower were on show in the fine group of over 220 species mentioned in our report of the Ghent Quinquennial Exhibition, but enough still remained to brighten the houses and set off the healthy foliage of the various classes of Orchids which their owner so enthusiastically admires. Odontoglossums, Cattleyas, Vandas, and Masdevallias gave the greater part of the showy flowers, and with them were many rare and curious Bulbophyllums, the curious little Sigmatostalix radicans, Houlletia odoratissima, Gongoras, Erias, Cœlogyne Parishii, C. sulphurea, and other plants not in flower. Renanthera Imschootiana seems to be noteworthy. During our tour of the houses, the remarks of our guide, M. Van Imschoot, soon disclosed the fact that he took as much care of the smaller species as of the showy ones, and that he derived even more pleasure from the culture of the botanical plants than of the large-flowered kinds. Among the other plants cultivated, we found several curious and rare plants, one of the most singular being Ceropegia Saundersii, whose fleshy stems were well furnished with its quaint flowers. A large plant of Vanilla planifolia was covered with fruits.

M. Chas. Vuylsteke, Loochristy-lez-Gand.

Here is one of the best cultivated collections of Odontoglossums to be found round Ghent, the plants assuming very large proportions. They were flowering profusely, and apparently without any ill effect from the heavy burden of flowers, as they are often said to do in England. We found the houses throughout in capital order. One side of a house was furnished with Ada aurantiaca, many of which were in bloom; another had Odontoglossum luteo-purpureum, several were furnished with Cattleyas, &c. One house was nearly filled with Cymbidium Lowianum, with some Cattleya Lawrenceana, Miltonia Warscewiczii, Chysis bractescens, &c, in bloom. Another large cool-house had Masdevallias and Odontoglossum in bloom—the O. Pescatorei being specially fine. Azaleas are well grown, and were making a great show; Palms, of course, are grown in quantity; and a large number of Amaryllis were in flower or sending up spikes. The strain of these plants was very bright, and the flowers freely produced.

M. Fr. Desbois.

An old and clever cultivator is M. Desbois, and in his compact nursery many useful and uncommon plants may always be seen. In the outdoor garden was a very fine lot of Spiræa astilboides floribunda, a plant which is likely to be largely and generally grown. Hydrangea paniculata grandiflora is also largely grown for sale for forcing purposes, and a bed of the dwarf white Thalictrum anemonoides was a beautiful object, it being covered with flowers.

In the houses we found a nice collection of Cypripediums, hybrid greenhouse Rhododendrons, the new and elegant Cyperus alternifolius gracillimus; and in the greenhouse the pretty Heterotoma lobelioides, Phileaia buxifolia, Boronia heterophylla, and a fine show of Azalea indica, &c.

M. De Smet-Duvivier, Mont St. Amand.

A very compact, well-arranged, and carefully-tended nursery. The whole of the block of seventeen houses is united by the long corridor by which it is entered, and which is heated by the flow and return of the houses, and in that manner made equally serviceable. Varieties of Anthurium Scherzerianum are a great specialty here, and the colours range from white, blush-white, rose, and scarlet to dark red, and have also many white forms spotted with red, and crosses between them and A. Andreanum and other species. At the entrance of the houses a great and very interesting show is made of these Anthuriums, among them being A. Scherzerianum Prince Albert, which may be regarded as a double form, it having several spathes on each stem. The flower-stem, too, of this curious variety is peculiar, as it always proceeds from the centre of the plant. Anthurium Gustavei, too, is a fine plant, producing nearly black flowers, and close to the base of the plant. Among the Orchids was a good show of Cattleyas and Odontoglossums, Miltonia Roezlii and M. R. alba, and a fine collection of Cypripediums. The plants of Azalea indica were in bloom, A. memoria Lowii being a grand purple-rose, and A. purpurea plena, a very telling variety, with a great profusion of flowers of the colour of Colchicum autumnale, and which gardeners should grow in considerable quantities for decoration. Among other batches we noted Dracæna De Smetiana, with fine white, rose, and green foliage; Pteris Rex, like a giant P. tripartita; a fine collection of Bertolonias and Sonerilas; a large lot of Toxicophlæa Thunbergii, flowering profusely in plants 3 inches high; Nephrolepis cordata nana, a pretty decorative Fern; Begonias, Crotons, Palms, &c., in great quantities.

(To be continued.)

INDIA.

KUMAON.

Very beautiful is this particular part of Kumaon just now. How surprised would some of your readers be, if by some magical means they could be transfered suddenly into this land of brilliant sunshine, eternal snows, and stupendous hills! This part of Kumaon is famous for its very fine Oak and Rhododendron forest. By Oak is meant Indian or evergreen Oak. The Rhododendrons are for some reason exceptionally brilliant and free flowering this season. Imagine something like this. The time is 1 P.M., the thermometer registers 115° in the sun, and 80° in full shade; it is the 8th of April. Outside the tea factory is a fine Walnut tree. Yonder in the distance, about one and a half mile from the base, facing due east, is a hill-side, or rather one side, for the hill has a counterpart on the other side, some one thousand acres in extent; the forest towering far above the irregularity of the surface. Apparently the hill side looked at from the distance is more or less a continuous sharp slope, but in reality there are ten ravines, or what the natives call "khuds" and "gudheras," some are water ravines and others perfectly dry. No conception of what is called a ravine at home can give the slightest idea of those in this part. In numerous places they are not cultivable, except with the eminent prospect of being precipitated two or three hundred feet below, and having one's brains instantly dashed out on some huge boulder.

Looked at askew, the hill is apparently single, merely ridges seem to intercept it. Imagine this hill covered lightly and irregularly with Rhododendrons, all respectable trees ranging from 20 to 70 feet high, and the intervening spaces filled up with three very distinct types of evergreen Oaks, that are at this season just bringing forth their new foliage. One gives ever so pale a green leaf, another a charming mixture of pinkish-red, with a heavy silver white shading, the third a distinctly red type, the whole making a charming picture. Very fine and noble are many of the Oaks in this neighbourhood, exceeding 100 feet in height, and with straight clean stems or rather trunks 50 to 70 feet high; here is the measurement of one, 1 yard from the ground—girth 13 feet. Unfortunately they are evergreen, and except at this time of year there is nothing

to relieve the eternal monotony of evergreen forest. The Indian Oak, unlike the English, is of no commercial value, nothing seems to prevent its splitting and cracking in all directions. Nevertheless, it is an excellent firewood, and makes the very best of charcoal.

Referring again to Rhododendrons, except for the very striking difference of being trees, these Rhododendrons strike me as wonderfully like those of the Ponticum type. One is a bright crimson, and the other (there are only two in this neighbourhood) has a sort of pinkish-red with very pale white shading. It has often occurred to me, whether this type would assume the tree form in England. If so, and supposing it would bloom, what matchless avenues it would make! I see no reason why it should not. We get very severe winters here occasionally, the present one is a case in point; since January 24 we have had 14 feet of snow, and a good deal of frost, &c., and yet the Rhododendrons seem much better than usual. In the south and west of England it should do well. I could say something about Rhododendrons at 16,000 feet elevation, but I am not sure if you and your readers will care for my notes from so outlandish a quarter. If you do find them acceptable, I may say I went last November for one month's tour to the snows, and have my notes of the same. If you would care to publish them, I shall be happy to send them. *F. W. Sears, Ramghur, Kumaon, India, April* 8, 1893. [We shall be glad to receive any notes of the vegetation and climate of the district. Ed.]

Florists' Flowers.

THE CARNATION.

This has been a very trying season for those who cultivate Carnations in pots. I met one of the leading exhibitors lately, who said that his plants had a starved and feeble appearance, owing to the use of spring or well-water. Our plants have not received a single drop of rain-water since they were potted; and the drying east winds, combined with the absence of dews at night, have been very favourable to the development of aphides. We have dusted them with tobacco-powder; and, now that the nights are warmer, the plants are syringed freely every afternoon—this will keep down the green-fly, and prevent thrips from doing any injury to the flower-buds which are already forming. The season will be a very early one, and will give the northern cultivators of the Carnation an opportunity to exhibit at the London exhibition.

The details of the work from now until the flowers show colour, is very simple. I find it is necessary to be very much more careful in watering when hard-water only is used. They are not forming new roots freely; and, under these conditions, it is better to be careful not to give too much water, especially if it has not been exposed to the sun in a tank for about twelve hours before using it. About the end of May, or not later than the first week in June, a dressing of rich sandy soil should be applied to the surface. For this purpose I use loam, leaf-mould, and decayed manure in equal parts, and also add to it a little powdered bones and sand if the loam is heavy. Frequent syringings will keep all the plants in good order, and will destroy green-fly and thrips.

The Tree or Perpetual-flowering Carnation.—Allusion was made to the propagation and subsequent treatment of these in *Gardeners' Chronicle*, April 8, 1893, p. 416. The plants are now either in 4 or 5-inch pots, or are ready to be planted in them. Most of them have been placed out-of-doors; a few are yet in frames, but they are well ventilated. I do not care to trust the plants out-of-doors until they are established in large or small 48's. Plants in 60's seem to suffer a little by drying-up too rapidly in such weather as we have recently experienced; they become "set" in their growth, and seldom start away freely again. This is avoided by keeping the plants in frames when they are of small size. I do not plunge the pots, and have an idea they do better without. They are placed out-of-doors on a hard bottom; and, if carefully attended to with watering and syringing, they never feel any ill effects from changes of weather. I recommended that the plants be shifted from 60's into 32-sized pots; but I am not sure that this is safe during such trying weather as we have had. We flowered some plants under twelve months' old last year in 8-inch flower-pots. They remain out-of-doors until the middle or end of September. *J. Douglas.*

The Hollyhock.

We put out about 150 plants or so in pretty good condition, with but little trace of any disease upon them. They were twice dipped in a solution of soapy-water, to which was added some flowers-of-sulphur. This seems to kill the disease for a time, but it will most likely appear again by the end of the season. Condy's Fluid, if applied with a brush to the diseased parts, kills the fungus; bnt only by constant watchfulness can it be kept from spreading. Some seasons it does but little harm to the plants; at other times it destroys the leaves as if they were scorched in a furnace. The plants were set out in good deep well-manured soil, and started with some rich loam and leaf-mould about the roots. It will be necessary to water the plants about twice a week until sufficient rain comes; and when watering plants out-of-doors, it is a great deal better to mulch the ground about the roots with some decayed manure, to prevent evaporation. Parasites, whether it be red-spider or the Puccinia malvacearum, seldom do much damage to plants when they are well cultivated. It is the best plan to place the permanent sticks to the plants from the first; and if the leading stem is secured firmly to the support, there will be no further need of disturbing them again. *J. Douglas.*

PICTURE TREES AND SHRUBS.

The beauty of many trees, notable for their foliage, is now quite developed. The silvery Pyrus (special kind), and P. majestica are very distinct and conspicuous. The rich golden foliage of Acer (pseudo-platanus) Woorlyii is very striking, and its ally, the A. saccharinum; while the shining foliage of the purple Birch, or more properly speaking the black-leaved Birch, is a fine contrast to the green foliaged trees. The Manna Ash is covered with its sweet-scented flowerheads, giving the trees a pretty snowy appearance. It is equally noticeable when the keys develop in the autumn. It is a tree that should have a position with a dark background. The Golden Spanish Chestnut (Castanea vesca-aurea), is most distinct, and prettier now than later on, when except in partially-shaded places the foliage gets burned. Among shrubs, the purple-leaved Berberis is now in its first beauty, and its rich-looking foliage makes a distinct feature in the shrubbery border. We find its foliage graceful material for placing in large vases of mixed cut flowers. Caragana ferox is now showing its small yellow Pea-like flowers, and looks pretty. Cytisus secundus (?), is covered with Coronilla-like blossoms; Xanthoceras sorbifolia is also in flower, very distinct, its rosy or blush flowers with dark base should give it a place in every collection. *George Bunyard, Maidstone.*

THE EFFECTS OF THE RECENT WINTER AT CANNES.

Although the amount of frost registered has been less than in previous years, yet the amount of damage that has been done is greater than has been known for many years.

The heavy fall of snow that fell about the middle of January, and the accompanying frost at night would of itself have done but little damage, but a strong biting easterly wind which sprang up during the night, effected much mischief. Everywhere where the wind could get, may be traced the effects on the vegetation and plants that have stood uninjured for years, and have been cut almost to pieces.

The crop of Orange-blossom, which may be termed "the harvest of the Riviera," and upon which so many of the agricultural section depend for their living, has failed; the trees have in many places been killed, and everywhere the crop is far below the average. Even the hardy Chamærops excelsa has suffered in some places; but what is most remarkable, is that many of the more tender Palms, although equally exposed, have not suffered so much as many of those that are considered more hardy. Livistona chinensis (Latania borbonica) has suffered most, and in some places L. australis has been severely injured, although the latter, as a rule, stands well; whilst the former, with the exception of a remarkably mild winter, is generally more or less injured.

Most of the Phœnix have stood well, those that show most signs of the effect are P. tenuis, P. reclinata, and P. cycadifolia. P. tenuis and P. canariensis are said to be synonymous, but the variety called P. canariensis, which is a much stronger grower, has not been touched, whilst P. tenuis shows the effects badly. I therefore conclude that if they are synonymous, they vary very much in constitution. Cocos flexuosa and its varieties have in some cases been killed, in others very much damaged, whilst where they have been protected from the wind they stand uninjured. Cocos campestris has stood well, as also all the Braheas which have not been touched. Amongst the Sabals, S. Blackburniana and S. Adansoni have suffered most whilst S. palmetto is cut entirely to pieces. Washingtonia filifera (Pritchardia) show signs of the cold, but unless very much exposed, they have suffered very little. Among the Bamboos, B. viridi-glaucescens has suffered, whilst B. arundinacea, as far as I have seen, have all been killed. Araucaria excelsa and A. Bidwilli do not show the least effect, whilst A. Cookii, A. Cunninghami, A. Balansæ, Baumanni, and other more tender varieties have suffered severely, and in some places are entirely killed. Most of the succulents have stood well with the exception of some of the more tender Aloes, and those generally are only affected at the points of the leaves. A few of the variegated varieties of Agave have been more or frozen, which proves that variegation makes them more tender. Tree-Ferns have been stripped of their foliage. "Acclimatization," amongst amateurs is, as far as I can see, fast dying out, as it is an eyesore to proprietors to see so many plants killed every year, and for this reason, the more tender varieties are being discarded and replaced by those that have stood the test of time. Nevertheless, the gardens that contain the greatest variety of plants are decidedly the most interesting, both to the amateur as well as the practical gardener. *Riviera.*

ARBORICULTURE IN KENT.

At no very remote period Kent must have been covered with vast forests of primeval Oak, for throughout the county the Oak is the predominating tree, except, perhaps, on the chalk formation where Beech luxuriates. Remnants of these once vast forests may still be detected in various parts of the county, the most remarkable being the Weald of Kent, the ancient Andredes-weald, and some of its remaining spurs, and which previous to the sixteenth century, was probably one of the most extensive forests of Oak to be found in the British Isles. Deer and swine were the principal occupants of this Oaken forest, which extended with but little interruption over the greater portion of the county. Even at the present day large herds of swine, attended by a boy, are to be seen in autumn, and which live on acorns for several months; women and children collect the acorns for feeding swine, and sell them at 1*s.* per bushel. Since the introduction of the Hop, there has been a constant warfare waged by man, clearing the forest-ground to make room for the plant, as also for pasture, agriculture, and the cultivation of coppice-wood. For smelting iron great numbers of Oak trees were also destroyed, this previous to the using of coke and coal for the same purpose. Then followed the uprooting of whole breadths of this beautiful forest-land to make room

for the cultivation of Hops. This occurred during the sixteenth century, when it was found that the Hop was not only a lucrative crop, but one well suited for the more favoured parts of the south of England. At present about 100,000 acres of Hops are under cultivation, although, of late years, there has been a considerable falling off in the amount planted, this principally owing to the severe blight to which the crop has been subjected.

Towards the middle of the sixteenth century, when Hop-growing was extensively engaged in throughout Kent, the demand for Hop-poles far exceeded the supply, and proprietors found that the cultivation of coppice-wood, from which suitable Hop-poles might be selected, paid far better than the growing of timber. This demand was met in the main by the destruction of many of the fine old Oaken forests, or by severely thinning the Oaks, and planting Chestnut and Ash in their stead.

Prices for good coppice-wood in those days ranged high, as much as £100 per acre having been got for a Larch plantation fifteen years old; and between £70 and £80 were common prices throughout Kent and the neighbouring counties. At one time the realising of from £30 to £40 per acre in ten years was not considered at all unusual.

The falling off in Hop cultivation, the importation of Hop-poles from Norway and Sweden, and the recently-adopted system of creosoting the Hop-poles, have all lessened the value of coppice-wood, for at the present day the value per acre of even the best class wood does not exceed £6.

Previous to the adoption of the system of dipping the Hop-poles in creosote, the coppice plantations were not cut under eleven years, and this so as to get as much heartwood as possible, and consequently increase the life of the pole; but by the creosoting method, poles, be they of whatever class, are brought almost on a level, and made about twice as durable. At present, therefore, Hop-poles can be cut at nine or ten years' growth, and by the creosoting process made quite equal to what formerly required thirteen or fourteen years' growth.

Throughout Kent, the coppice-wood is mostly bought by farmers and Hop-growers, and also by those familiarly known as wood-brokers, and who thus find employment for their men and horses during the winter months in cutting and carrying the ware to market; indeed, the chief outdoor work in Kent during the winter is the felling and converting of coppice-wood. The system usually pursued with old plantations in this county has been to thin out the Oaks severely, say from 30 to 40 yards apart, and fill up the ground with Chestnut (Spanish), Ash, and Willow or Alder, as the ground is best suited for their growth. The natural underwood Hazel, Oak, &c., are not neglected, but the greatest demand being for Chestnut and Ash, these consequently receive most attention. They are allowed to grow undisturbed for periods varying from ten to sixteen years, after which they are cut over, the standard Oaks being still left, more for the ornamental aspect of the country than anything else.

After being cleared away and the fences made right, the plantation is again left undisturbed for a similar period. The mode of cutting is simple, but conversion or sorting of the copse-wood requires a certain amount of skill and cunning. The wood is cut from the slab with an axe, and the poles for staking Hops lotted according to the length of the ware, from 10 to 16 feet in length. Such wood as is unsuitable for making into Hop-poles by being too short or crooked, is cut into hooping for cement barrels, flower-stakes, broom-handles, Pea-boughs, binding-withs, toy-ware, chisel-rods, &c., the smaller sprigs being bound into faggots for kiln purposes, or for converting into the well-known "pimps" of the London market.

To introduce a Scotch system of wood management into the south of England would be a great mistake, as each country must be studied and worked according to its peculiar circumstances.

Where a tract of country has been bought of a landed proprietor in Kent as a home residence, the changing of the woodlands from purely those of economic value to that of an ornamental character, is fraught with great and lasting difficulties. But first of all it might be well to mention, for the benefit of those who are unacquainted with coppice forming, that plantations of this kind have at all times a cold and neglected appearance, the latter mainly owing to the trees being so thickly grown together, while the fact of perhaps 50 acres of a woodland disappearing from a country side, as if by magic, is certainly anything but pleasant.

Where, therefore, a coppice plantation is to be converted into one of a purely ornamental character, the standard Oaks are left at their previous distances apart, and the copse-wood thinned out till the individual poles are left at, say, from 9 to 12 feet asunder, and as many on their own roots as possible. This latter is no easy matter, for the repeated cutting over of the poles, when a course of coppicing was engaged in, caused the stools to annually increase in bulk, until in the end those of Ash and Oak usually protrude above the ground for several feet, and have anything but an ornamental appearance.

It requires great care and selection to thin-out and arrange some of these woods, but by constant attention for a number of years, and by introducing clumps of evergreen trees—Scotch Fir, Yew, and evergreen Oak—a great deal may be done in the way of improving the appearance of even a coppice plantation. *A. D. W.*

FIG. 92.—THE FINCHES, LINDFIELD: VIEW IN THE GARDEN. (SEE P. 625.)

CULTURAL MEMORANDA.

TREATMENT OF RICHARDIAS DURING THE SUMMER.

WHEN the plants have finished flowering, put them into a cool-house, still supplying them with water at the roots; and as soon as all danger from frost is past, plant them out in rich soil in an open—but not necessarily—fully exposed spot, affording them some weak manure-water after they have begun to grow again. About the beginning of the month of September the plants must be taken up and potted, according to

requirements, in 48's, 32's, or still larger pots, and afterwards placed in a shady spot, or a cold heavily-shaded pit. They may remain here for two or three weeks before being placed in the greenhouse, whence they are drafted as may be required into the forcing-house. By adopting the above practice, strong plants which produce fine spathes are obtained. It has the advantage over pot treatment, in entailing less labour, and the results are finer. *W. A. Cooke.*

CALADIUM ARGYRITES.

This Caladium is a very useful plant for room-decoration of various kinds, but as with many other tender plants, care should be taken when using it in places where the tempereature is cool compared with that of the house from which the plant was taken, and care should be taken with regard to watering. I have always found it better to keep the plants rather on the dry side. It thrives when potted in a mixture of turfy loam, with a small quantity of sifted dry cow-manure and spent Mushroom-bed material or leaf-mould, and some bits of charcoal and sharp sand. They will grow well in a peaty soil if it be of good quality. The plants should be kept near to the glass, and afforded manure-water twice or three times a week. *H. Markham.*

FOREIGN CORRESPONDENCE.

JOHANNESBURG NOTES.

AFTER an absence from this town of just three years, some impressions of the gardens, plantations, and flora of the Golden City may be of interest. A perusal of the weather notes annexed will give a fair idea of what our climate is like. We are nearly in the same latitude as Delagoa Bay and the southern point of Madagascar. Notwithstanding the past cold winter, vegetation has suffered but little. In some low-lying wet situations, young Eucalypti have been killed to the ground by the frost, but are now growing away from suckers as well as ever.

I have seen all the principal gardens, tree plantations, and nurseries near this town, and am able to say that the general progress of horticulture is wonderful, despite our rather trying climate. Old William Cobbett remarked in his *English Gardener*, written some seventy years back, on the subject of good grass lawns, that the decay of good gardening in England in this respect is quite surprising. But he could take no exception to many of the lawns in our gardens here, for they are simply perfect in appearance. Our soil is a deep brown sandy loam, and naturally bears a short even sward, which, laid down in turves or sets, and properly attended to, forms the beautiful stretches of grass seen in our villa gardens here.

In the warmest situations, Bougainvilleas, Bamboos, and Oranges, survive the winter, but Gardenias, tropical Hibiscus, and the like, find the cold too much for them. Every other plant pleasant to the sight, and good for food, less tender than the above, thrives well here, and seems to be quite at home. One sees the finest Cannas, Fuchsias, Tea Roses, Chrysanthemums, Hydrangeas, Oleanders, and Camellias, all quite happy, side by side. The verandahs are festooned with Passiflora edulis and P. cœrulea, Mandevilla suaveolens, golden, Dutch, and trumpet Honeysuckle, Physianthus albens, Maurandya, Solanum jasminoides, Virginian Creeper, Wistaria, Plumbago capensis, &c. Under the verandah will be found some good Rex and flowering Begonias, with a fine specimen of our only native Tree Fern, Cyathea Dregeii.

Forest trees generally make wonderful progress. I have measured a six-year-old Eucalyptus globulus with a trunk 15 inches in diameter next the ground, and 30 feet high. Many millions of Eucalypti, Acacias, and Pines, are being planted in this district, and are looking remarkably well, and as mining props, 18 inches in diameter, are worth 4*d.* per foot, a good profit may be looked for. Hitherto, all rough mining timber has been cut by the Boers in the native forests at a great distance, and brought here by waggon; but as no attempt at forest conservancy or replanting have been made by our Government, supplies from that quarter must soon fail. Pinus insignis, P. pinaster, P. canariensis, P. halepensis, and P. palustris; Cupressus macrocarpa, Cedrus Deodara, Acacias in variety, Alders, Oaks, Casuarinas, all thrive well. Extensive tree-planting in this district must have a certain good effect on South African rivers, since this town is seated exactly on the water-shed of South Africa. On one side of Johannesburg are the head springs of the Vaal, which ends in the Atlantic Ocean; on the other is the fountain-head of the Limpopo which empties itself into the Indian Ocean. As yet but few fruit trees have been planted, but such Vines, Peaches, Apricots, and Apples as I have seen appear to be full of promise. Owing to the fine rains, vegetables are plentiful and cheap.

The native flora, though not very rich, is interesting, and differs considerably from that of Pretoria. The fine Clematis Stanleyi, with its large pale blue flowers, is found in rocky places along with that strange and handsome Amaryllid—Vellosia equisetifolia. Buphane toxicaria is now and then seen, several Oxalis and Hypoxis, some Albucas, and a splendid Crinum or Brunsvigia, with rosy, sweet-scented flowers. In moist places a very pretty lemon-yellow Orchid, a Eulophia, is found together with a fine rose-flowered Plocandra. Dicoma Zeyheri is very handsome with white, spiny, everlasting-like flowers. Two Hæmanthi are found in rocky places, a fine flame-coloured species in the way of H. natalensis, and a smaller species with white flowers, probably H. Baurii. Of woody shrubs, a dwarf Protea is the only one, and the only native trees near are dwarfed specimens of Acacia horrida. Truly, a wonderful change for the better has come over this district within the last five years.

WEATHER NOTES FROM JOHANNESBURG.

Height above sea level 6000 feet. S. latitude 26°.

1889	No. of rainy days	59	; rainfall	19·85	inches
1890	„	„	69	„	25·94	„
1891	„	„	99	„	40·85	„
1892	„	„	94	„	27·54	„

May, June, July, August, nearly rainless. North and north-west winds bring the most rain. Greatest rainfall in December, January, February, March.

In May, 1892, there were 7 days in which frost was registered; in June, 20 days; in July, 20 days; in August, 6 days.

The year just past was an exceptionally cold one No snow fell, but in low moist situations Eucalypts suffered to some extent.

The lowest temperature in the open in 1892 was 18° in July; the lowest temperature in the shade was 26° in July. The highest temperature in the open was 128° in February; the highest temperature in the shade was 110° in December.

The ranges of temperature are very wide, sudden, and trying. In May, June, July, and August, on several occasions the sun temperature fell in one day from 100° to below 40°.

The barometer ranged from 25·56 in July, highest to 25·02 in December, lowest.

The greatest range was on December 15, in which the mercury fell 20 points in 12 hours.

The rainfall of the month of January, 1893, was very heavy, nearly 12 inches. *R. W. Adlam, Johannesburg, Transvaal.*

THE WEEK'S WORK.

THE HARDY FRUIT GARDEN.

By T. TURTON, *Gardener, Maiden Erlegh, Reading.*

PEAR TREES. — The welcome rains and moist weather will so affect these, that gardeners will soon be able to tell which fruits are likely to remain on them. Trees bearing heavy crops will now require thinning for the last time, thus encouraging the fruits left for a crop, especially if the ground is rendered moist as far down as the roots extend, a point which the grower should ascertain. Showery weather is the best time for affording water to trees, and it is then easier to keep it moist afterwards. Dry-weather watering is often a doubtful benefit to any tree, unless it be very thorough, and can be followed up with regularity. The trees on walls carrying only light crops of fruit may have the stronger breast-wood pruned back to two or three leaves at the base of the shoots, thus admitting light, and promoting the maturing of the future flower-buds. But the bulk of the shoots on these trees should not be pruned before growth is approaching an end for the season—that is, in a few weeks from the present time. Summer-pruning should in no case be done with scissors (*sécateur*), which are such a boon to the gardener in pruning at the winter season, on account of the risk there now is of injuring the leaves with them. The best instrument is a pruning-knife with a small blade, which can be readily manipulated.

THINNING OF THE FRUITS OF APPLES. — The reduction in the number of fruits when the set is a heavy one should always have attention when fine fruit is looked for, and it is an operation that may be carried out readily enough on bushes, espaliers, half-standards, cordons, pyramids, &c., but less so with orchard standards. This year many trees of the Codlin kind are already being weighed down by the weight of their abundant crop. The leading branches of orchard trees, if young, should be lightened of some of their fruits, or the symmetry of the trees may be spoiled by the loss of branches. These remarks apply to such free-bearing varieties of the Apple as Keswick Codlin, Lord Suffield, Stirling Castle, Cellini, New Hawthornden, Frogmore Prolific, &c. The work of thinning may be performed with a strong pair of Grape-scissors, and in the case of the above-named it should be freely done.

AMERICAN BLIGHT.—Where this pest is troublesome, steps should be taken before the trees become too full of the growth of shoots to check its further spread, and for this purpose, any of those insecticides in the preparation of which petroleum enters are effectual; as is also Gishurst's Compound Soap, at the rate of 2 oz. dissolved in 1 gallon of boiling water, and a wine-glassful of petroleum added, or even the same weight of soft-soap in lieu of the Gishurst Soap will do good. The petroleum mixes perfectly with either Gishurst's Soap or soft-soap. The mixture, of whatever kind, should be well rubbed into the affected parts with a soft, half-worn painter's brush.

THE KITCHEN GARDEN.

By H. C. PRINSEP, *Gardener, Buxted Park, Uckfield.*

WINTER CROPS.—In the more northern parts of the kingdom, plants of the early and mid-season kinds of Broccoli should now be ready for transplanting, but in the southern counties it is not prudent on the part of the gardener to have the plants so forward, for if the autumn be mild, they grow till late in the season, becoming over luxuriant, consequently unable to stand the winter so well. When planting, allow plenty of room, as a smaller quantity of well-grown plants is better than a large number which have been crowded. On heavy ground in good condition, the strong-growing kinds should be allowed at least 3 feet between the rows, and about the same distance from plant to plant. The growths will then mature as they are made, and will the better resist the frost. Should the weather be dry, the early kinds, such as Veitch's Protecting, Snow's Winter White, and Sutton's Mammoth, that were planted some time ago, and have taken hold of the soil, will be much benefited by a dressing of nitrate of soda.

BRUSSELS SPROUTS.—Unless they are required for a very late supply, these should be transplanted without delay, especially on light soils, where there is not usually, during the early part of the season, sufficient moisture to cause robust growth. To grow sprouts that are firm and of medium-size, the stems must have light and air, so that they may be thoroughly developed.

SAVOYS.—Plant out another batch of these for succession, the dwarf kinds preferably, for early and mid-season crops. Should the soil be deficient in lime, afford it a surface dressing before planting.

BORECOLE OR KALE. — As these resist the winter much better than any other member of the Brassica tribe, a good breadth of them should always be planted. There are many good varieties, but preference should be given to those with the greenest

oliage, these being the more satisfactory when cooked. It is astonishing what an amount of produce may be gathered from a plot of well-grown plants. All Kales are greatly benefited by a dressing of nitrate of soda when the plants have become well-established.

SEAKALE.—Those newly planted will now be ready for thinning the shoots, which should be done as soon as the strongest growths can be determined. If the sets were planted too thickly, they should be thinned out to at least 1 foot apart in the row.

CELERY.—In most places the main crop of Celery plants is unusually forward this season; and to prevent their becoming spoiled, they should be transferred to the trenches, and well supplied with water. Keep as much earth on the roots as possible, and plant with a trowel, then press the soil firmly round the roots. If the weather be hot and dry, planting is best done in the latter part of the day.

TOMATOS.—Plants grown in pots with a view to being planted in the open air, may now with safety be transferred to that position. Growth should be encouraged as much as possible, so as to get a few early bunches of fruit.

HERBS.—Make successive sowings of Chervil, Basil, Savory, and Celery, for they are much in demand during summer for flavouring purposes, and if the weather prove hot and dry, all except the latter soon run to seed. Thin out as soon as large enough to handle, and keep well watered. Parsley should also be thinned to 1 foot apart each way.

PLANTS UNDER GLASS.

By BAILEY WADDS, *Gardener, Birdsall Gardens, York.*

STOVE AND INTERMEDIATE-HOUSE PLANTS.—Plants of Allamandas, Dipladenias, Gardenias, Stephanotis, &c., which may be growing strongly, will need a good supply of liquid manure-water; if the drainage is in good order, there will not be much fear of over-watering during the weather we are having. Attend to the training as they require it. Climbers planted out in borders will need a rich top-dressing, and abundant supplies of water. Syringe the house twice a day, and frequently damp the floors; give plenty of air, at the top of the house first, and increase the same at the side ventilators as the sun gains in power. During bright sunshine, some shading will be necessary, but this should not be heavy. Eucharis, Pancratiums, Urceolinas, and other bulbous plants will require weak manure-water. Clear soot-water once a week is an excellent thing for them, with copious syringing at closing time. One of the coming useful plants of this class is Urceocharis Clibrani.

Alocasias, Anthuriums, Crotons, Dracænas, Marantas, and other tropical-foliage plants, will need frequent syringing and damping, to keep down red-spider and thrips. Mealy-bug and scale may be killed by a weekly application of Lemon-oil or petroleum insecticide; green, black, and white-fly by syringings of Quassia-water and soft-soap, or Bentley's Extract of Quassia is a very effective and harmless remedy. Tuberoses growing well and showing flower-spikes must have abundance of manure-water and frequent applications of the syringe, and the house should be closed with abundance of moisture until they come into bloom, when they may be removed to a cooler one, where they will keep in bloom for a long time if kept clear of thrips. Cereus grandiflorus, the night-flowering Cactus, if its flowers are cut when fully open, will last a long time in water. The plant succeeds if planted against a wall covered with sphagnum moss and peat in a stove or intermediate-house. It may be started in a pot, but it will soon take care of itself if allowed to ramble as it likes. Give daily attention to young plants and cuttings of Bouvardias, Poinsettias, Euphorbia Jacquiniæflora; they require a warm, moist, steady temperature till they are well rooted, then be gradually afforded more light and air. Old plants of Bouvardias may now be planted out into frames, affording them a good quantity of leaf-mould and dung round the balls when planting out, and plenty of space between each plant, so that they are not drawn. Water well, and shade for a time till they are growing freely, when the lights may be removed during warm weather. Some of the best varieties that were lifted with a good ball of roots and potted into 12-inch pots have done remarkably well during the past winter. Young plants that were struck in the spring will make strong plants for lifting in the autumn if put out as soon as they are strong enough, and afford an abundant supply of flowers during the next winter.

THE ORCHID HOUSES.

By W. HOLMES, *Gardener, Pickering Lodge, Timperley.*

DENDROBIUMS.—The species and varieties of Dendrobiums, of which D. densiflorum is the type, also D. thrysiflorum, are now in full flower, and in some cases going over. After flowering is the best time for doing any needful repotting and top-dressing, as the plants have not much new growth at that time. This is best for the plants if it can be afforded them every year, the plants taking large quantities of moisture when growing, and the compost in the course of one year gets exhausted or soured. Those which are top-dressed should have as much of the old material picked out as can safely be done, filling in about the plant with a compost consisting of Orchid peat and sphagnum moss, in about equal proportions, together with a fair quantity of finely-broken and clean crocks, the whole being thoroughly mixed up together. When repotting the plants, it may be necessary to break the pots, so as not to injure the roots, the old materials being then cleared out from among the roots. All sound roots should be retained, and those that are decayed cut away. Let the pots be quite clean, and never larger than the plant actually needs, putting in crocks in quantity, so as to allow of thoroughly quick drainage, this being very essential. Keep the crown of the root raised higher than the rim of the pot. After finishing off neatly, and fixing the plant firmly, place it in growing quarters in a house that is kept moist by syringing several times daily, and slightly ventilated night and day. D. clavatum is nearly the last of the above group to flower, and when the plant is well grown, it is of surpassing beauty. It is a species which I rarely observe in the best condition, but with us it, as well as D. fimbriatum, grow freely. It should be grown with this group of Dendrobiums, and in the same kind of compost. Spathoglottis Kimballiana and S. aurea are two beautiful species, very easy to cultivate either with Dendrobiums, or in the plant stove, if a good heat be kept up, and a moist air maintained. It is found that the plants will grow satisfactorily in a compost of fibrous loam and peat, with some finely-broken crocks and sphagnum moss. They should be hung up close to the glass, and afforded plenty of water when growing and in a healthy state. Anguloa Clowesii, and others, if started as advised in a previous Calendar, should now be in flower, and the plants well supplied with water. After flowering, any needed repotting should be seen to, employing fibrous loam, peat, and silver sand; or potsherds, and sphagnum moss, well mixed, with full drainage in the pots. If scale is present on them, sponging several times with soft-soapy water will remove it.

THE FLOWER GARDEN.

By T. H. CRASP, *Gardener, Canford Manor, Wimborne.*

BEDDING PLANTS.—With the showery weather of the last few days bedding-out has been actively carried on here, and will be general in most parts of the country. Spring-bedding subjects of all kinds must be taken up if the beds are to be re-planted, placing them in the reserve-garden, with the exception of such plants as Violas, and a few others. The beds and borders which have thus to carry a succession of plants, can only be kept in good heart by digging-in deeply liberal dressings of decayed manure. As previously advised, the hardier subjects should be first planted, after ascertaining the full number of plants required for each bed. In arranging the colours of the various occupants, preference should be given to neutral-tinted flowers and foliage, and plants of this kind should be much in excess of scarlet, crimson, and other bright hues, which should rather be used to heighten the effects, but not to predominate in the design. As an instance, purple Viola, such as Holyrood, harmonises with silvery-leaved Pelargoniums, and especially with such as have pink-coloured flowers. When carpet-beds are planted with varieties of Coleus, Alternantheras, and other equally tender things, the first week of June will be sufficiently early for northern counties. Get forward with the planting of Stocks, Asters, Marigolds, and Helichrysums, if these have been sufficiently hardened off; and if cocoa-nut fibre refuse or half-rotted leaf-mould are at command, it is good practice to afford the beds a mulching directly planting is finished and the beds have been watered.

HARDY FERNS growing on elevated rockeries, &c., rarely have been seen to make such small stunted growth as this season, but the showery weather of the past week if supplemented with an occasional artificial watering will have worked a beneficial change in their appearance, and they will probably still make a good display. The same may be said of most flowering plants in rockeries.

DAHLIAS.—As soon as these are planted out they should have stakes put to them and be neatly secured. The plants need to be heavily watered occasionally, and slugs sought for round about the plants, dusting the soil with a mixture of soot and lime. In the event of bright sunshine prevailing, the plants will be benefited by a little partial shade of sprays of foliage stuck round them. All plants in herbaceous borders should be closely looked after as regards staking and tying, and all weeds hoed up and cleared off. Hardy flowers required for exhibition, as Hollyhocks, Phloxes, Gladiolus, should receive occasionally weak liquid manure waterings, especially in dry weather.

MISCELLANEOUS.—Sweep lawns, cut turf-edgings neatly, and use means to keep all walks in the flower garden free from weeds, and every part as clean as the means at command will allow.

FRUITS UNDER GLASS.

By M. TEMPLE, *Gardener, Carron House, Stirlingshire.*

VINES.—All bunches of late Grapes should be examined with care, and if the berries are likely to become crowded, some of them thinned out where they are close together. The shoots should likewise be stopped before they have become crowded; keep them clear of the glass, and give proper ventilation early in the mornings. "Spotting" of the berries, so common with Lady Downes, and, in some cases, with Muscats, is caused by a damp atmosphere at stoning time; a free circulation night and day with warm pipes prevents the evil. Steaming the house in the morning, and keeping it close, will thin the bunches of Lady Downes Grapes without the aid of scissors. Look carefully over the foliage for red-spider, and if it should be found, let careful hands use a sponge and Gishurst Compound-soap. Sulphuring the pipes does good service against spider after the fruit has got to the ripening stage. Water the borders liberally after the thinning is finished, using water that has been exposed to the sunshine. Liquid manure at this stage, or some kind of special manure forked into the surface-soil before watering, will aid in bringing the berries to a large size, but there must be no liquid manure afforded to Grapes which are colouring.

THE ORCHARD-HOUSE.—Cherry trees which have been cleared of their crop of fruit should be liberally watered and syringed, and Plums, Apricots, Peaches, and Nectarines in pots, afforded liberal supplies of liquid manure. If mulching is given, it should not be of such a quantity or nature as to prevent the ingress of air. The stopping of gross shoots must be assiduously attended to, and the fruit have as free exposure to light and air as is practicable. If plants in pots have not set their fruits, they may be removed to another structure, and others put in their place, supposing these to be in stock. Fumigate with tobacco, or some of its preparations, two or three times in succession if black-fly be observed. Gross-growing trees in borders on which there are no fruits may have the roots moved at one side, and a search made for large descending roots, cutting them clean away, replacing the soil firmly, and affording water liberally. If no check is perceived during the next few weeks, lift the opposite side and replant. This will encourage the growth of fibres.

MELONS.—Any plants which are ready to plant out should be put at the top of the bed instead of the centre, and the plants trained downward, shading them for a time to prevent flagging, and removing all flowers until the bine has spread considerably. Train regularly over the surface, and afford a watering of tepid water; keep the surface of the bed moist, but the collars of the plants dry, and when the bed is well filled with roots spread over it a thin coating of old Mushroom-manure, with a dusting of soot mixed in it. This treatment with firmly-trodden soil (strong loam) will induce the roots to come to the surface.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

WEDNESDAY, MAY 31 { Royal Botanic Society, Musical Promenade.

THURSDAY, JUNE 1—Linnean Society.

FRIDAY, JUNE 2 { Royal Botanic Society, Lecture at 4 P.M. / Dundee Horticultural Society.

SHOW.

WEDNESDAY, MAY 31—York Florists, Second Show.

SALES.

TUESDAY, MAY 30 { Special Sale of Orchids in Flower and Bud at Protheroe & Morris' Rooms.

FRIDAY, JUNE 2 { Imported and Established Orchids at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—58°.1.

Royal Horticultural Society: Temple Show, May 25 & 26.

THE Great Flower Show, now so popularly and widely known as "The Temple Show," and which is in "full swing" as we write, is this year well worthy to sustain its high reputation. Hardy flowers and Ferns are well represented, and on this as on former occasions, the Orchids prove the leading feature. Fears had been expressed, even by the exhibitors themselves, that they should not be able to acquit themselves as of yore; the long period of sunny weather and drought through which we have passed, rapidly carrying off the flowers of the showier species, on which they depended. But, nevertheless, the show this year is at least quite equal to the average, and what is lost in the case of some of the showy species, is more than counterbalanced by the rare things which the extra warm and clear springtime have caused to be in time for exhibition on the date specified.

There is a deficiency as compared with the Great Ghent Show in the matter of grand Palms, Tree Ferns, Cycads, Aroids, and plants of that description, while the season is too far advanced for the Azaleas and Rhododendrons, which constituted so grand a feature in the Flemish City.

For full details—at least, as full details as time will allow—we refer to another page, but we may allude in passing to the fine display of foliage plants exhibited by Mr. CROWLEY, the Treasurer, among which, in addition to noble specimens of Anthurium Veitchii and various Palms, there is a noble specimen of Carludovica palmata. Hardy plants, as we have said, form a conspicuous feature, and the very beautiful and artistically-arranged group from Messrs. BACKHOUSE of York, arranged with a background of Pinus Cembra, represents a little bit of an alpine meadow, glorified by careful selection. Lord PENZANCE'S hybrid Sweet Briars command general attention; and we are pleased to see that several exhibitors, such as Messrs. COOLING of Bath, Messrs. PAUL & SONS, KEYNES & Co., and others, follow suit, and exhibit old Roses in charming fashion. Mr. J. H. VEITCH shows a collection of Japanese curios and conomic plants, which form a curious contrast to their more showy neighbours, and which are much too interesting to be passed over with the mere mention, and which will in consequence demand fuller notice at another time.

Mr. C. G. VAN TUBERGEN, one of the few foreign exhibitors, shows the lovely Iris Lorteti, so beautiful that it is a show by itself, and which indeed would be more appreciated at one of the smaller fortnightly meetings than here, where it is likely to be swamped by the mass of beautiful plants around it.

It is a little early for fruit, but the beautiful exhibit of Nectarines and Peaches in pots from Messrs. RIVERS of Sawbridgeworth, is worthy of special comment.

The judges were for Orchids, Messrs. R. BROOMAN WHITE, J. O'BRIEN, T. B. HAYWOOD, J. DOUGLAS; for Roses, Begonias, &c., Messrs. J. FRASER, Leyton, J. FRASER, Kew, HERBST of Kew. Hardy plants were entrusted to the critical appreciation of Messrs. POE, G. BUNYARD, and C. J. LUCAS. Ferns and foliage plants fell to the lot of Messrs. BEDDOME, H. WILLIAMS, and W. WATSON.

Technical Education.

THE following letter expresses the views of many of our readers, and deserves attentive consideration. It may be pointed out that the Royal Horticultural Society has recognised the requirements of the case, and by instituting scholarships, contingent not only on the results of didactic teaching and subsequent examination, but also on actual practice in the garden, has set an excellent example. At the Horticultural College at Swanley, the instruction is very largely practical; whilst at Kew, a practical training in various departments is always given. The lectures and examinations will serve as valuable preliminaries to such practical training. An adequate knowledge of the significance of "principles" is the great want among young gardeners:—

"The technical education movement is gradually spreading to all parts of the country. Many able men are engaged in the work, and here and there much interest is being shown, not only on the part of the lecturers, but also on that of their audiences. On the other hand, there are many capable men who think very little practical good is likely to result from this new departure. It may be of some service to look carefully into the matter, and ascertain, if possible, on which side the truth lies; and in doing so, we shall deal only with the subject of horticulture, which, in passing, we may say seems to be one of the most popular among rural audiences, even more so than agriculture, which, *a priori*, one would have thought, would have been interesting to larger numbers. Possibly the explanation is, that those concerned in gardening are, speaking generally, a more enlightened body of men; any way, the fact is incontestable, that the interest in gardening is greater than that in farming.

"The point on which we desire to lay the largest stress is, how far mere teaching without practical experience will be of real benefit to those who attend these technical lectures. We are very much afraid that what goes in at one ear will go out at the other; and if this be so, a vast amount of the good teaching now being given will be wasted. Gardening operations must, to be permanently effective, be actually done by the students. The very best teaching may be available, but if it is not supplemented by practice, so that the teaching may be congealed in the minds of the students, we cannot believe that its effect will be permanent and enduring. If this is not so, it will be of little real value. Doubtless there is a great future for gardening in this country, and its chief hope is dependent on the proper education of the rising generation, who will be taught to do their work not by rule of thumb, but on the basis of well-ascertained principles. If we can by means of the popular technical education lectures, or in any other way within our reach, train the gardeners of the future in the days of their youth, when they are most susceptible to teaching influences, so that when they come in contact with actual practice they can apply their theoretical knowledge, and bring to bear an awakened intelligence in dealing with their routine duties, very important results may be anticipated. So far as we can judge, the great want in the existing state of affairs is the absence of practical training. Country lads, however intelligent, may listen time after time to the most practical lectures about horticultural methods, but unless they have the chance of putting the instruction to the test of actual practice, much that they hear will pass away from their remembrance, and leave no trace behind. But if after a lecture on, say, pruning fruit trees, they are set to do the work they have been told is advisable, and especially if this work is done under the inspection of a competent instructor, there is no doubt but that some definite ideas will be fixed in their minds, and some real good will have been done; and so with all other operations which the competent lecturer will commend to their attention.

"The practical conclusion from these remarks is, that in every centre where technical instruction is given in horticulture, there should be an opportunity afforded for the students to gain practical experience, and thereby to apply and consolidate the theoretical teaching they have received. It seems to us that there should be a garden provided at every centre of technical instruction in horticulture, where the students could put in practice what the lecturer has told them they should do."

LINNEAN SOCIETY.—The anniversary meeting was held on Wednesday last in the Society's Rooms. Professor STEWART, the President, gave an interesting address on the means by which sound is produced by various insects and crustaceans. The officers and council were elected, and the Linnean Medal was presented to Emeritus Professor OLIVER, who so long and so efficiently presided over the Herbarium at Kew. In that capacity, Professor OLIVER rendered marked service to botany and horticulture, and his ready and valuable assistance was always abundantly tendered to those who sought it. Few men have effected so much good work, and fewer still have done it with such self-effacing modesty.

—— At the evening meeting to be held on Thursday, June 1, 1893, at 8 P.M., the following papers will be read, 1, "On Polynesian Plants collected by J. J. LISTER," by W. B. HEMSLEY, F.R.S.; 2, "On the Anatomy of a New Plant, Melastomaceæ or Gentianaceæ genus novum," by Miss A. LORRAIN SMITH; 3, "Observations on the Temperature of Trees made in Boulder, Colorado," by Dr. BAUR.

KEW BULLETIN.—The numbers for February and March are issued under one cover, and contain an exhaustive article on the Palm-weevil in British Honduras, by Mr. BLANDFORD. The principal, but not the only culprit, is a beetle known as Rhynchophorus palmarum. Of this insect, the history and mode of life are given, and the available remedial measures discussed. Mr. ROLFE contributes a fifth decade of new Orchids. In this list, whenever a personal name is used adjectivally, the word is spelt without an initial capital: thus Epidendrum laucheanum; but whenever the word is used as a substantive, then the initial letter is written as a capital, thus Stanhopea Lowii. This plan, though open to some objections, has the advantage of accentuating the fact that the termination "anum" or "ana" is used merely as a complimentary epithet, and does not imply that the person whose name is used has had anything whatever to do with the plant. Where the capital letter is used, and the genitive form i or ii employed, the inference is that the person whose name has been used is in some way or another directly concerned with the plant.

ROYAL BOTANICAL SOCIETY OF MANCHESTER.—The council of this society never fail to pay due regard to the social observances consequent upon their great Whitsun exhibition. It is their practice to invite the judges, leading exhibitors, representatives of the press, and others to a dinner during the

The Flower Garden at Trentham.

afternoon, and on the 19th inst. a large party sat down to a sumptuous banquet under the presidency of Mr. Joseph Broome, the chairman of the council, the Mayor of Manchester and the Dean of Manchester being among those present. The Temple show of the Royal Horticultural Society is carried out without any social observance of this kind. Might it not be advantageous, writes our correspondent, if something of the kind were attempted when so many representative of the gardening profession congregate in London?

Royal Botanic Society.—It is not very often that we are called on to take note of any publications of this Society, but the quarterly record for January, February, and March of the present year, though far inferior, on the whole, to the publications issued by the Royal Horticultural Society, is worthy of note. It contains an interesting and valuable report on the sunshine of 1892, from which we learn that the amount of "useful sunshine" recorded in 1892 was more than in the preceding year by 164 hours—equivalent to nearly a month's sunshine. We learn that Professor J. W. Groves will give three lectures on Ferns, and Professor Vines three lectures on the leaf and its functions. The lectures are given in the gardens at 4 p.m. on Fridays from May 5 to June 9. The rainfall at "the Botanic" in February is noted at 3·05 inches distributed over twenty-two days. In March the figures are 0·33 inch over six days—what a difference!

Mr. A. F. Barron (p. 635), Mr. J. Weathers (p. 637).—The occurrence of the "Temple Show" affords us an opportunity of laying before our readers the portraits of two of the officials of the Society on whom the stress and burden of the Society's work largely lie. Of Archibald Barron we need say little. His long service to the Society under its now happily past gloomy period, his work on *Vines and Vine Culture*, his services to the Gardeners' Orphan Fund, combine to make him one of the best known and the most respected of horticulturists.

John Weathers, after working at Kew and at Messrs. Sander, at St. Albans, took office as the Society was emerging from its evil days, and entering upon a career of usefulness and prosperity such as we hope it may long enjoy. The work that has fallen on Weathers has been heavy, but it has been done efficiently and cheerfully, and in such a way as to ensure the good will of all associated with him. He has identified himself with the Society, and spared neither zeal nor labour in its interests.

Market Gardeners' Compensation.—A Bill, prepared and brought in by Sir Edmund Lechmere, Mr. Jesse Collings, Sir Frederick Dixon-Hartland, Sir Algernon Borthwick, and Sir Richard Temple, to extend the provisions of the Agricultural Holdings (England) Act, 1883, so far as they relate to market gardens.

1. This Act may be cited as the Market Gardeners' Compensation Act, 1893, and shall be read and construed as part of the Agricultural Holdings (England) Act, 1883, hereinafter called the principal Act.

2. This Act shall come into operation on January 1, 1894, which date is hereinafter referred to as the commencement of this Act.

3. From and after the commencement of this Act, the provisions contained in section thirty-four of the principal Act shall extend, and be applicable to every conservatory, forcing-house, forcing pit, or any other erection or building put up or constructed or affixed either before or after the commencement of this Act by a tenant for the purposes of his trade or business of a market gardener upon or in or to a holding which, either in whole or in part, is cultivated as a market garden.

4. From and after the commencement of this Act the first schedule to the principal Act shall, as far as regards holdings cultivated either in whole or in part as market gardens, be amended in the following particulars (that is to say):—

The improvement numbered (11), "Planting of orchards or fruit bushes," shall cease to be comprised in Part I. of the said schedule, and the following improvements shall be comprised in Part III. of the said schedule:—

(i.) Planting of standard fruit trees.
(ii.) Planting of fruit bushes.
(iii.) Planting of Strawberry plants.
(iv.) Planting of vegetable crops.
(v.) The application to land of manure not produced on the holding other than such as is included in Part III. of the said schedule.

5. Compensation under the principal Act as amended by this Act shall be payable in respect of the aforesaid improvements, whether the same respectively shall have been executed before or shall be executed after the commencement of this Act.

6. No compensation shall be payable in respect of any of the said improvements if the landlord shall have allowed or shall hereafter allow to the tenant some benefit equal in money value at the least to the sum which would otherwise be payable to the tenant as compensation in respect of such improvement, and the tenant shall have executed or shall hereafter execute such improvement in consideration of such benefit.

7. So far as relates to the improvements numbered respectively i., ii., and iii. in the fourth section of this Act, section fifty-six of the principal Act shall be read and construed as if the words "with the consent in writing of his landlord" were not included therein.

8. It shall be lawful for the tenant of a holding cultivated either in whole or in part as a market garden to remove all fruit stocks planted by him on the holding either before or after the commencement of this Act, and not being more than 9 inches in girth immediately below the branches and not set out in rows or as a permanent plantation; but if the tenant shall not remove such fruit stocks previously to the termination of his tenancy, such stocks shall remain the property of the landlord, and the tenant shall not be entitled to any compensation in respect thereof.

9. Nothing in this Act contained shall apply to any land cultivated as nursery ground.

Gardening and Forestry Exhibition at Earl's Court.—We understand that an early Rose show has been arranged to take place on June 14 and 15. This will be in addition to the two Rose shows already announced to be held at the same place this season.

The "Agricultural Gazette" of New South Wales affords a striking example of the way in which general scientific principles may be utilised for practical purposes. It is one of the best publications on agricultural matters that comes under notice. In the January number we note an article on the cultivation of the Queensland Nut, Macadamia ternifolia, which the author says should be cultivated in every Australian garden that is suitable, both for the sake of its Nuts, and for its fine ornamental appearance. Seven years, however, elapse from the time of planting to the gathering of the first crop.

"Ecloga Plantarum Hispanicarum."—(Paris, Masson; London, Williams & Norgate) A series of plates and descriptions illustrative of plants recently discovered in Spain, and issued by M. A. de Coincy. The interest is mainly botanical.

East Anglian Horticultural Club Benevolent Fund.—The sum of £22 15*s.*, representing the profits arising from an amateur dramatic performance of *Bombastes Furioso*, given by the *employés* of Messrs. Daniels Brothers, seedsmen, of Norwich, has been given to the above fund.

The Harvest of 1892.—We have already alluded to the preliminary data published by the Board of Agriculture, and have now to note the full details as given in a publication entitled *Agricultural Produce Statistics of Great Britain, &c.* (Eyre & Spottiswoode), price 4*d.* The total produce of Wheat was 60,775,245 bushels, representing a yield per acre of 26·48, instead of 31·30, as in 1891; the diminution in the Wheat crop amounting to 14,000,000 bushels as compared with the yield of the preceding year, or nearly 5 bushels less per acre, the Eastern Counties, especially Cambs, Hunts, Beds, and Herts being the most unfortunate counties. Barley was slightly over average. Potatos yielded on the average 5·80 tons per acre—not much under average of 6 tons per acre. Turnips yielded a good crop. Mangels furnished an average of 13 tons per acre below the standard 19·8 tons. Hay was very deficient, except in the North. These statistical tables will afford a valuable comparison with those issued for the present year, the climatal features of which, so far, have been so extraordinary.

Professor Passerini.—We regret to hear of the decease, after a long illness, of Professor Passerini, the Director of the Botanic Garden of Parma. Dr. Passerini's studies were principally devoted to Fungi. Dr. Passerini was in his 77th year.

"Cottage Gardening."—We have before us the first volume of this publication, edited by Mr. Robinson and published by Cassell & Co. Poultry, window and town gardens, allotments, bees, and simple cookery, all for a halfpenny a week! We had overlooked the pigs, as the editor has done in his title, but they are not forgotten, nor the goats either. It is not much to say it is worth the money—the real truth is, it is worth much more.

Roses! Roses! Roses!—Under the auspices of the National Rose Society, a third edition of the Society's descriptive catalogue has been published. It may be had for 1*s.* by non-members, on application to the hon. secretaries, Rev. H. H. D'Ombrain, Westwell, Ashford, Kent, or E. Mawley, Esq., Rosebank, Berkhamsted, Herts. The catalogue not only deals with the dandies of the exhibition tent, but also with the more virile occupants of the garden and rosery. It is a very useful publication.

Hermaphrodite Hazel.—In the *Journal of Botany* for May, 1893, p. 153, Mr. C. A. Newdigate notes the production, near Blackburn, of male Hazel catkins, in which some of the flowers were bisexual. Similar cases are recorded in the *Journal of Botany*, 1889, p. 193.

Surveyors' Institute.—A discussion took place, at the meeting held on May 8, on the paper by Mr. R. F. Grantham (Associate), entitled, "Recent Experience in Sewage Filtration Considered in Relation to River Pollution," and, after a long debate, was concluded, and a Vote of Thanks was unanimously passed to Mr. Grantham for his paper. The annual general meeting of the institution will be held on Monday, May 29, at 3 p.m.; and the annual dinner on Wednesday, May 31, at the Holborn Restaurant, at 6 30 p.m., and not on the day announced in the Calendar.

National Rose Society.—The annual dinner of the Society will be held in the Rooms of the Horticultural Club, Windsor Hotel, Victoria Street S.W., on Tuesday, June 20, at 6 p.m.

Nidularium digeneum—This is a bigeneric hybrid between Nidularium Innocenti and Bromelia nitens, described and figured by Dr. Günther Ritter Von Beck in the April number of the *Wiener Illustrierte Garten Zeitung*. It is an interesting cross, with linear lanceolate serrate leaves, brown, mottled with green on the lower surface. Racemes terminal, cylindric, clothed with numerous, showy rosy-crimson bracts. It was raised by Hofgärtner Hübsch of Gmünd.

Oncocyclus Irises.—The Rev. H. Ewbank details in the *Garden* how he succeeds in cultivating these difficult plants by placing the Irises on a plateau raised some 6 inches above the level of the ground. A foot below the surface a firm impervious bottom is supplied by means of flags of stone, so that the plants were shut in during winter beneath straw above and paving-stones beneath, with only about 1 foot of soil to grow in. Out of eighty-six plants so treated, not one failed to appear in spring, whereas previously even so good a cultivator as Mr. Ewbank has lost them by dozens. In summer the Irises will be between two fires, they will be cut off from all moisture at the top, and from all moisture at the bottom, so that they be passive so long as may be required. Mr. Baker proposes to call the Irises of this section Cushion Irises.

Postal Money Notes.—Mr. Alexander Downs, of Monkstown, Dublin, sends us specimens of money notes designed to facilitate the transmission, by means of any money-order office, of small amounts, viz, 6*d*, 1*s.*, 2*s.*, 2*s.* 6*d.*, 5*s.*, at a uniform commission of ½*d.* each; 10*s.*, 15*s.*, and £1 at 1*d.* each; advice notes for £5 and £10, at commission of 3*d.* and 6*d.* respectively. Remitters in this case must fill up a form specifying to whom the amount is to be paid, and the recipient must also sign a receipt on the same form. The plan seems very simple, and will, we trust, be adopted, and adequate

acknowledgment made to Mr. Downs, who complains that his previous suggestions, after having been refused, were adopted twenty years afterwards by the authorities as their own.

The Horticultural College, Swanley.—The Experiments' Committee of the Kent County Council held a meeting on May 11, at the Horticultural College, Swanley. The proposed plan for the trial of manures on the French Beans was read and approved. The manures include stable manure, basic slag, kainit, nitrate of soda, sulphate of ammonia, ferrous sulphate, and Manchester manure. Professor Cheshire gave an account of the collection of nitrogen by leguminous plants, and described the bacteria existing in the nodules on the roots. He also described the bacteria which caused the disease among bees, commonly called foul brood, and exhibited a specimen under the microscope. He also showed the bacteria in anthrax, a fatal disease among cattle. Allusion was made to Mr. Mason's method of farming the heavy Oxford clays, on which he grows much Clover, manuring with basic slag and kainit, thereby supplying phosphorus and potash, whilst the crop itself gets its nitrogen largely from the air.

Mr. Olmsted.—In the throng [436,000 people!] who witnessed the opening of the Columbian Exposition, few probably realised that the harmony of the scene, and the perfection and convenience of the whole scheme of arrangement were due to the genius of one man, Frederick Law Olmsted. Many others have brought to this great enterprise their gifts of labour, devotion, artistic training, and the enthusiasm born of a great opportunity, but the spark of genius which has produced a single and consistent work of art, changing the sandy and uninviting waste of Jackson Park into a marvel of stately beauty, sprung from his brain. Of this the world may still be ignorant, but his associates realise and proclaim it; and the architects, sculptors, and painters who have been inspired to their sincerest efforts, feel that their work serves a nobler purpose, because the labour of each contributed to the harmonious development and expression of his comprehensive idea. *Garden and Forest.*

Dracæna Sanderiana, Hort.—We are not likely to hear the end of this plant for some time to come. The history of its introduction to Europe, and of its subsequent distribution, has been told in our columns by Prof. Engler, the director of the Royal Botanic Garden, Berlin (see May 13, p. 576), and this statement is accepted in a letter addressed to us by M. Lucien Linden as correct. The commercial aspect of the case, however, concerns only a few individuals. Of more general interest is it to determine what the plant really is. The name Sanderiana is a garden name, which will probably be retained in gardens, whatever the botanists may ultimately decide. In the Berlin garden, it appears, it was called D. thalioides foliis variegatis. D. thalioides of Hort. Makoy (*Belgique Horticole*, x., 1860, t. 24, p. 348), was afterwards discovered by Ed. Morren, to be identical with D. Aubryana, of Brongniart (see *Floredes Serres*, xv., 47, t. 1522). Prof. Wittmack, who comments on the plant in the last number of the *Garten Flora*, May 15, p. 305 and p. 316, also points out the likeness of the plant to D. Braunii, Engler, in *Engler Jahrbuch*, xv., heft. 4, s. 479, t. xx. When the plant blooms, it will be possible to settle these knotty points, and establish the correct synonymy.

Swainsona galegifolia is gibbeted in the *Agricultural Gazette* of New South Wales as a supposed poisonous plant. This is a serious matter, as the plant would seem as if it should be a good forage-plant. Some of its neighbours among Leguminosæ have a bad name, so that evidently caution is demanded.

Paris.—On May 25, M. André was to speak of Orchids and Bromeliads at the great horticultural exhibition at Paris. On May 27, M. H. de Vilmorin was to discourse on Annual and Perennial Plants. On May 28, M. Charguéraud is to descant upon Hardy Trees and Shrubs; and on the 29th, M. Hariot will treat of Stove Plants. In all cases the lectures have special reference to the plants exhibited. The hour fixed is 10 A.M.

August B. Ghiesbrecht.—In former years the name of A. Ghiesbrecht was much more familiar to horticulturists than it has been of late. Ghiesbrecht was a Belgian collector and explorer in Brazil and Mexico, and introduced many fine plants to the nurseries of Van Houtte and Ambrose Verschaffelt. We now learn from *Meehan's Monthly* that he died at San Cristobal on February 7 last, in his 82nd year.

Fossil Cone.—M. Paul Fliche, in the *Comptes Rendus*, published on May 1, p. 1004, describes a cone, the structure of which is of very great interest, inasmuch as it is in some respects intermediate between the Araucarias and the Abietineæ. The seed scale is like that of Araucaria, but it has two seeds to each scale, and the bract appears less intimately connected with the scale than in Araucaria. The cones were discovered in the "gres verts albiens" (green sand) of the Argonne.

Colonial Gardens.—We have received copies of the annual reports of the botanic gardens of the Straits Settlements under the direction of Mr. Ridley, and of the botanic gardens of Ceylon presided over by Dr. Trimen. Both afford a significant record of progress and utility.

Technical Education in Aberdeenshire.—At a meeting of the Aberdeen County Council, held in Aberdeen, on Friday, 19th inst., the Technical Instruction Committee submitted their report for the past winter session. The instructors appointed last year had given such general satisfaction that the committee offered re-engagement to as many of them as the scheme admitted. These were:—1, Chemistry and Geology of Soils—Dr. Milne; 2, Botany of Cultivated Plants—Mr. Robert Turnbull, B.Sc., Edinburgh; 3, Natural History—Mr. Alexander Meek, B.Sc., Dundee. The numbers attending the classes were:—First group, 385; second, 307; third, 440; fourth, 577; total, 1709; giving an average of 46 per class, as compared with 45 last year. There were many occasional visitors in addition. In every parish willing to undertake them, classes taught by public school teachers have been established, chiefly as preparatory to the itinerant classes. In order that these teachers might in some measure be qualified for their task, the committee arranged for a vacation course of training for teachers in the University of Aberdeen, conducted by the Fordyce Lecturer, assisted by the Professors of Botany, Natural History, and Natural Philosophy. The course was attended by 45 teachers from the county, and though necessarily a short one, was, within its limits, in every way successful. The average attendance will probably be found to be about 20, so that by them some 700 or 800 pupils will have been brought under tuition.

Temperature of London.—The *Journal of the Scottish Meteorological Society* contains a paper "On the Temperature of London for 130 Years, from 1763 to 1892," by Dr. Buchan. The record is based on the observations of Mr. Thomas Hoy at Kennington, Muswell Hill, and Sion respectively. Dr. Buchan collates these records with those of Mr. Glaisher and others, with the general result that the mean temperature of the year is given as 52°.2. The mean (130 years) for each month is—January, 37°.6; February, 39°.8; March, 42°.1; April, 47°.8; May, 54°.6; June, 60°.3; July, 63°.6; August, 63°.2; September, 58°.5; October, 51°.1; November, 43°.6; December, 39°.6. Great variations occur in short periods; thus, January, 1795, was 11°.7 below the normal; whilst the following January was 9°.6 above the normal. No evidence of the occurrence of any regular cycle or cycles of temperature is gained from these tables.

Home Correspondence.

White Narcissus.—I herewith enclose a few blooms of double white Narcissus alba plena odorata, which some persons call alba plena poeticus. As I am in the habit of buying quantities of blooms from the London market before my own are in bloom, amongst these I always find a rose-marking in the centre of each flower, similar to that in the single N. poeticus, but those sent for your inspection have been grown here, I think, for over fifty years, and to my certain knowledge for more than forty years. I never remember seeing any of them which differed from those. I do not remember ever having them in bloom before the month of June, whereas this year the bloom will be over before May goes out. It is the largest crop of blooms I ever saw at one time. *R. W. Proctor.* [The blooms were very beautiful. Ed.]

Violet Plum.—I am still very doubtful about the identity of this Plum, and a recent correspondent in the *Gardeners' Chronicle* would strengthen his evidence in favour of its being identical with Violette Hâtive if he could show that the latter is generally raised from a comer perfectly true from root-suckers, after the manner of Greengages. *Enquirer.*

Crown Onion, Allium ursinum.—Is it poisonous? I took one before my audience [bold man!], which seemed to expect me to froth at the mouth and drop down dead. I found it no more acrid than Garlic. If it proved fair eating, there would be less chance of its being extirpated. Are not most of the Alliums more or less edible. *D. T. F.* [No more poisonous than Garlic! Ed.]

The late fruit prospects.—Our show of blossom for Plums, Pears, and Apples I have never seen equalled, except in the large orchards of Worcestershire and Herefordshire. After all our care in manuring and planting, three parts of that great promise is gone, the result I may say of east wind, drought, and maggot. Up to the present Plums and Apples have suffered most. The Pears are not so bad, but still the maggot is making fearful damage amongst them. *J. Miller, Ruxley Lodge, Esher.*

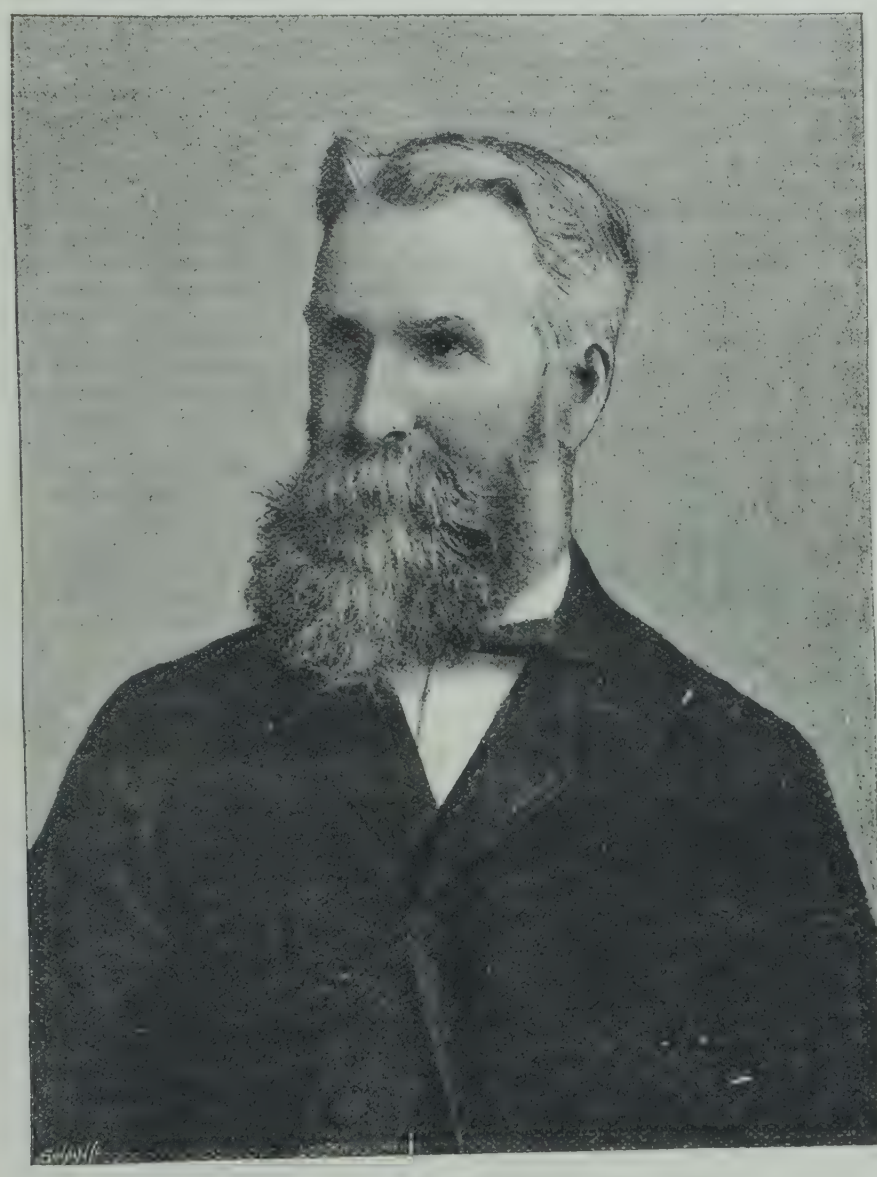
Eucalyptus cordata.—This blue gum is finely in flower now in the gardens of the Earl of Annesley, at Castlewellan, co. Down. His lordship has been for a number of years experimenting as to the hardiness of half-hardy trees and shrubs, and has been very successful in getting a good many to stand the winter in his grounds at Castlewellan. Some years ago he planted out about eighteen or twenty sorts of Eucalypti, about a dozen of these succumbed to the severe winters experienced during the past fourteen or fifteen years, but seven or eight varieties have proved themselves hardy; some of them now are nearly 40 feet in height, with stems 3 feet in circumference. E. cordata is one of the handsomest, being a very graceful pendulous tree with glaucous foliage. *R.* [The specimen sent is the true E. cordata of Labillardiere, a native of Tasmania, and figured in Baron von Mueller's invaluable *Eucalyptographia*, Decade 8. The leaves are uniformly opposite, sessile, even in the adult condition, pulverulent whitish when young, grey or reddish when older. Flowers white, in three-flowered axillary clusters. Ed.]

Crinodendron Hookeri.—I herewith send you some flowers of this beautiful hardy evergreen shrub, which is now flowering very profusely in the gardens here, and is a decided acquisition amongst flowering shrubs; it requires a well-drained, sheltered, sunny position, and we find it grows best in sandy peat and loam. *T. Ryan, Castlewellan, co. Down.*

La Favourite Melon and other fruits at the Grange, Alresford.—Chancing to make a call on Mr. Allan, the gardener at the Grange, on May 4 last, I noticed a houseful of the above variety of Melon, each plant carrying six fruits of about 5 lb. each, beautifully netted, and some of them quite fit for the table. Other varieties approaching ripeness were Gunton Orange, a finely-netted, scarlet-fleshed Melon; and Monarch, another finely-netted fruit, with green flesh. These three varieties coming in succession, will afford fruits over a period of some considerable duration. The Peach trees on the walls looked healthy, and were carrying heavy crops of fruit, as were Plums, Pears and Cherries. Apples on orchard trees, and bush fruits, were plentiful, but rain was badly needed by everything.

CALTHA PALUSTRIS.—This common British plant is well worth planting in gardens which contain lakes, or which have a stream running through them; it coming much finer in such places than in a wild state, possibly from the greater supply of nutriment afforded. A few plants placed irregularly about the banks and margins of watercourses have a pleasing effect for a few weeks at this season. I do not like the double so well as the single-flowered variety, although its flowers are certainly larger, but the colour is not so good. *W. H. Divers, Ketton Hall Gardens, Stamford.*

PRIMULA CORTUSOIDES SIEBOLDII.—This has been one of the most effective hardy flowers we have had this spring, and during the three weeks ending with May 13 it was a mass of flowers. It was later in



MR. ARCHIBALD BARRON. (See p. 633.)

flowering than P. rosea, P. denticulata, and others, and therefore the blooms escaped injury from the severe frosts which disfigured those varieties very much here; and as the plants are growing where they get a plentiful supply of water at frequent intervals, it has not suffered from the dryness of the weather; moreover, the situation is cool, and partially shaded. I have often seen the species growing in peaty soil, but a medium loam suits it best if well drained. Besides the type, we have six varieties, all differing in colour, and some of them with flowers beautifully fringed. None of them receives any protection during winter, and they have never suffered in the least from frost. *W. H. Divers, Ketton Hall Gardens, Stamford.*

EARLY PEAS.—Our first sowing was made on January 20, outside, on a south border, and the first dish of Peas was gathered on May 13, the variety William's Early Gem. It is a distinct, prolific, dwarf Pea, and was sent out a few years ago by Messrs. B. S. Williams & Son, of Holloway. This is my earliest record of Pea picking during fifteen years' experience, the nearest approach to it being in 1881, when the first dish was fit on May 20, in a garden in Herefordshire. The subsoil here is clay; all the garden crops look promising, and we have had an abundance of excellent Asparagus since March 25, thus showing that retentive soils have their good sides in a season like the present. *J. Scouse, Foliejon Park, Windsor.*

ELLAM'S EARLY CABBAGE ON CLAY LAND.—I was pleased to see, at p. 552, reference made to this variety of Cabbage growing on sandy soil by your correspondent "A. D," and I wish to offer a few remarks about the same variety growing on land with a clayey subsoil. A few weeks ago I visited the gardens of New Lodge, Windsor Forest, and Mr. McIlwrick showed me a fine breadth of it, consisting of about 1500 plants, not one of which had bolted; it was the finest breadth of early Cabbage (considering the past and present season) that I have ever seen in a private garden. Mr. McIlwrick said, on making enquiries as to his method, that he puts the Cabbage plants at 18 inches apart; and that Mr. Lockie, the veteran Cucumber-grower, plants at 1 foot apart, with equally good results. *J. S., Foliejon Park, Windsor.*

CRIMSON RAMBLER POLYANTHA ROSE.—At a recent meeting of the Royal Horticultural Society, at Earl's Court exhibition, and other places, the above remarkable variety has been shown by Mr. C. Turner, of the Royal Nurseries, Slough. It was originally received from Japan. The plant is of vigorous growth, making shoots from 8 to 10 feet in height during a season, and is consequently a most desirable climbing variety, and when pegged down or grown as a bush, a marvellous head of bloom is the result, the two-year-old wood producing trusses of flower in every growth. It is also quite hardy in this climate, having been planted in exposed situations for two very severe winters in England. The glossy-green foliage of the plant, which appears at an early part of the season, forms a striking contrast to the flowers, which are produced in large pyramidal trusses, and of bright crimson colour, which remain on the plant for a great length of time without losing their brightness. The foliage is also retained to a great extent during the winter, making the plant almost an evergreen. *J. B.* [It was well staged at the Temple Show. Ed.]

THE DROPPING OF PEACH BUDS.—In your informing leader on this ever-interesting because ever-recurring phenomenon, it struck me that the differing ratio of bud-dropping outside and indoors was hardly sufficiently emphasised. Practically, bud-dropping is unknown in most gardens in the open air, and hardly a serious trouble in any, whereas it may be said to grow in intensity, as the season of forcing is accelerated, or its area is enlarged. In other words, the sharper the disparity between the external and internal temperatures, the more buds drop, and *vice versâ*. And if this is generally so, and I believe it is, then it points in the direction of the most general opinion of cultivators for the main cause of bud-dropping, viz., in some disparity of temperature between root and top of Peaches and Nectarines. No doubt the other causes in your leader, such as an excess of buds, or of wood, or of drought, poverty, or an excess of food and water on borders, ill-assorted stocks, &c., may often result in a limited or wholesale shedding of buds; but most of these might shed buds in the open as well as indoors. From the fact that they seldom or never fall there to any serious extent, we are almost led to the conclusion that the cause is mainly atmospheric, or one of disparity of temperature between the different parts of the tree. One of the best Peach growers of my acquaintance always contended that the seat of bud-dropping lay in the stem of the tree, and more particularly in the smaller portion that marked the union between the scion and the stock. Take care of that more, and all the rest will take care of itself. And his way of taking care of these gnarled knobs, as he called them, whether on the open walls or in Peach-houses, was to cover them from the sun with a layer or two of matting or old sack, and to keep the latter well soaked with water during bright sunshine. This kept the keystone of the arch, the crux of the circulation, cool and clean. Be that as it may, I never remember him to have had every bud dropping. Under glass there can be no doubt that the sudden rise of temperature before air is admitted in the morning is another very fruitful cause of bud-dropping, as is sudden and severe dryness at the roots. But then the buds will drop equally or more freely should their roots be lying in a swamp of stagnant water. Had mere sunshine on the open wall, half-roasting skeletonised Peach trees for nearly three months at a stretch, sufficed to force their buds to drop, never a Peachlet could have been left in the open on this 23rd day of May, 1893. But what do we find in the gardens up and down the country? Why, this is one of the best crops, and assuredly the biggest fruit of Peaches, Nectarines, and Apricots, ever seen before, and in May. *D. T. F.*

THE PROPOSED INSTITUTE OF HORTICULTURE, MUSIC, AND THE FINE ARTS.—I like the proposed trinity of the three new organised humanities. The blend, could it be profusely mixed, would result in a long life of honour and usefulness. Cowper sang of sermons in stones, and we all know there are pictures in flowers and music in colours, as well as in sounds, and if beauty is equally or more useful than utility, then horticulture is only in her right place when receiving all the other fine arts, and fostering the sweetest music. All would, however, as befitted them, meet on equal terms, not based on the new social gospel of culture, sweetness, and light. The Messrs. Wood & Son's proposal comes at an opportune moment. The Imperial Institute is just opened, but still comparatively empty. A portion of its ample space could hardly be turned to better use than by finding a home for the new institute, which could not fail to enrich, and in the highest sense enlarge, our great empire. *D. T. Fish, F.R.H.S.* [The lessons of South Kensington should not be so soon forgotten. Ed.]

SOCIETIES.

BUTLEY TULIP SHOW.

May 19.—Never for sixty-eight years has this old Lancashire exhibition been held at so early a date, as the unusual character of this season has necessi-

tated. The show was a good one, a fair average quality being maintained throughout the several classes. The principal prize was that of the cup offered by the President, for the best six flowers, to include three flamed and three feathered varieties, and this was secured by Mr. Samuel Barlow, who had a stand containing Sir Joseph Paxton, a flamed bizarre; Talisman, flamed byblœmen; Mabel, flamed rose; and Garibaldi, feathered bizarre; Elizabeth Pegg, feathered byblœmen; and Heroine, feathered rose. Ten prizes were awarded in the class for feathered byblœmens, Mr. Sam. Barlow taking the 1st two with Lord Stanley and Garibaldi, and the 3rd going to Mr. Needham for his Lord Derby. A like number of prizes were obtained in the class for feathered byblœmens. Mr. J. Jones was 1st with Bertha; Mr. Kitchener 2nd with Amiable; and Mr. Dymock 3rd, who had King of the Universe. Mr. Bentley had the two 1st prizes for the flamed bizarre class, with Sir Joseph Paxton and Sulphur, and he was likewise fortunate in the flamed byblœmens with Adonis and Chancellor. For rose-flamed varieties Mr. Kitchener was successful with Mabel.

The 1st prize for three breeders was secured by Mr. Samuel Barlow, who showed Sir Joseph Paxton (bizarre), Alice Gray (byblœmen), and Lady Burdett Coutts (rose); 2nd, Mr. Kitchener with Sir Joseph Paxton (bizarre), Olivia (rose), and William Bentley (byblœmen).

For one bizarre breeder, Mr. Sam. Barlow was 1st, with Sulphur, and 2nd with Hepworth Seedling; Mr. Bentley being 3rd with Sir Joseph Paxton. Mr. Bentley showed the best byblœmen breeder in Alice Gray, also securing the two following prizes, with Bridesmaid, and Glory of Stakehill. For the roses, Mr. Barlow was best, who took the two 1st prizes with Lady Burdett Coutts and Madame St. Amand. In the class for a white self, Mr. Barlow's Signet took highest honour.

ROYAL BOTANIC OF MANCHESTER.

Exhibition of Orchids, &c.

May 19 to 25.—In announcing the event, Mr. Bruce Findlay promised "the greatest Orchid display ever seen in the annals of horticultural demonstrations, and all who witnessed the show which opened on the 19th at the famed gardens at Old Trafford, over which he has so long and so ably presided, were of opinion that he had gone far to redeem his promise. The fine expanse of the Great Exhibition Hall was almost entirely taken up with Orchid exhibits of the first quality, each collection or group being in itself admirably arranged, while by the forethought of Mr. Findlay, the space allotted to each exhibitor, and the position in which each exhibit was placed, caused the whole to present as effective a picture as though the various collections had been arranged by one set of operators. Contributing in a great measure to the admirable general effect, was the stately backing of tall Palms and Tree Ferns, and the pillars now so beautifully clad with various climbers, and which form prominent objects in the great hall. The central stage and the right hand side of the building was chiefly filled with groups either for or not for competition, and the left was mainly devoted to the scheduled special classes. Taking the exhibits seriatim, we first pass to Class 1.

For the best miscellaneous collection of Orchids in bloom (amateurs), in which were two grand collections, the 1st prize being secured by Geo. Hardy, Esq, Pickering Lodge, Timperley, Cheshire (gr., Mr. Holmes), with a very large and well-arranged collection, which occupied the entire width of the end of the hall. The group (which like most of the others was arranged with Maidenhair Ferns, &c., the pots being covered with green moss) had in the centre front a fine mass of Oncidium Marshallianum, backed by Lælia tenebrosa, over which arched some fine spikes of Phalænopsis, with large masses of Lælia purpurata, Dendrobiums, Vandas, &c., at salient points over the whole collection. On one side the varieties of Miltonia vexillaria, Cattleyas, Odontoglossum citrosmum, and Epidendrum vitellinum, &c., were effectively blended; and on the other Dendrobium infundibulum, Masdevallias, &c, were prominent, while throughout were the fine spikes of Odontoglossum crispum charmingly arranged. In the same class the 2nd prize was taken by F. Hardy, Esq., Tyntesfield, Ashton-on-Mersey (son of the previously-mentioned exhibitor), with a very pretty arrangement, in which Dendrobium Jamesianum, bright Masdevallias, Cattleyas, Odontoglossums, &c., were effectively put up.

For the best collection of Orchids in bloom (nurserymen), Mr. Jas. Cypher, Queen's Road Nursery, Cheltenham, took 1st prize with a noble group of *bonâ fide* specimens admirably arranged, the varieties of Lælia purpurata, and especially the white-petalled varieties with maroon lip, named Hardyana and Empress, and to which Certificates were awarded, being superb. There were also a grandly-spotted Odontoglossum nebulosum, some fine O. Pescatorei, Miltonia vexillaria, the pillars being decorated with Dendrobiums, &c., on blocks. The 2nd prize went to Messrs. Heath & Son, of Cheltenham, who also showed remarkably well. A conspicuous plant in their fine group was Masdevallia × Parksii (Harryana var. × ignea) with orange-coloured flowers, faced with dark scarlet (which also received a Certificate), and among their plants it was quite refreshing to see such elegant botanical species as Oncidium unicorne and others of a similar stamp.

Thirty Orchids in bloom brought but one entry, viz., Thos. Statter, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson), but his collection was good enough to have overcome strong competition. He secured 1st with a fine lot, in which Cypripedium caudatum Wallisii, Lælia majalis, Oncidium superbiens, Cattleya Schroderæ, C. Mendelii, and Odontoglossum Pescatorei were extra fine.

Best collection of Cypripediums in bloom.—The 1st prize fell easily to Geo. Hardy, Esq., Pickering Lodge, Timperley, his best plants being Cypripedium caudatum Wallisii, with thirteen flowers: C. selligerum majus, C. Sedeni candidulum, C. Druryii, C. nitidissimum, C. Lawrenceanum, C. Dominianum, C. Curtisii, and C. grande atratum; the 2nd prize was taken by Mr. J. Cypher, with a good but smaller lot.

Ten specimen Orchids in bloom, made-up plants excluded, yielded premier honours to Geo. Hardy, Esq., viz., a Silver Cup, presented by Joseph Broome, Esq., the Chairman of the Council. The plants exhibited were truly grand, a noble mass of Dendrobium thyrsiflorum having sixteen spikes; Cymbidium Lowianum, about two dozen; Cattleya Mossiæ, over fifty flowers; and Dendrobium nobile giganteum, D. fimbriatum oculatum, Lælia purpurata, and the others were equally fine. The 2nd prize was secured by Mrs. Hodgkinson, Haigh Lawn, Bowdon, in whose collection Sobralia macrantha, Cymbidium Lowianum, and Dendrobium Devonianum were fine objects.

The best collection of Cattleyas in bloom.—George Hardy, Esq., was again successful in taking 1st prize with about thirty very fine plants, among them being the finest-lipped form of C. Mossiæ we have seen; three C. Schilleriana, C. Acklandiæ, C. Mendelii Firthii, C. Lawrenceana, C. labiata, C. Wagnerii, &c.; W. Shaw, Esq., Stamford Lodge, Ashton-under-Lyne (gr., Mr. G. Cliffe), being 2nd.

The best collection of Odontoglossums in bloom brought two strong competitors, whose collections were very difficult to compare. The 1st prize was awarded to W. Thompson, Esq., Walton Grange, Stone, Staffordshire (gr., Mr. Stevens), whose collection showed both excellence and variety. Among his plants were a nobly-flowered O. coronarium, O. Uro-Skinnerii, O. triumphans, O. crispum Stevensii, O. tripudians, O. facetum, O. Rossii majus, O. hastilabium, &c. The 2nd prize fell to F. Hardy, Esq. (who bids fair to keep the Cup, value 10 guineas, presented by his father for this class, in the family), for a grand collection which so far as the noble plants of O. crispum went was superb, but it lacked variety.

The 1st prize for the best collection of Dendrobiums in bloom, a Silver Cup, presented by T. Statter, Esq., went to G. Hardy, Esq., his collection showing the same fine quality as those in all other classes where he exhibited; the 2nd prize going to Mr. J. Cypher, Cheltenham.

For the best new Orchid in flower, sent out by F. Sander & Co., since 1887.—Silver Cup value 15 guineas, presented by F. Sander & Co., T. Statter, Esq, Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson), obtained the prize with a magnificent and distinct form of Odontoglossum mulus, with very large, handsomely-marked flowers, and named O. m. Statterianum. G. Hardy, Esq., also competed with a very singular Odontoglossum, named O. Wattianum Hardyanum.

For the best hybrid Orchid in bloom, already in commerce, prize Veitch Memorial Medal and £5, Thos. Statter, Esq., was again successful with Cypripedium × Aylingii; W. R. Lee, Esq., showing his Dendrobium splendidissimum Leeanum, which was however inferior to what it was when he showed it in London.

For the best hybrid Orchid in bloom not in commerce, Veitch Memorial Medal and £5, George Hardy, Esq., exhibited what he calls Cypripedium × Hardyanum, but with regard to which the judges decided to uphold the decision of the Orchid Committee of the Royal Horticultural Society, that it is C. × macrochilum, illustrated in the *Gardeners' Chronicle*, September 19, 1891, p. 343, a plant already put in commerce by the raisers, Messrs. Jas. Veitch & Son, and consequently the prize was not awarded.

For the best *bonâ fide* specimen Orchid in the show, Geo. Hardy, Esq., secured the offered prize (Williams Memorial Medal and £5) with one of the noblest examples of a specimen Cattleya probably ever exhibited. It was a fine form of the white-petalled Cattleya Mossiæ Reineckiana, with sixteen grand blooms, and altogether a perfect example of a magnificent Orchid, well-grown, and profusely flowered. In competition, Thos. Statter, Esq., showed a large Lælia purpurata, the same plant showing one good and one bad variety.

Next came the exhibits in groups not for competition, and out of which the three best, viz., those from Messrs. Linden, of Brussels; Messrs. F. Sander & Co., St. Albans; and Messrs. Charlesworth, Shuttleworth & Co., of Heaton, Bradford, had each the Society's Gold Medal awarded them. The two first-named exhibitors had grand groups, made up of Orchids and new foliage and flowering plants, and for sterling novelties even the great Ghent show was eclipsed. The group staged by Messrs. Linden occupied about 35 feet run of the centre staging, and prominent among their many good things were Catasetum tenebrosum, with rich yellow and brown flowers; the clear yellow Mormodes citrinum, the beautiful little Aganisia ionoptera, a new Gongora; the pretty and graceful Odontoglossum Lucienianum, their charming introduction; the fine scarlet Cochlioda Noezliana, grand Cattleyas, Lælias, &c., the whole skilfully arranged with pans of new Bertolonias, Sonerilas, and other new plants, among which the silver-leaved Bignonia Schusterii, the beautiful Liparis elegantissima, Stenandrium Lindenii, Begonia Claesiana, Tradescantia reginæ, Peperomia metallica, &c., were remarkable.

At the other end of the stage, and occupying a similar space, was the grand group arranged by Messrs. F. Sander & Co., St. Albans, in which the various forms of Miltonia vexillaria and other showy genera were charming things. One of the finest and handsomest Orchids in the whole show was their Odontoglossum crispum Owenianum, a distinct novelty, with massive flowers heavily spotted after the manner of O. c. apiatum, but the large blotches have a dark yellow instead of a red hue. Sobralia macrantha alba, snow-white; Epidendrum Randii, Lælia Lindleyana, Saccolabium guttatum, with eighteen spikes; Cattleya Skinnerii alba, the new Peristeria aspersa sanguinea. Thunia Campbelliæ and T. Brymeriana were specially fine. Among new Orchids, Messrs. F. Sander & Co. were awarded First-class Certificates for Odontoglossum crispum Owenianum, above mentioned; Cattleya Mendelii Sanderæ, a charmingly delicate flower; Sobralia macrantha alba, Phaius Sanderianus, the most stately of the genus; Dendrobium × Venus magnificum, much larger and darker in colour than the original Odontoglossum hystrix magnificum, and Cattleya Wagneri var.

The third Gold Medal group, that of Messrs. Charlesworth, Shuttleworth & Co., Heaton, Bradford, was a grand group of Orchids, in which Charlesworth's strain of Oncidium macranthum was plentifully refreshed with good effect. There were also a grand specimen of a fine form of Grammatophyllum Fenzlianum with six spikes, each over 6 feet; some noble Oncidium Marshallianum, suspended from the pillars; a grand selection of Lælia grandis tenebrosa, many of their fine strain of Cattleya Warscewiczii, a noble Cymbidium Lowianum, Dendrobium, Guibertii, Aërides Houllettianum, many superb Odontoglossums, Cypripediums, &c. The same firm also staged on centre table a small group of rare Orchids, among which the pure white Cattleya intermedia alba, Cypripedium Rothschildianum, and Lælia tenebrosa were awarded First-class Certificates.

Others who arranged fine groups composed entirely or in part of Orchids, and to which extra prizes or Medals were awarded, were Messrs. B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, London, who had a most extensive, varied, and excellent group, in which the Vandas, for which the firm is noted, were conspicuous; also Calanthe veratrifolia, Oncidinm phymatochilum, O. Marshallianum, Maxillaria Sanderiana, Trichopilia crispa, fine examples of Dendrobium Jamesianum, the curious yellow D. senile, Odontoglossums, Cypripediums, &c., were extra fine, and showed up well, arranged with Ferns, also flowering and foliage plants.

Messrs. Hugh Low & Co., Clapton, London, exhibited a grand collection of showy Orchids, their and of fine varieties of Cypripedium bellatulum tracting much attention; the forms of Cattleya ossiæ and other Cattleyas were remarkable, and e plant of their Lælia purpurata Lowiana showed its lip one of the darkest and richest pieces of lour in the show. Messrs. W. L. Lewis & Co., of outhgate, London, also staged a very fresh and xtensive arrangement of Orchids, the brilliant forms f Masdevallia Harryana setting off the larger flowers f the Cattleyas, &c., well. Among others, we noted beautiful Cattleya named C. Triani splendens, a chly-coloured C. labiata Warnerii, and Masdevallia eitchii grandiflora.

Of lesser exhibits, Joseph Broome, Esq., L'anudno, received Commendation for cut flowers of everal grand forms of Cattleya Mossiæ; and Mrs. . M. Bennett, Pendleton, for three large plants of he old Bifrenaria Harrisoniaræ, in bloom.

MR. JOHN WEATHERS. (See p. 633.)

New Plants Certificated.

In these, Messrs. F. Sander & Co., St. Albans, took the lead, for beside the Orchids before named, they were awarded First-class Certificates for their beautiful silver variegated Dracæna Sanderiana, for Strobilanthes Dyerianus, Ceratalobus Findlayanus, Vriesia tessellata Sanderæ, Alocasia Watsoniana, Dipladenia atropurpurea var., Oreopanax Sanderianum, Arisæma fimbriatum, Asparagus albanense, Hæmidictyon marginatum, and the lovely Maranta Leoniæ, whose leaves are like frosted silver.

Messrs. B S. Williams & Son, Holloway, were awarded Certificates for Crassula Mrs. Wynne, C. M. Pfitzer, and the beautiful golden variegated Agapanthus umbellatus fol. aureis variegatus.

Mr. T. S. Ware, Tottenham, received a Certificate for his great yellow Carnation Pride of Great Britain, which came in for a good share of attention. Messrs. R. P. Ker & Son, Liverpool, for the fine white Rhododendron Helen Schaffner; and Messrs. Harkness & Son, Bedale, Yorks, for the fine single Pyrethrum Mrs. Bruce Findlay.

The only exhibit entirely unconnected with Orchids in the great Exhibition Hall was a magnificent bank of Caladiums, staged by Messrs. J. Peed & Son, Norwood, London, grand plants in perfect condition, and who received a Gold Medal. Among them we noted as good and distinct, Caladium Mrs. Harry Veitch, Raymond Lemoinier, Charlemagne, Reine de Danemark, Mons. Léon Say, Madame Ed. Pynaert, Comtesse de Brosse, Auguste Carpentier, Souvenir de Madame Bernard; while among the yellow varieties, Golden Queen and Princess Teck were still the best.

While the Orchid show found a location in the exhibition-house, the groups of plants arranged for effect, and other contributions, were located in the annexe. This portion of the building, with its raised banks on either side, is well adapted to secure an effective display: the groups were arranged on either side with masses of colour between them; down the centre were tables of cut flowers and fruit, and beyond a blaze of Rhododendrons, furnished by Messrs. John Waterer & Sons, Bagshot, and now in the very height of their beauty.

The best collection of hardy herbaceous and alpine plants came from R. P. Gill, Esq., Ashton-on-Mersey, generally large specimens, grown in pans. They were admirably grown and bloomed, and comprised Hemerocallis, double Pyrethrums, Spiræas, Lupinus, Saxifrages, &c., and such woolly Saxifrages as arachnoideum, Laggerii, Moggeridgei, &c. 2nd, Messrs. W. G. Caldwell & Sons, nurserymen, Knutsford, also with a large and showy collection, consisting of Liliums, Saxifraga pyramidalis, Onosma tauricum, Linum flavum, Dianthus alpinus, &c.

Roses in pots shown by amateurs in twelves, brought but one group, from Mr. James Brown, Langfield, Heaton Mersey, who took the 1st prize with well-grown and bloomed plants of Dr. Audry, François Kruger, Madame de Watteville, &c.

The class for a collection from nurserymen, arranged for effect, did not bring a single entry.

Azaleas were represented by one collection, of somewhat poor character.

Miscellaneous Collections of Plants.

Those arranged for effect were of large size, the best shown by trade exhibitors coming from Messrs. R. P. Ker & Sons, nurserymen, Liverpool. The perfection of elegant grouping appeared to characterise this exhibit. Rising out of a bed of Fern were stately Crotons, brilliantly coloured; Dracænas, Palms, and various flowering plants, all harmonious, and without the least appearance of crowding. Mr. A. J. A. Bruce, Edge Lane Nurseries, Chorlton-on-Mersey, was 2nd with a group similar in design and material, but lacking the exquisite refinement of that placed 1st. In the amateurs' class for a group like the former, occupying an unusually large space, Mrs. Agnew, Fairhope, Eccles, was 1st, a very fine group indeed; and Miss Lord, Oakley, Ashton-on-Mersey, was 2nd.

Groups of Ferns arranged for effect were remarkably good, the best coming from Messrs. W. & J. Birkenhead, nurserymen, Sale; and Mr. R. P. Gill was 2nd.

Extra prizes were awarded to Mr. James Mason, florist, Ashton-on-Mersey, for a large and imposing group of plants arranged in a circle, having lofty Palms in the centre flanked by various flowering plants; to Messrs. Richard Smith & Co., St. John's, Worcester, for a collection of specimen Clematis and other plants; to Messrs. John Waterer & Sons, for Rhododendrons; to Messrs. Dicksons (Limited), Chester, for a large collection of hardy herbaceous and other cut flowers; to Messrs. Harkness & Sons, nurserymen, Bedale, for the same, and for cut blooms of Roses; to Mr. James Cypher, for a collection of eighteen specimen stove and greenhouse plants of high quality; to Miss Lord, Ashton-on-Mersey, for herbaceous Calceolarias; and to Miss Kate Hopkins, Mere Cottage, Knutsford, for a collection of Violas and other cut flowers.

The only class for fruit was one for six bunches of Grapes, in three varieties, Mr. J. Edmonds, gr. to the Duke of St. Albans, taking the 1st prize with four well-finished bunches of Black Hamburgh, one of Foster's Seedling, and one of Buckland Sweetwater; 2nd, Mr. Thomas Bannerman, gr. to Lord Bagot, Blithfield, Rugely, with two bunches each of Madresfield Court, Black Hamburgh, and Foster's Seedling; the 3rd prize going to Mr. Chuck, The Gardens, Brodsworth House, Doncaster, for two bunches each of Madresfield Court, Black Hamburgh, and Duke of Buccleuch.

NEW YORK SPRING FLOWER SHOW.

May 2 to 7.—The weather was not particularly propitious for the opening of the Annual Spring Exhibition at the Madison Square Garden, New York City, under the auspices of the New York Florists' Club. The usual financial success was somewhat marred by it. It may be noticed that the 7th falls on a Sunday, but the democratic American sees no more harm in visiting an exhibition of flowers than in walking in the park, as the good attendance proved. However, taking into consideration the somewhat lateness of the season, the sum of 6000 dols. offered in prizes were closely competed for in their respective classes—Orchids, Azaleas, Bulbous plants, Roses, Palms, &c.

In a former letter I mentioned the general advantages and size of the Garden for an exhibition of this kind, and in this instance, as before, it was appropriately decorated. The principal exhibitors were Messrs. Pitcher & Manda, Short Hills, New Jersey; Ernest Asmus, West Hoboken, New Jersey; Siebrecht & Wadley, New Rochelle, New York; J. McKeller, Bay Ridge, Long Island; Dailledowze Bros., Flatbush, Long Island; W. H. Siebrecht, Astoria, Long Island; John Henderson & Co, Astoria, Long Island; John N. May, Summit, New Jersey; Richard Brett, gr. to J. B. Colgate, Yorkers, New York; Charles A. Webber, gr. to J. Hoodwright, Fort Washington, New York City; and A. P. Meredith, gr. to Colonel Cutting, Pittsfield, Massachusetts.

Immediately on entering the Garden was the best group of varieties of Rhododendron ponticum, arranged for effect. The first prize was awarded to Alex. McLennan, gr. to Bayard Cutting, Oakdale, Long Island, with a lot of well-flowered specimens.

Perhaps the groups of bulbous plants, including

Hyacinths, Tulips, Narcissus, &c., 200 feet square, for which there were four entries, attracted as much attention as anything, and honours were awarded to W. H. Siebrecht, who had a fine mass of colour, arranged in parterres, the Tulips Keiser Kroon and Rose Grisdelin being specially admired, as also were the blocks of Narcissus Horsfieldi. In the other classes for bulbous plants Ernest Asmus and Pitcher & Manda were about level. The Tulips exhibited in five pans, twelve in a pan, in their different classes and colours, proved quite a brilliant feature, in every sense of the word.

In Orchids, Messrs. Pitcher & Manda carried everything before them. For the best ten plants, Cattleya Gravesiana, a recent introduction by this house, and a supposed natural cross between C. Mossiæ and C. speciosissima was specially noticeable; a plant of Ansellia africana was also good, and a handsome specimen of Dendrobium Dalhousieianum were noticeable.

For the five best plants, the recently-discovered Cypripedium californicum was conspicuous; it might be described as a monstrous C. calceolus, and is a herbaceous variety; the pouch of straw-colour, dorsal sepal 3 inches high, brownish-yellow, striped and mottled with brown; staminode of a deep yellow tint; petals drooping, 5 inches long, and similar in colour; sepal similar in colour. The plant grows to a height of about 18 inches, and is clothed with foliage like C. spectabile; it was awarded a special prize.

For the best specimen, a grand piece of Cattleya Mossiæ secured the 1st place; and Cattleya Mossiæ Fraseri was prominent in the collection of Cattleyas and Lælias, for which Pitcher & Manda secured the John Eyerman Silver Cup. Cypripedium Greyanum×, C. Druryii×, C. ciliolare was also exhibited by the above firm. Awarded special prize equivalent to a First-class Certificate.

Mr. G. Savage, gr. to W. S. Kimball, Rochester, New York, showed, not for competition, a fine lot of Orchids, including Cypripedium, Cattleya Skinnerii alba, Dendrobium Jamesianum (one bulb of this had twenty-three flowers); Odontoglossum Pescatorei, Phalænopsis amabilis, Cypripedium caudatum Wallisii, C. Schroderæ, C. Argus Moensi, all very prominent plants.

Mr. J. M. Keller was an easy 1st for his group of Palms and foliage plants, covering 200 square feet, with a clear healthy lot, consisting of Kentia Belmoreana, Areca Verschaffeltii, Araucaria excelsa glauca, Dracæna Lindenii, being specially noticable examples.

For five best specimens, Mr. Richard Brett, gr. to J. B. Colgate, was 1st, and included a fine specimen each of Acanthophœnix crinata and Phœnix reclinata.

Messrs. Siebrecht & Wadley were 1st for a single specimen with a handsome piece of Licuala gracilis. They also secured 1st place for Nepenthes, with good examples of N. Veitchii, N. Mastersii, and others.

In the collection of Ferns, ten varieties, Richard Brett was 1st with very good specimens. Arranged in graceful masses, the collections of Azalea indica proved effective exhibits, and in pretty contrast were some A. mollis, and in both the groups, 100 feet square, arranged for effect, Messrs. Pitcher & Manda secured 1st honours, as in the classes also for ten and five best specimens. In the group of A. indica, the variety Vervænea, used by florists very largely on this side, was specially good, and was much admired.

Messrs. Bonn & Dressel, Treehawkes, New Jersey, with some prettily-coloured plants, secured 1st place for their collection of Dracænas. For five specimen Hydrangeas, Mr. W. G. Eisle, Long Branch, New Jersey, secured 1st with some good examples of H. Otaska, with flower-heads in many instances 15 and 18 inches across. Perhaps one of the prettiest features of the exhibition were the groups of herbaceous plants and flowering shrubs 100 feet square, and here again Messrs. Pitcher & Manda were to the fore, with many useful varieties. Messrs. Dailledowze Bros. were awarded a special prize for a collection of hybrid Roses grown in pots, well flowered.

ROYAL HORTICULTURAL.

Show in the Temple Gardens.

May 25, 26.—In our leading article we have alluded to the leading features of this gigantic show held, by permission of the Benchers, in the renowned Temple Gardens, now in their full blush of spring beauty. The plants are arranged in one giant marquee, and in three or four long tents. We give as full details as the time at our disposal permit:—

The Decorative Groups.

The large marquee, besides holding the various collections of Orchids and Roses in pots, comprises at the sides groups of considerable size, consisting of plants in much variety. The first to catch the visitor's attention is that set up by Messrs. J. Laing & Sons, Stanstead Park Nurseries, Forest Hill, which consists of very well, but not overgrown, Caladiums, in varieties old and new. There are too many for us to name, and we select a few of the more distinct and novel forms, viz., Comtesse de Condeixa, Excellent, Reine de Danmarck, Chactus, Mrs. Laing, Salvator Rosa, Lepeschinkii, Charlemagne, Ville d'Hambourg, Candidum, Souvenir de Madame Bernard, Mrs. Harry Veitch, and Sanchoniathon. The group is prettily margined with C. argyrites and Panicum variegatum. Messrs. Laing & Sons arrange another group on the opposite side of this tent, consisting of numerous well-grown subjects, put together with very good taste. Here are varieties of Dracæna, as D. norwoodensis, ferrea, australis variegata, Madame Bergman (a fine thing), and Lindeni; Crotons Mortii, Prince of Wales, Thomsoni, Comte de Germiny, and Challenger occupying the salient points. The back is masked with a few Palms, and the rest of the furnishing consists of Gloxinias, Ferns, Odontoglossums, Lælia purpurata, Dendrobium thyrsiflorum, Lilium longiflorum var., &c. Some immaculate examples of Bertolonias are likewise shown in a group by themselves, the varieties being Van Houttei, Souvenir de Gand, Auguste van Geert, and Ed. Pynaert. The colours are clear and well brought out.

A large group from Messrs. J. Veitch & Sons, Royal Exotic Nurseries, Chelsea, is chiefly made up of out-of-doors subjects that had come in flower and leaf under natural conditions. We noted amongst the flowering plants Clethra alnifolia, a dwarf-habited species flowering whilst still young, the blossoms white, arranged in compond terminal spikes; Hydrangea hortensis, H. h. Maneschurica, with pale pink flowers; H. h. Thomas Hogg, H. paniculata, H. p. grandiflora, Spiræa astilboides, several Azalea indica, Syringa japonica, with greenish-white flowers; Indogofera Gerardiana alba, a handsome leguminous plant. The plants with ornamental foliage consist of Cornus alba Späthii, Acer palmata septemlobum, A. p. dissectum, A. Negundo aurea variegata, Eulalia japonicum variegatum, like the Ribbon grass, but larger; Ptelea trifoliata aurea, but with the aurea not brought out, it being yet too early in the season.

Messrs. W. Cutbush & Son, Highgate Hill, arrange a showy corner group in this marquee, consisting of Crassula rubra and C. alba; showy Hydrangea paniculata, many well-flowered examples; a nice mass of Leschenaultia biloba major, Lilium longiflorum, a number of small Erica ventricosa, very well bloomed; E. Cavendishiana, and other hard-wooded subjects. The furnishing of the rear of the group consists of various Palms, Dracænas, Ferns, &c. Arum Little Gem, a variety with small white spathes, was shown; it is likely to have many decorative uses.

The imposing group set up by P. Crowley, Esq. (gr., Mr. King), Waddon House, Croydon, merits much admiration, the various plants of which it consisted being models of good culture, and being of large size but few were required to fill the space allowed. The finest were Anthurium Veitchi, A. Warocqueanum, Alocasia crystallinum variegatum; a large example, and wonderfully clean and free in growth of Asparagus plumosus; a remarkable plant of Adiantum gracillimum, a noble Carloduvica palmata, and a few other Palms.

A small group of plants comes from Messrs. Hugh Low & Co., Clapton. The flowering subjects consist of six large flowering plants, and a quantity of Erica ventricosa in small examples.

The former are an Azalea indica Brilliant, 5 by 4 feet, crimson in colour, and very well-bloomed; Darwinia fuchsioides, Aphelexis macrantha purpurea, and A. m. rosea, both full of flower and not to stiffly tied; a Dracophyllum gracillimum, &c.

From Messrs. B. S. Williams & Son comes a mixed lot of foliage and flowering plants, and consists of some fine varieties of Cliveias, Azalea indica Souvenir de Francoise Vervaene, a frilled bloom of greenish white becoming pure white as it ages; Metrosideros floribunda, full of flower; Anthurium Scherzerianum—about a dozen plants; Spiræa astilboides; a double-flowered Azalea indica, of purplish-rose colour; and a number of Hippeastrums, of vivid colouring generally and of large size; Oranges in pots, Dracænas, Palms, Ferns and furnishing plants.

A rather dull-looking group of plants is arranged at the end of the marquee by Messrs. Shuttleworth & Co., Nurseries, Peckham Rye, S.E. The plants consist chiefly of Palms, a Tree Fern or two, examples of Acer Negundo variegatum, Lilium longiflorum, small Dracænas, and Crotons, Zonal Pelargoniums, and a group apart of Cycas revoluta, Musa not in fruit; Sonerila, Rex Begonias, &c.

One of the most finished-looking groups is that belonging to J. Warren, Esq., Handcross Park, Crawley (gr., Mr. A. Offer). The plants composing it are Anthurium magnificum, Cycas revoluta, Dieffenbachia Rex, D. Bausei, Maranta Makoyana, various Crotons, Dracænas, Palms, Adiantums, &c. (Veitch Medal).

Messrs. J. Peed & Sons, nurseries, Roupell Park, Norwood, show a mixed group of flowering and foliage plants, all nice enough, but nothing remarkable, if we except a piece of Cymbidium Lowianum, and Sarracenia purpurea, with numerous pitchers.

Ferns.

A very fine and charming collection of Ferns is sent by Messrs. W. and J. Birkenhead, Fern Nurseries, Sale, Manchester. The specimens, small and large, are very many, and we cannot do more than mention the names of the more rare. Of Davallias, there were D. hemiptera, D. aculeata, with a much-divided and pretty frond; D. elegans polydactylon, an elegant species, with a much more divided frond than any other of the species; D. tenuifolia stricta, a gem; D. t. Veitchi, with exceedingly minute divided fronds; D. fijiensis, a boldly-cut frond, of dark green tint, quite distinct. In Osmunda there are O. javanica and O. palustris; of Nothoclæna mollis, which received an Award of Merit, fronds light green in tint, with silvery-powdered surface on the underside; habit dense, compressed, as are the divisions of the fronds; N. sinuata, with long and narrow frond with dark stipe; Pteris serrulata densa, Selaginella filicina, a fernlike species, of erect habit of growth; S. amœna, distinct; Onychium auratum robustum; Pellea Andromedifolia, very distinct; Nephrolepis Duffii, Adiantum Fergussoni, A. Waltoni diffusum, Gymnogramma Schizophila gloriosa, a distinct and beautiful Fern with fronds long, and broad, &c.

There are some healthy specimens of Todea superba, Trichomanes, and other filmies; a number of hardy species of Ferns, and forms of them in much diversity.

A very good collection is staged by Mr. H. B. May, Dyson's Lane Nursery, Upper Edmonton, including the very fine Asplenium marginatum. This perhaps is the most handsome of the Aspleniums, its bold fronds are about 2 feet long, and the frondlets some 3 inches wide at base, and about 6 inches long. Also a beautiful plant of Cibotium regale and Leucostegia immersa. Particularly interesting and attractive are the many varieties of Athyriums. Altogether the group was a large one, and an interesting one.

The Orchids.

These plants arranged on a wide table occupy the whole of the 100 feet long broad staging running down the middle of the great marquee, and also the whole of one side of a similar staging in another large tent, as well as appearing in some of the miscellaneous groups arranged round the sides; as for example, that set up by Messrs John Laing & Son of Forest Hill. By general accord the first honours were fixed on the groups set up by Baron Sir H. Schroder, The Dell, Egham (gr. Mr. H. Ballantine), and Sir Trevor Lawrence, Bart., Burford, Dorking, the President of the Society (grower, Mr. W. H. White). Where every individual specimen is extraordinary it is impossible to report on such extensive and varied collections as those set up by both the gentlemen named, but in passing we noted a few of the more extraordinary features. In Baron Schroder's group, at one end, a magnificent specimen of Cœlogyne Dayana, standing on a pedestal in order to properly display its six and twenty or so long drooping racemes, was a wonderful object, and it was awarded a Silver Banksian Medal, together with a Cultural Certificate to the grower. In the body of the group, the spotted varieties of Odontoglossum crispum were superb, specially beautiful being O. c. apiatum, O. c. Sanderianum, and O. c. xanthotes, a pure white form with clear yellow spotting on the lip. Forms of O. Pescatorei, and other Odontoglossums, were in profusion, the most beautiful being O. P. leucoglossum, and the several grand varieties of O. excellens, O. elegans,

O. aspersum superbum. Rare forms of Miltonia vexillaria, too, were prominent, two very distinct ones being M. radiata, a large flower with a lilac hue and crimson lines radiating on the labellum, and a very handsome variety with pink segments and pure white lip. Glancing along the back of the group we noted noble specimens of Sobralia macrantha Kienastiana, a snow-white flower; Cattleya Skinneri, of great size; Vanda teres, Cypripedium caudatum; noble plants of Cattleya Warscewiczii, C. Schroderæ, C. S. alba, Lælia purpurata, and other handsome kinds, while throughout the whole the brilliant flowers of the Masdevallias gave very effective colouring. Of the smaller-growing species we noted Odontoglossum Oerstedii, Epidendrum Randii, Zygopetalum xanthinum, Masdevallia Courtauldiana ×, M. Gairiana ×, M. Wagneri, Dendrobium Falconeri giganteum, and Cypripedium Morganiæ Burfordiana. In the equally important group belonging to Sir Trevor Lawrence, Bart., the Vandas and other tall plants in the background were telling objects, and were cleverly worked up to in the body of the arrangement. One of the most elegant of the tall plants was Epidendrum O'Brienianum, some seven feet in height, and with numerous trusses of cherry-red flowers. Beside it were fine specimens of Phaius Sanderianus, Sobralia macrantha, some grand forms of Lælia purpurata, a noble specimen of Oncidium ampliatum majus, Vanda teres, and grand Cattleyas of all the showy specimens to be had in flower at this season. In this group too, the brilliant Masdevallias were attractive features, the large dark scarlet with yellow eye, M. Harryana luteo-oculata being one of the showiest, though M. Mundyana×, M. Veitchii, and M. Chelsoni were very fine. Among the forms of Miltonia vexillaria, the pure white M. V. "Fairy Queen," was a great beauty; among the larger flowered Cattleyas the large white C. labiata Wagneri with fine flowers—a grand object; and from a bewildering quantity of remarkable plants we noted a fine Anguloa Ruckeri sanguinea, the very singular Luisia volucris, Odontoglossum excellens, Cochlioda Noezliana, Dendrobium polyphlebium, Nanodes Medusæ, Dendrobium Parishii albens, Cypripedium Rothschildianum with six flowers, Odontoglossum excellens, Baroness Schroder, &c.

Next in importance comes the great display contributed by Messrs. F. Sander & Co., St. Albans, which is as rich in showy well-known species as in novelties. Among the latter are Cattleya Mendeli alba, a nice white form; Cattleya O'Brieniana splendens, with darker rose-tinted flowers than the type; Cattleya Mossiæ Fairy Queen, a most beautiful form; Miltonia vexillaria Princess May, a splendid light form (Award of Merit); M. v. Leopoldi, G. D. Owen's var., in which the heavy marks at the base of the lip are of a rich maroon; M. v. H. E. Milner, and M. v. Beauty, both distinct; Cattleya Wellsiana (C. superba × Lælia elegans ?), Odontoglossum triumphans auricomus, and O. Wattianum, Hardy's variety, a singular Odontoglossum, somewhat between O. luteo-purpureum and O. Harryanum (Award of Merit). In the body of their group Messrs. Sander had fine masses of Epidendrum vitellinum majus, Cymbidium Lowianum, Phaius Sanderianus, Epidendrum prismato-carpum, Lælia purpurata, L. p. nobilis, to which an Award of Merit was given being grand and fine examples of all the showy Odontoglossums.

C. J. Lucas, Esq., Warnham Court, Horsham (gr., Mr. Duncan), stages an extensive and interesting group, comprising many rare and curious species; here Schomburgkia tibicinis, Grammatophyllum Fenzlianum, Cyrtopodium Andersoni, Lycaste candida Lawrenceana, Broughtonia sanguinea, Aërides japonicum, Epidendrum Clæsianum (? Schomburgkii) Lycaste cruenta, Cattleya Forbesii, Ornithocephalus grandifolius, Bulbophyllium Lobbii Warnham Court var. Cœlogne asperata, Cattleya Schilleriana, Masdevallia Rœzlii rubra, and Oncidium phymatocheilum may be taken as examples of the beautiful and interesting specimens, while the Cattleyas, Lælias, &c., and especially the grand dark-flowered Lælia purpurata, Warnham Court variety, represented the showy favourites.

Messrs. B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, N. stage a very effective group, in which were a splendid specimen of Cattleya Lawrenceana with about forty flowers; grand specimens of Cymbidium Lowianum, Dendrobium thyrsiflorum, Cattleyas, Lælias, &c. Many interesting species are in this group, among which we noted the large blue Bollea (Zygopetalum) Patricii, the singular green and chocolate Aërides difforme, the neat little Promenæa microptera, and the soft yellow and white Geodorum candidum.

Messrs. Hugh Low & Co., Clapton, set up an extensive arrangement, in which the quantity and variety of the forms of Cattleya Mossiæ was remarkable. Among them are a very good example of C. M. Reineckiana, and a grandly-coloured form, with fine expansion of the labellum, named C. M. Princess May. A charming light Cattleya Mendelii nearly white, and a large rich ruby-lipped C. Mendelii too were good; the groups of Cypripedium bellatulum very effective, the Phalænopsis telling, and Cypripedium Volunteanum giganteum, a massive form far and away the best of its class.

At the other end of the great stage Mr. Jas. Cypher, Queen's Road, Cheltenham, stages with his usual skill fine Orchids grown and flowered well, as all the exhibits of this firm always are. The forms of Lælia purpurata were many and fine, especially L. p. atropurpurea and L. p. Niobe, to both of which Awards of Merit were made; L. p. Duchess, L. p. splendens, and L. p. Russelliana, Epidendrum O'Brienianum, Phalænopsis speciosa, Dendrobium moschatum, and the varieties of Miltonia vexillaria were also remarkably fine.

In No. 2 Tent, F. Wigan, Esq., Clare Lawn, East Sheen (grower Mr. Young), stages a very neat and effective group of showy Orchids, together with some rare species. Among them are Lælia Digbyana, an Odontoglossum citrosmum, with spotted petals, and of a bright rose colour; Aërides Houllettianum, some good Phalænopsis, Cypripediums, &c.

Messrs. W. L. Lewis & Co., Southgate, London, N., exhibit a good and well-arranged collection of Orchids, including some rare and valuable kinds, among which we noted the handsome Cypripedium Evenor × (Argus × bellatulum); Brassia Lewisii, n. sp., with narrow and elegantly-arranged sepals; Odontoglossum polyxanthum Lewisii, very richly spotted; a form of Cattleya citrina, with the labellum almost wholly orange coloured; Epidendrum raniferum, some fine Lælia purpurata, Cattleyas, &c.

Messrs. Pitcher & Manda, The United States Nurseries, Swanley, Kent, arrange a very effective group, the foliage plants, part of which was in a great measure composed of specimen Sarracenias, among which the Lælias, Cattleyas, Dendrobiums, Miltonia vexillaria, &c., appeared very effectively.

Messrs. Charlesworth, Shuttleworth & Co., Heaton, Bradford, show a fine group of Orchids, in which their strain of Oncidium macranthum was conspicuous. The many plants of Lælia tenebrosa, L. purpurata, Cattleya Warscewiczii, and other Cattleyas, among which was the pure white C. intermedia alba; their grand Odontoglossum Wilckeanum nobilius, Gongora Charlesworthii, and the richly-coloured Cattleya Warneri formosa, which received an Award of Merit, were very effective.

Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr., Mr. Murray), shows Cattleya × William Murray (Mendelii ♀, Lawrenceana ♂), a decided acquisition, with the rich colours of C. Lawrenceana, but which on getting strength, will have much finer flowers (First-class Certificate).

His Grace the Duke of Northumberland, Sion House, Brentford (gr., Mr. G. Wythes), has a pretty arrangement of showy Orchids, in which were Cattleyas, Lælias, Vanda teres, Cypripediums, Odontoglossum hastilabium, O. cordatum, &c.

H. Bass, Esq., Byrkley, Burton-on-Trent (gr., Mr. J. Hamilton), shows eight fine plants of Cattleya Mossiæ, each with from twenty to fifty flowers.

Messrs. Heath & Co., Cheltenham, display some forms of Lælia purpurata, a plant of a seedling Lælio-Cattleya (C. Mossiæ × L. purpurata), and Cattleya Mossiæ Hardyana.

Charles Ingram, Esq., Elstead House, Godalming (gr., Mr. J. W. Bond) again shows his beautiful Lælio-Cattleya Ingramii × already Certificated, and which now appeared with the labellum of a rich maroon.

De B. Crawshay, Esq., shows Odontoglossum crispum "Princess May" a noble white form named by consent of the lady herself.

Thos. Statter, Esq., Stand Hall, Whitefield, Manchester, shows Cattleya Mendelii superbiens a grand form with white sepals and petals and rich magenta crimson lip. Reginald Young, Esq., Sefton Park, Liverpool, exhibits a spike of Cattleya Mendelii Youngiana, with medium size flowers, the petals flushed at the tip with lilac.

Henry Shaw, Esq., Ashton-under-Lyne, also exhibit a good form of Cattleya Mendeli.

Begonias.—The brilliancy of the exhibition is considerably enhanced by the groups of tuberous Begonias. Messrs. J. Laing & Sons, Stanstead Park Nursery, Forest Hill, have a very large collection of superb double and single varieties, with an appropriate back-ground of foliage; the plants intermingled with Ferns, &c. Among them are such new varieties as Mrs. Regnart, deep yellow, very fine (Award of Merit); Lady Brooke, soft salmon-pink, very fine (Award of Merit); Lord Brooke, rich crimson (Award of Merit); and Baron Schroder, orange and pink (Award of Merit), all double. On the opposite side of the tent Messrs. H. Cannell & Sons, Nurserymen, have a large bank also, with foliage behind and intermingled: Lord Llangattock, bright crimson, a noble double variety, rich deep colours alternating with soft shades of blush-pink salmon, &c. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, has a good collection also, characterised by fine quality, including Bexley Gem, double rose, very fine; and elegans, a small-flowered double variety, orange-salmon, with white centre, both receiving an Award of Merit. Mr. G. A. Farini, Dartmouth Lodge, Forest Hill, has a small collection of single and double varieties intermingled with Ferns.

Calceolarias.—Owing to the early season but one collection is forthcoming from Messrs. James Carter & Co., seed merchants, Holborn, a remarkably good strain, though showing the effects of the heat.

Carnations are represented by some good plants, of the Malmaison type, from Mr. H. J. Jones, Ryecroft Nursery, Lewisham. Mr. C. Turner, Royal Nursery, Slough, has a basket of the yellow-self, Germania in very fine condition, and a collection of new varieties of the Madame Warocqué type is sent by Mr. C. Blick, gr. to Martin R. Smith, Esq., Hayes Common, Kent, such as The Churchwarden, bright reddish-crimson (Award of Merit); Sir Evelyn Wood, Sir C. Fremantle, and Lady Strathmore, all promising, and which will no doubt be seen more fully developed.

Gloxinias are remarkably good and seen in their best character. Messrs. James Veitch & Sons, Exotic Nurseries, Chelsea, have a group of their well known strain, among them some high coloured and spotted varieties. Messrs. H. Cannell & Sons have a very fine collection, among them plants bearing over thirty flowers, growing in pans only 4 inches in depth and small in size. Messrs. Sutton & Sons, Seed Merchants, Reading, have a collection of 50 plants, remarkable for their vigorous growth and superb quality: it was curious to notice that the large leaves of some were of an olive colour, varied with white. Flowers with broad margins of white were conspicuous in this group. Quite a new break was seen in Netted Queen, having a dark ring round a white throat, the lobes pink, netted with white, very distinct (Award of Merit). Messrs. J. Peed & Son, Roupell Park Nurseries, S.W., have a collection of small plants. Messrs. Carter & Co. show a good group also, one named Eclipse being very bright in colour.

Petunias, double and single, finely developed plants in pots of excellent strains, come from Messrs. James Carter & Co., and they also have a group of Mimulus of their prize strain, small plants bearing large and striking flowers.

Pelargoniums.—A very effective group of decorative Pelargoniums is staged by Mr. H. J. Jones, who appears to be taking a good position as a cultivator of these plants. Mr. Jones also has several baskets of his new Ivy-leaf Ryecroft Surprise, which has fine trusses of salmon-rose flowers, and it is very free. Messrs. H. Cannell & Sons have a collection of Raspail Improved, a double zonal of a deeper colour than the well-known double under this name.

Roses.—A number of specimens in bloom form part of a large collection set up by Messrs. Paul & Son, Old Nurseries, Cheshunt, and with them are grouped Cannas and Rhododendrons. Mr. W. Rumsey, Joyning's Nursery, Waltham Cross, also has a group of plants, and arranged with them several boxes of cut bloom.

Hardy Herbaceous, Bulbous, Alpine Plants and Cut Flowers.

Were a decided feature in the show, shorn of which it would have lost a vast amount of colour-display. A large number of these were placed upon the ground instead of tables—a considerable improvement without a doubt. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, showed a grand bank of plants and cut bloom, comprising of Liliums, L. longiflorum Harrisi, L. davuricum erectum, and L. auratum, all in fine form. Irids of sorts were also in good condition, chiefly varieties of I. Germanica, Anthericum Liliastrum major being well represented. Spiræas included S. palmata and S. p. alba, a beautiful form, much better than it is usually seen, and S. astilboides. Pyrethrums

were in strong force, including the best of the simple and double varieties; Pyrethrum Sherlocki is an excellent rosy purple flower. Of other things note should be made of Dianthus ornatus, a dwarf species with small dark crimson flowers; Saxifraga lantoscana superba, a dwarf white var.; Inula glandulosa, Heuchera sanguinea, a panful of Cochlearia, some fine bunches of Aquilegia chrysantha and Aster alpinus, a dwarf species, which were all in excellent condition.

Messrs. Paul & Son also had a beautiful group adjoining the former, here was to be seen Veronica rupestris (extra), Dianthus annulatus, Pæonia Ed. Audry, deep crimson, semi-double flowers with prominent yellow stamens prominent amongst the petals—very distinct; Aster alpinus albus, Delphinium nudicaule, Iris orientalis, Hemerocallis flava; single and double Pyrethrums, including P. Hamlet, a beautiful thing; Ajuga Brockbankii, forming a dense mass of blue flowers; Inula Hookeri, Cerastium Biossieri, Campanula glomerata dahurica, and several choice kinds of Pæonies P. Whitleyi (single pure white) and several double varieties; Smilacina bifolia, a dwarf plant with white flowers, and other good things were shown here.

Messrs. W. Cutbush & Son had a large bank of cut bloom, embracing Aquilegias, Poppies, Pyrethrums, Heuchera sanguinea, Delphiniums, a large variety of Sparaxis, German and other Iris, early forms of Pinks, and Erigeron philadelphicus.

Messrs. Harkness, Bedale, Yorkshire, showed chiefly Pyrethrums in the best varieties of the singles; note should be taken of Vivid, Mrs. Harold Barnett, Crimson and Gold, and Minnie; of the doubles, Haage and Schmidt, Ne Plus Ultra, and La Vestale were the best. Aquilegias, as A. glandulosa, Heuchera sanguinea, and Erigeron aurantiacus being the best.

Messrs. W. Balchin & Sons, Hassocks, staged their fine seedling single Pyrethrum Jubilee, deep crimson, and very free.

Messrs. Barr & Sons had an immense display, embracing almost everything in flower out-of-doors, in this section: late English Tulips, in good variety; numbers of German and Spanish Iris, of single and double Pyrethrums, Hemerocallis Middendorfiana, H. flava, and others; Poppies, from P. orientale to P. nudicaule; Pæonies, Delphinium nudicaule; including also species of Iris, as I. Susiana and I. spuria, W. Tait; Ixia viridifolia, Sunbeam, and Hamlet; Delphinium nudicaule; Cistus florentinus, dwarf, with flowers of saucer shape, white, and brown flower-buds, and very pretty; Lilium pyrenaicum; and Hieracium villosum was remarkable for its silky foliage and very large yellow flowers.

Messrs. E. D. Shuttleworth had another collection in smaller bunches, but good varieties of things in season, including hardy Rhododendrons, Iris orientalis, Phlox ovata, early Delphiniums, &c., relieved here and there with dwarf shrubs, and edged with Pansies.

Messrs. J. Laing & Son, Stanstead Park Nurseries, Forest Hill, S.E., staged a good group. Here were to be seen Aubrietia deltoidea lilacina, double turban Ranunculus, Saxifraga sarmentosa variegata, Trollius Loddigesii, early Gladioli, Campanula persicifolia, Hyacinthus comosus, show and fancy Pansies, Iris in variety, Armeria maritima rosea and A. m. alba, numerous single-flowered Pæonies, and other good things.

Mr. Prichard, nurseryman, Christchurch, Hants, had a choice and fine exhibit, which comprised Cytisus Andreanus, Carduus heterophyllus, Thalictrum aquilegifolium roseum, Delphinium nudicaule, Heuchera sanguinea in large masses, Achillea mongolica, Dianthus cruentus, D. annulatus, Orchis foliosa, Eremurus robusta, pale pink flowers; the white form of Dictamnus fraxinella, Saponaria ocymoides var. splendens, excellent for spring and early summers beds; Aquilegia in large variety, and other excellent things from this early locality. Messrs. J. Cheal & Son showed a large collection of bedding Violas in the best kinds, and in good condition, having regard to the warm weather of late, with other good things, such as Early Sweet Williams, Poppies, Iris, Delphiniums, Geum coccineum, and Dwarf Tom Thumb Dahlias, just coming into bloom.

Messrs. Collins Bros., Hampton and Waterloo Road, had a fine group of German Iris in great diversity of colour, and in fresh condition, each kind in large masses.

Messrs. C. G. Van Tubergen, Jr., had fine blooms of Iris Susiana, I. Boissieri, of splendid soft dark tints: I. Lorteti, extra fine in each case; Brodiæe Howelii, Calochortus amœnus, C. Leichtlini.

Mr. Thomas Ware showed the new pale-yellow Carnation Pride of Great Britain, already noted in the previous shows, and in the columns of the *Gardeners' Chronicle*.

Messrs. Kelway & Son staged an enormous quantity of the specialties for which they are well known, as Gaillardias, Pansies, Pyrethrums, including of these latter some splendid varieties, as James Kelway, a dark crimson, single; and Carl Vogt, fine double white. Delphiniums were also strongly represented, the spikes very fine for so early in the season. German Iris and Amaryllis were also shown here in fine form and in great numbers.

Messrs. J. Cocker, Aberdeen, had a grand display of Violas and Pansies, in large variety and fine condition, with these were also numbers of early flowers already out in the extreme north, as Erigeron alpinus, Centaurea montana rosea, Trollius in variety, Heuchera sanguinea, &c.

Messrs. J. Backhouse & Son, York, showed a choice lot of plants from their well-known collection of hardy flowers, including the hardy Lady's slippers C. acaule and Cypripedium calceolus; Veronica verbenacea, Aster alpinus albus, and numerous dwarf Alpines in large variety, such as Saxifraga lantoscana, MacNabiana, Edraianthus, &c.

Amongst the stores, which were represented on the natural rock, were such plants as Geranium argentium, Cytisus decumbens, several Saxifragas Pentstemon glabra, Veronica verbenacea. Phloxes in varieties in pots, were several varieties of Gleichenia Ferns, and the Cytisus scoparius Andreanus, Primula Sikkimensis, &c.

From Mr. G. Yeld, Clifton Cottage, York, came Hemerocalles flava × H. fulva, deep yellow (Award of Merit); also H. Middendorffi and H. graminea, all from the same cross.

From Mr. J. C. Tasker, Brentwood, came two boxes of Cannas, of fine varieties.

Roses.—Messrs. George Cooling & Sons, nurserymen, Bath, have several boxes of bunches of garden Roses, prominent being the yellow Austrian Brier, the Persian yellow; Blairii No. 2, delightful in bud; the crested Provence, &c. Mr. George Mount, nurseryman, Canterbury, had eight bunches of cut blooms, hybrid perpetuals and Teas, in excellent condition. Mr. Frank Cant had five boxes of cut blooms, one of Maréchal Niel being very fine. Lord Penzance, Eashing Park, Godalming, had a collection of his new hybrid Sweet Briers to one of which, named Amy Robsart, clear soft pink, an Award of Merit was made. In addition there were Lady Penzance, orange-pink; Lord Penzance, sulphur and blush; Meg Merrilees, bright crimson; and Anne of Gerolstein, rose; and in addition, blooms of a large number of new crosses.

Pansies and Violas.—Messrs. Dobbie & Son, Nurserymen, Rothesay, has a remarkable collection of Violas in bunches tastefully set up, also in pots; and cut blooms of fine fancy Pansies. Messrs. J. Cocker & Sons, Nurserymen, Aberdeen, a large collection of Violas; Mr. A Smith, Prospect House, High Wycombe, showed fancy Pansies; and Messrs. J. Cheal & Sons, Crawley, Violas in bunches.

Another exhibit of the same kind was that from the Guildford Hardy Plant Company, Mill Mead Nursery, Guildford, but the plants in this case were more strictly alpine, the larger herbaceous section being but little represented. Particularly noticeable were Saxifraga Macnabiana, Aubrietias, Japonaria splendidissima, Dictamnus fraxinella, Anthericum Liliastrum major, Heuchera sanguineana splendens, Cypripedium spectabile, &c.

Pelargoniums.—Messrs. H. Cannell & Sons had stands of 24 bunches of double and the same of Single Zonal Pelargoniums, all very fine. A fine selection of half a dozen doubles will be found in F. R. Raspail, Gloire de France, Pallas, Silver Queen, Wonderful, and Baron de H. Didier. A similar selection of Singles in Mrs. H. S. Barker, Dante, Lady Chesterfield, Queen of Whites, Edith Little, and King of Purples.

Fruit.

The date of this exhibition is too early to enable a very large display of fruit to be got together, but the exceptional character of the season was seen in the very fine Melons exhibited, as well as in some of the other varieties of fruits.

Messrs. T. Rivers & Sons, Sawbridgeworth, have a group of Nectarine trees in pots at the end of the fruit tent; the variety is Early Rivers, and the trees—about two dozen—were in 10 and 12-inch pots, and some bearing as many as twenty fruits, of good size and colour, and the greater part of them ripe. The trees are arranged thinly, and each is therefore seen to the best advantage, causing much attraction and admiration. A box in front of the trees is packed with two dozen of the large fruits.

Lord Foley, Ruxley Lodge, Esher, gr., J. Miller, has a fine collection, including a large basket of Apple Norfolk Beafin, which have kept very well; two good dishes of Strawberries from the forcing-house, Bicton Pine, and Sir Joseph Paxton, and a dish of Laxton's Noble from the open beds; a half-dozen fruits of Melon Ruxley Lodge, two dishes of Cherries, and a fine dish of Figs Bourjasotte Grise.

A fine lot of large heavy fruits of Conqueror, Sutton's Hero of Lockinge Melons, and Sutton's Empress, a variety that is still amongst the foremost in point of flavour, are all represented. Also a seedling named Duke of York, from a cross between Imperial Green and Empress. Messrs. Dickson & Co., Chester, sent five fruits of a seedling Melon called Whitfield Seedling. These were fine fruits, and well netted, but were much over-ripe. The seedling appeared to be a good one.

Mr. Jno. McKinley, The Gardens, Belmont House, East Barnet, had twelve Melons, without name. The variety might be a good one, but the fruits would not be ripe for another fortnight.

Dr. Frankland, The Yews, Reigate Hill, Surrey (gr., Mr. C. Ritchings), had two fruits of Melon Ritching's Perfection, a variety which had been given an Award of Merit by the Society last year.

A very large collection of well-grown Melons came from Mr. S. Mortimer, Swiss Nursery, Farnham, consisting of fifty fruits. This was a truly remarkabe exhibit for the present date, the fruits being equal to what are expected in July. Perfection has flesh of very deep green, and the netting so marked that the fruit is extremely handsome; another is a seedling obtained from Ritching's Perfection × Colston Bassett. The flesh is deep scarlet—a pretty fruit, and distinctly netted. The flavour is good, but the fruit was a week past its best, and no award was made. Reigate Gem was another seedling from the same exhibitor.

Mr. N. Molyneux, Rooksbury Park, Fareham, Hants, had a seedling Melon, obtained from Hero of Lockinge × Scarlet Gem, and called Rooksbury Park Perfection. It partakes of the appearance of Hero of Lockinge, but was rather longer in shape.

From Mr. J. McIndoe, Hutton Hall Gardens, Guisborough, came four fruits of Melon Best of All, very pretty specimens; also some dishes of Lord Napier Nectarine, and Peaches, Bellegarde, Condor, and Grosse Mignonne.

Mr. Geo. Featherley, The Vineries, Gillingham, Kent, had a collection of fruit, including very fine ripe Grapes, Black Hamburghs, equally good Muscat of Alexandria, but these latter were not ripe; a few Peaches, some excellent Cucumbers (Carter's Model), a basket of Tomatos (Austen's Eclipse), and a basket of French Beans.

A collection of Apples were from Messrs. Jas. Veitch & Sons, Chelsea, and seeing the extraordinary hot spring we have had, it may be interesting to enumerate the varieties still in good keeping order. These were Baldwin, Prince Arthur, North End Pippin, Alfriston, Sturmer Pippin, Barnack Beauty, yellow Newtown Pippin, Winter Pearmain, Dumelow's Seedling, Seaton House, Baumann's Red Reinette, Balchin's Pearmain, Rhode Island Greening, Beauty of Stoke, King of Tompkin's County, Farleigh Pippin, Gloria Mundi, Claygate Pearmain, Graham's Apple, Calville du Roi, Winter Colman, Lamb Abbey Pearmain, Striped Beaufin, D'Eclat, and Buckingham.

The Duke of Northumberland, Syon House, Brentford, gr., Mr. Geo. Wythes, had a very good box of Brown Turkey Figs, and a box of first-rate Lord Napier Nectarines.

E. Dresden, Esq., Livermere Park, Bury St. Edmunds (gr., Mr. J. C. Tallack, staged six large dishes of Brown Turkey Figs. We have never seen better samples of these staged. Mr. Tallack informed us that on Wednesday he took from one tree upwards of twenty-three dozen of such fruits, and the tree, which grows on the roof of a house partially filled with vines, is more than thirty years old.

Vegetables.

These, unfortunately, were only in moderate evidence. Good vegetable exhibits come only from private gardeners, or from the market growers and salesmen, but these classes were entirely unrepresented in this division. This is much to be regretted, as at this season of the year good vegetables, such as Asparagus, Peas, Cauliflowers, Mushrooms, Radishes, Cabbages, &c., would prove to be very attractive exhibits. Doubtless, the stimulus of prizes, so

entiful in other directions, is needed in this case, gardeners, unlike traders, have nothing to gain by vertisements. One of the best exhibits, consisting of merous boxes of Cucumbers, Tomatos, and Melons, me from Mr. H. Mortimer, Swiss Nursery, Farnham, d well merited the Silver Banksian Medal awarded. he Melons will be referred to under the fruit head- g. With respect to the Cucumbers, the fruits were own in half-dozens in neat flat boxes, and these ere really beautiful examples in all cases of the spective sorts. Success, a very handsome long reen fruit, partially spined, certificated last year, fine colour, and one of the best yet sent out; rincess May, a seedling from Improved Telegraph × ockie's Perfection, about 15 inches in length, very rolific, and the colour of the latter parent—should make capital market variety; Prince George, from Match- ss × Telegraph, a finer and longer fruit, deep green n colour, short of handle, and reported an abundant earer; this much excels the ordinary Telegraph in very way. The Tomatos gave rich colouring that as very welcome. These too, whether shown in lusters, as with some varieties, or as picked fruits, ere also put into shallow boxes, presenting some- hing to look at, and much more attractive than are alf-dozen fruits in plates. Of these, singularly hand- ome were Sutton's and Jones' Perfection, appa- ently alike, fruits of fair size, rich colour, and very mooth and handsome. Sharpe's Plentiful is also a mooth-fruited variety, but smaller. Shown both n clusters and as picked fruits were Sutton's Earliest f All, fruits slightly sutured and flattish, but bundantly produced, and the very best early ariety for outdoor work; clusters of from ine to ten fruits, weighing 2 lb., evidenced the productiveness of the soil. Sutton's Magnum Bonum, larger fruited and rather smoother is a first-rate successional variety for outdoor culture. Sutton's Main Crop and Conqueror made up the collection. From Mr. G. Featherly, the Nurseries, Gillingham, Kent, came handsome but over-large samples of Carter's Model Cucumber, smooth and of excellent colour; also a large basket of Ne Plus Ultra French Beans, a capital sample as sent to market; also a basket of smallish but handsome Tomatos, named Austen's Eclipse, not unlike the fruits of Conference. To this collection, a small Silver Medal was awarded.

Mr. Hope, of Middleton Park Gardens, showed twin Cucumbers, a somewhat common phenomena, though, perhaps, a novelty to many visitors. It is an odd but not a desirable conjunction.

Mr. J. Walker, nurseryman, Thame, showed a basket of Potatos Sharpe's Victor, tubers of good size, flattish, long, and handsome, evidencing its well-known early qualities; also capital samples of Cucumber Lockie's Perfection, smooth, green, and handsome; Ne Plus Ultra, like a good Telegraph, and Rollisson's Telegraph, an inferior sample. Mr. Osman, of the South London District Schools, Sutton, exhibited a dozen sticks, some 20 inches long, of that Giant Rhubarb, Stott's Monarch. It was, however, thought to be too coarse to be desirable.

Table Decorations.—These include a number of bouquets, wreaths, sprays, button-holes, &c., from Messrs. Perkins & Sons, Coventry, in their usual admirable style; illustrations of Arcadian decorations from Mr. J. R. Chard, Stoke Newington, arranged mainly with Iceland Poppies and yellow Iris; a bouquet and sprays composed of white Orchids from Mrs. Thewles, New Street Station, Birmingham; and a collection of Skeleton leaves, seed-pods, &c., from Mrs. Hodgkins, Didsbury, Manchester.

Official List of Awards.

FLORAL COMMITTEE.

First-class Certificates.

To Primula Reidi, from G. F. Wilson, Heatherbank, Weybridge.

To Asplenium marginatum, from H. B. May, Upper Edmonton.

To Alocasia Sanderiana nobilis, from Messrs. F. Sander & Co., St. Albans.

To Anthurium crystallinum fol. var., from Messrs. Pitcher & Manda, Hextable.

Awards of Merit.

To Hemerocallis Apricot, from Mr. G. Yelds, Clifton Cottage, Yorks.

To Carnation Mrs. Seymour Bouverie, from Mr. C. Blick, The Warren, Beckenham.

To Anthurium Pariente, from Sir Trevor Lawrence, Burford.

To Cineraria maritima aureo-variegata, from Mr. H. B. May, Upper Edmonton.

To Rhododendron Ariel, from Messrs. J. Veitch & Sons, Chelsea.

To Gloxinia Netted Queen, from Messrs. Sutton & Sons, Reading.

To Begonia Baron Schroder, from Messrs. J. Laing & Son, Forest Hill.

To Begonia Lady Brooke, from Messrs. J. Laing & Son, Forest Hill.

To Begonia Mrs. Regnart, from Messrs. J. Laing & Son, Forest Hill.

To Begonia Lord Brooke, from Messrs. J. Laing & Son, Forest Hill.

To Caladium Ibis Rouge, from Messrs. J. Laing & Son, Forest Hill.

To Caladium Mrs. H. Veitch, from Messrs. J. Laing & Son, Forest Hill.

To Croton Thomsoni, from Messrs. J. Laing & Son, Forest Hill.

To Begonia Lord Llangattock, from Messrs. Cannell & Sons, Swanley, Kent.

To Rose Carmine Pillar, from Messrs. Paul & Son, Cheshunt.

To Begonia Bexley Gem, from Mr. T. S. Ware, Tottenham.

To Begonia elegans, from Mr. T. S. Ware, Tottenham.

To Athyrium Ffsetigerum, from Messrs. W. & J. Birkenhead, Manchester.

To Davallia fijiensis elegans, from Messrs. W. & J. Birkenhead, Manchester.

To Nothochlœna mollis, from Messrs. W. & J. Birkenhead, Manchester.

To Dracæna Lord Wolseley, from Messrs. B. S. Williams & Son, Holloway.

To Amaryllis Lord Roberts, from Messrs. B. S. Williams & Son, Holloway.

To Delphinium John Thorpe, from Messrs. Kelway & Sons, Langport.

To Valotta purpurea var. delicata, from Messrs. R. Veitch & Sons, Exeter.

To Carnation The Churchwarden, from Mr. C. Blick, Beckenham.

To Rose Amy Robsart, from Messrs. Keynes, Williams & Co., Salisbury.

To Polyanthus Queen Victoria, from Messrs. Crocker & Co., Aberdeen.

Orchid Committee.

First-class Certificates.

To Cœlogyne Dayana, from Baron Schroder, The Dell, Egham.

To Cattleya hybrida William Murray, from Norman Cookson, Esq., Wylam.

Awards of Merit.

To Miltonia vexillaria Princess May, from Messrs. F. Sander & Co., St. Albans.

To Odontoglossum Waltianum Hardy's var., from Messrs. F. Sander & Co., St. Albans.

To Lælia purpurata nobilis, from Messrs. F. Sander & Co., St. Albans.

To Lælia purpurata purpurea, from Messrs. J. Cypher, Cheltenham.

To Lælia purpurata Niobe, from Messrs. J. Cypher, Cheltenham.

To Cattleya Warneri formosa, from Messrs. Charlesworth, Shuttleworth & Co., Bradford.

To Cypripedium Volonteanum giganteum, from Messrs. Hugh Low & Co., Clapton.

Botanical Certificate.

To Epidendrum Claesianum, from C. J. Lucas, Esq., Horsham.

MEDAL.

Silver Flora.

To Cœlogyne Dayana, from Baron Schroder, The Dell, Egham.

SILVER CUPS.

To Baron Schroder, for Orchids.
To Sir Trevor Lawrence, Bart., for Orchids.
To Messrs. F. Sander & Co., for Orchids.
To C. J. Lucas, Esq., for Orchids.
To Mr. J. Cypher, for Orchids.
To Messrs. J. Laing & Son, for Caladiums and Begonias, &c.
To Messrs. Cannell & Sons, for Begonias, &c.
To Messrs. Birkenhead, for Ferns.
To Messrs. J. Backhouse, for Alpines.
To Messrs. Barr & Son, for Hardy Flowers, Tulips, &c.
To Mr. H. B. May, for Ferns.
To Philip Crowley, Esq., for Foliage Plants.
To Messrs. Pitcher & Manda, for Orchids and Miscellaneous Plants.
To J. Warren, Esq., for Foliage Plants.
To Messrs. J. Veitch & Son, for Hardy Shrubs, Gloxinias, and Streptocarpus.
To Messrs. Rivers & Son, for Fruit Trees in Pots.
To Messrs. G. Paul & Son, for Roses.

SILVER GILT FLORA MEDAL.

To Messrs. J. Laing & Son, for Miscellaneous Hardy Flowers
To Messrs. Hugh Low & Co., for Orchids.
To Messrs. B. S. Williams & Sons, for Orchids and Greenhouse Plants.
To Messrs. Charlesworth, Shuttleworth & Co., for Orchids.
To Messrs. W. Rumsey, for Roses.
To the Right Hon. Lord Penzance, for Sweet Brier and Cut Roses.
To Messrs. Sutton & Sons, for Gloxinias.
To Messrs. Carter & Co., for Gloxinias, Calceolarias, and Mimus.
To Messrs. H. Low, for Ericas.
To Messrs. T. S. Ware, for Hardy Flowers.
To Messrs. Dobbie & Co., Pansies, &c.
To the Guildford Hardy Plant Co., for Alpines and Hardy Flowers.
To Messrs. Cutbush & Son, Miscellaneous Plants and Cut Flowers.
To Mr. M. Pritchard, for Hardy Flowers.
To Messrs. Paul & Son, for Hardy Flowers.
To Messrs. Harkness & Son, for Hardy Flowers.
To Messrs. Perkins & Son, for Bouquets.
To Messrs. Kelway & Son, for Hardy Flowers.
To Messrs. E. D. Shuttleworth & Co., for Foliage and Hardy Plants.
To Messrs. Peed & Son, for Gloxinias and Miscellaneous Plants.
To Mr. Charles Turner, for Carnations and New Roses.

SILVER FLORAL MEDAL.

To Messrs. Lewis & Co., for Orchids.
To His Grace the Duke of Northumberland, for Orchids.
To Mr. F. Cant, for Roses.
To Mr. H. J. Jones, for Pelargoniums.
To Messrs. C. J. Van Tubergen & Co., for Iris.
To Messrs. E. D. Shuttleworth & Co., for Hardy Cut Flowers.
To G. G. Farini, Esq., for Begonias.
To Messrs. Cutbush, for Hardy Flowers.

SILVER GILT KNIGHTIAN MEDAL.

To F. W. Wigan, Esq., for Orchids.
To Mr. George Featherby, for Fruit.
To Mr. S. Mortimer, for Fruit.

SILVER KNIGHTIAN MEDAL.

To Hamar Bass, Esq., for Orchids.

SILVER GILT BANKSIAN MEDAL.

To Mr. T. S. Ware, for Begonias.
To Mrs. Thewles, for Bouquets.

SILVER BANKSIAN MEDAL.

To His Grace the Duke of Northumberland, for Fruit.
To E. Dresden, Esq., for Fruit.
To Right Hon. Lord Foley, for Fruit.
To Messrs. Keynes, Williams & Co., for Roses.
To Mr. John Walker, for Pelargoniums.
To Messrs. Reed & Bornemann, for Miscellaneous Plants.
To Messrs. Cheal & Son, for Hardy Plants.
To Messrs. J. Cocker & Sons, for Pansies, &c.
To Mr. J. R. Chard, for Table Decorations.
To J. C. Tasker, Esq., for Cannas and Roses.
To — Bentley, Esq., for Tulips.
To Messrs. Collins & Gabriel, for Irises.

ORCHIDS AT EARLS COURT.

Amongst the attractions afforded the public last week on Thursday and Friday, May 18 and 19 was a show of Orchids, miscellaneous plants, cut flowers and fruit, but ostensibly Orchids were intended to be the chief exhibit.

Mr. H. James, Castle Nursery, West Norwood, showed a group of which Orchids formed a part, and these consisted of some Cypripediums, Lælea purpurata, Cymbidium Lowianum, &c. Mr. G. Wythes, Sion, Brentford, likewise showed a group of which Cattleyas Mossiæ and Mendelii figured, and further, Odontoglossums, Lælias, and Cymbidium Lowianum.

Some Orchid blooms came from Mr. Prewett, Hammersmith, and from Mr. Wythes, the first-named exhibitor showing a basket of blooms.

SCOTLAND.

CROSS-BRED RHODODENDRONS.

A GREAT feature of the meetings of the Scottish Horticultural Association in the early months of the year are the seedling Rhododendrons shown by Mr. Alexander Calder. This gentleman is an amateur, and like other famous amateurs in other branches of horticulture, who give their whole mind and attention to the object they have in view, succeed, where less ardent cultivators fail. The results which Mr. Calder has attained, and is attaining, are wonderful, when one considers that he has only one little greenhouse; but he makes up for this defect by a thorough knowledge of the different varieties, of their peculiarities and shades of colour. Mr. Calder grows many of the species for the purposes of cross-fertilisation, but makes frequent use of two fine Rhododendrons not widely known outside Scotland; a R. Edgworthii variety named R. Brucianum, and R. Lindsayi, a hybrid of Dalhousieianum. Three of his crosses have gained Certificates from the Association; they are Hiawatha (ciliatum × Princess Alice), bushy habit, bell-shaped flowers, of the shade of Countess of Haddington; Mrs. Calder (Veitchianum × Brucianum), frilled and scented like R. Veitchianum; Cuthillianum (same cross as Mrs. Calder), free-flowering, yellow on upper side, afterwards pure white. Other fine varieties which Mr. Calder has raised are Miss Carnegie, with white stamens and pistil; Miss Jessie Calder (Mrs. James Shaw × Brucianum), flowers much larger, and of greater substance than the parent, the petals fringed and tinted with pink; Blushing Beauty (Lady Skelmersdale × Brucianum), so named from a lovely shade of blush on the young flowers; and lastly, Minnehata, dwarf, and very early flowering, with a strong aromatic scent. It is a cross between Veitchianum and Lindsayi, the under leaf is greeny-white, like the parent, and the uppre side is veined and haired like Dalhousieianum. Mr. Calder has two fine specimens of R. Countess of Haddington and R. Veitchianum; the former had 300 trusses when in flower. It is very interesting to study the

young seedlings when they have grown to a size to indicate to which parent they are likely to revert to —one of the seedlings having the characteristics of both parents most distinctly.

Mr. Calder also makes a specialty of Auriculas, and many of his seedlings have been certificated at shows, and the meetings of the Association also in London. He has also got the Daffodil fever. He caught the infection from Mr. Cowan, of Penicuik. The varieties that seem to suit his soil best are Maximus, Bicolor, Marchioness of Westminster, Sensation, Mrs. Langtry, K. Spurrell, Duchess of Brabant, Barri conspicua, Figaro, and the Burbidgei vars. I noticed the delicate Iris cristata in flower. *C. A. M. C.*

Botanical Society of Edinburgh.

May 11.—The Society met at the Royal Botanic Garden, Dr. W. Craig, Vice-President in the chair. The Curator exhibited the following plants in flower from the Royal Botanic Garden :—Androsace arachnoidea, A. lactea, A. sarmentosa; Alyssum arachnoidea, Bellis perennis, two monstrous varieties; B. perennis, crimson variety; Dianthus alpinus, hybrid; D. microlepis, Daphne rupestris, D. striata, Helonias bullata, Houstonia cœrulea, Gentiana verna, Kernera saxatilis, Myosotis alpestris, Pinguicula vulgaris, Pentstemon Menziesii, Ranunculus auricomus (abnormal var.), Romanzoffia sitchensis, Saxifraga anceps, S. calyciflora, S. Launcestoni, S. McNabiana, S. mixta, S. odontophylla, S. virginiensis, S. Seguierii, Trifolium uniflorum, Erica chamissonis, Scilla Krauseii.

Dr. Stuart, of Chirnside, Berwickshire, sent cut flowers of a hybrid between Trollius europæus and T. americanus.

Mr. J. Campbell of Ledaig, Argyllshire, sent cut flowers of Wistaria sinensis, Deutzia gracilis, Cytisus fragrans, Spiræa hypericifolia, &c., from plants growing in the open air in his garden.

Dr. Wilson exhibited a hybrid between Passiflora cœrulea and P. Bonapartea, raised by himself. Mr. Dunn, gardener, Dalkeith Palace, exhibited branches of Apple, Pear, Plum, and Cherry trees, well set with fruit; also Hale's Early and Alexandra Peaches; New Large Early, Moorpark, Hemskirk, and other Apricots, with fruits quite half-grown; and Ecklinville, The Queen, Loddington, Stirling Castle, and several other varieties of Apples. He likewise showed fruits of Beurré d'Amanlis, Beurré Diel, Hessle, and Louise Bonne of Jersey Pears; Kirke's Early Transparent, and Jefferson Plums from a wall; as well as Victoria, Pond's Seedling, and Early Prolific Plums from standard trees; as well as Frogmore Early Bigarreau, Early Orleans, Early Lyons, and Bigarreau de Schrecken Cherries from the open wall; Whitesmith, Early Kent, and Industry Gooseberries; Red Dutch, White Dutch, and cut-leaved white Currants; John Ruskin, Noble, and other Strawberries.

Professor Bayley Balfour exhibited a number of models for class demonstration purposes, including a set illustrating the entire life history of Marchantia. A letter from the president, Mr. David Christison, referring to the extreme earliness of the season in some parts of England, was read to the Society.

The Curator read the following report on the temperature and vegetation at the Royal Botanic Garden for April :—

"The past month has been one of the most favourable on record. Seldom have there been so little frost and so much sunshine during April, the only drawback has been the want of rain. Vegetation generally has made very rapid progress. The foliage of deciduous trees and shrubs is remarkably luxuriant, notwithstanding the lack of moisture; fortunately, drying winds have been less frequent than usual. The flowering of ornamental trees and shrubs is considerably above the average, Apple, Pear, single and double Cherries, Currants, and Barberries being quite smothered with blossom.

"The thermometer was below the freezing point on four occasions, registering in all 12° of frost for the month, as against 72° for the corresponding month last year. The lowest readings occurred on the 4th, 31°; 10th, 27°; 12th, 27°; and 14th, 31°. The lowest day temperature was 44° on the 10th, and the highest, 68° on the 20th. The collective amount of frost registered this season up to the end of April is 517° as against 620° for the same period last year. The following is the distribution for each month :—October 44° of frost, November 41°, December 192°, January 100°, February 64°, March 64°, April 12°. The lowest point reached this season was 9° F., or 23° of frost, which occurred on January 6.

"On the rock garden 166 species and varieties came into flower during the month, as against 119 for April of last year."

Trees and Shrubs.

WEIGELAS (DIERVILLAS).

The Weigelas, or Diervillas, as they are also called, are very beautiful in Regent's Park, and judging by their comparative scarcity in town gardens, it does not appear to be known generally that they stand smoky atmospheres better than any other class of hardy shrubs. They are graceful, free, and easily grown, bloom profusely at this season, and flower more or less until the autumn. A bed of the variety Abel Carrière in the Royal Gardens, Kew, is a picture of flowers. The shrub is not more than 3 feet in height, and weighed down with bloom, the individual flowers large, and rich red in colour. It is a good way to plant the varieties thus, one kind in each bed, on the turf, as at Kew. There are many varieties of Weigela, and produced by crossing the species, W. amabilis and W. rosea in particular. The best white-flowered form is W. candida, which is a better grower than the more popular W. hortensis nivea. The Weigelas will grow to perfection in ordinary soil, but remove weakly shoots each year, to prevent the bushes becoming too crowded. *V.*

Obituary.

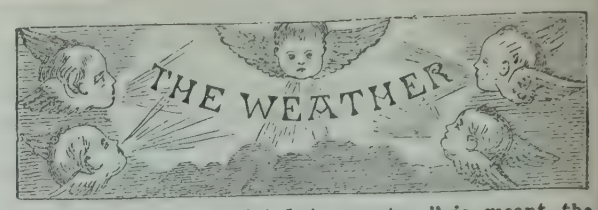
J. B. Webster.—At 100, West Graham Street, Glasgow, on the 16th inst., aged 74 years, John Blaikie Webster, late forester to Her Majesty, at Balmoral Castle, and for many years estate manager to Sir William Verner Churchill, Vernersbridge, Ireland. The late Mr. J. B. Webster will be remembered by our readers by his contributions on matters relating to forestry, which have regularly appeared in these columns for several years past. The articles dealt with almost everything connected with ornamental and forest planting, including the forest nursery, laying out of roads, the management of mountain and bog-lands previous to and subsequent to being planted, aud contained a mass of very useful information. The matter was always trustworthy, the result of his thorough acquaintance with his subject. We have in type, at the present moment, the last of these articles, which we shall shortly publish.

Enquiries.

"He that questioneth much shall learn much."—Bacon.

Passiflora Pfordti.—Will some reader kindly say what this is. It is not included in Dr. Masters' list of Passifloreæ in the "Journal of the Royal Horticultural Society." *X.*

Iris.—A correspondent writing under the *nom de plume* "Gaucho," would like to be informed of some species of Iris which could be grown for market to produce flowers at Christmas; how they should be treated, and if their cultivation would be remunerative.



[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees — a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending May 20.	Accumulated. Above 42°, for the Week.	Accumulated. Below 42°, for the Week.	Accumulated. Above 42°, difference from Mean since January 1, 1893.	Accumulated. Below 42°, difference from Mean since January 1, 1893.	Rainfall. More (+) or less (—) than Mean for the Week.	Rainfall. No. of Rainy Days since Jan. 1, 1893.	Rainfall. Total Fall since Jan. 1, 1893.	Bright Sun. Percentage of possible Duration for the Week.	Bright Sun. Percentage of possible Duration since Jan. 1, 1893.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	4 +	66	0	+ 223	— 52	2 —	87	16·1	22	26
1	4 +	69	0	+ 180	— 19	0 aver	70	7·9	19	32
2	4 +	76	0	+ 213	— 62	6 +	58	6·3	23	37
3	6 +	104	0	+ 289	— 36	0 aver	58	5·7	37	44
4	6 +	102	0	+ 336	— 45	10 +	59	6·7	21	42
5	6 +	112	0	+ 310	— 43	2 +	56	6·6	35	44
6	5 +	85	0	+ 256	— 62	8 +	73	13·2	16	34
7	6 +	99	0	+ 337	— 91	7 +	62	8·4	17	36
8	6 +	104	0	+ 366	— 70	8 +	59	10·5	25	46
9	6 +	97	0	+ 268	— 104	2 +	74	10·1	23	29
10	5 +	99	0	+ 303	— 99	6 +	65	11·2	30	35
*	4 +	105	0	+ 404	— 52	8 +	65	8·8	26	52

The districts indicated by number in the first column are the following :—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.: 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; * Channel Islands.

THE PAST WEEK.

The following summary record of the weather for the week ending May 20, is furnished from the Meteorological Office :—

"The *weather* during this period differed very materially from that experienced for many weeks past. Soon after the commencement of the week the sky became cloudy or overcast, and rain set in over the entire kingdom, with occasional thunder and lightning in most districts.

"The *temperature* continued above the mean, the excess ranging from 4° in the northern districts and in the Channel Islands, to 6° in most parts of England. The highest of the maxima, which were recorded either on the 14th or 15th, varied from 80° in England East, and 77° over Southern, Central, and South-western England, to 69° in Scotland north. The lowest of the minima (which were also registered during the earlier part of the week) ranged from 38° in 'Scotland, E.,' and 39° in 'Ireland, S.,' to 45° in 'England, S.W.,' and to 50° in the 'Channel Islands.

"The *rainfall* was rather less than the mean in 'Scotland, N.,' and just equal to it in 'Scotland, E. and England, E.;' in all other districts, however, the normal was exceeded, the excess in most cases being considerable. Over the south and south-east of England the fall was very unequally distributed; in some localities being heavy, and in others slight.

"The *bright sunshine* showed a very decided decrease on that reported of late, and was below the mean in all districts. The percentage of the possible duration ranged from 37° in 'England, E.,' and 35° in 'England, S.,' to 17° in 'England, N.W.,' and 16° in 'Scotland, W.'"

Notices to Correspondents.

*** Mr. Robert Cross, who did such excellent service as a collector of Cinchona, Rubber, &c., is requested to be so good as to furnish his present address.

Fungus on Pears: *P.* The shrub is Juniperus Sabina, the Savine. The fungus dried up is probably Gymnosporangium sabinæ. Most probably there is a connection between it and the fungus on your Pear leaves. Please send specimens of the latter.

Insects: *W. G.* Your Gooseberry pest is a small mite allied to red-spider, and perhaps a form of that creature. The usual remedies for red-spider would probably act beneficially. *R. McL.*

Insects on Fir-Shoots: *Oak-leaf.* The insects are Lachnus piceæ, a large species of aphid (greenfly). Spraying with paraffin emulsion would be effective, and could easily be applied, as the trees are not high. With the aphids were many examples of the larvæ of a Syrphus, their natural enemies. *R. McL.*

Journal of the Kew Guild: *Gardener.* This publication can be obtained from the secretary, Mr. J. Aikman, Director's Office, Royal Gardens, Kew.

Melons Diseased: *J. L.* Next week.

Names of Plants: *Correspondent.* Lilium pyrenaicum; native of Spain and southern France.—*J. G.* sends twenty specimens, with a request that we will name them in our next issue. He evidently has not read our rules, and can have no conception of what the work of a newspaper office is, nor of the value of our time. We shall ask a fee of two guineas if so many are sent again! Happily, the specimens sent do not need much time spent on them. 1, Anthriscus vulgaris; 2, Lychnis dioica; 3, Mercurialis perennis (female); 4, Lamium Galeobdolon; 5, not recognised; 6, Ajuga reptans; 7, Rhinanthus cristi-galli; 8, Galium verum; 9, G. palustre; 10, Veronica Beccabunga; 11, Erysimum Alliaria; 12, Pedicularis vulgaris; 13, Veronica Beccabunga; 14, Ranunculus repens; 15, Lysimachia nemorum; 16, Chrysosplenium oppositifolium; 17, Veronica Chamædrys; 18, Polygala vulgaris (white variety); 19, Stellaria Holostea; 20, Asperula cynanchica. *J. S.* Many thanks; true Corsican.—*J. U.* Dendrobium binoculare.—*J. B., Prestonkirk.* Epidendrum alatum.—*J. & A. B.* 4, Oncidium concolor; a good variety.—*Lord K.* The American Amelanchier and Ribes Lobbi?—*P. F.* 1, Fuchsia corymbosa; 2, F. bacillaris; 3, F. procumbens.—*F. W.* 1, Polemonium cœruleum var. album; 2, P. cœruleum; 3, Symphytum tuberosum variegatum; 4, Centranthus ruber var. alba; 5, Teucrium variegatum; 6, Mesembryanthemum sp.; 7, Coronilla Emerus.—*U. C. B.* 1, Euonymus nanus; 2, Potentilla norvegica; 3, Chærophyllum hirsutum; 4, Silphium perfoliatum.—*A. S. O.* Libertia ixioides, Silene Saxifraga.—*E. D. L.* 1, Begonia glaucophylla; 2, Rubus nutkanus; 3, Spiræa confusa; 4, Spiræa sp.—*J. S.* 1, Saxifraga aizoon; 2, S. rotundifolia.—*J. H.* Euonymus nanus.—*Corridor.* Melia Azederach; 2, cannot be named without flowers.—*J. T. S.* Primula sibirica.—*E. B.* 1, Iris sibirica; 2, Saxifraga atro-purpurea; 3 and 4, Saxifraga hypnoides var. angustifolia; 5, Saxifraga trifurcata; 6, no specimen; 7, Sedum Rhodiola; 8, Sedum rupestre.—*E. M. C.* A. Oncidium leucochilum, if growth tallies; B, Dendrobium transparens.—*Gen. Smith.* Odontoglossum polyxanthum.—*G. P.* 1, Dianthus plumarius; 2, Saxifraga, not recognised; 3, Cypripedium caudatum; 4, Pansy, like Imperial Blue; 5, Erysimum Alliaria; 6, Valotta purpurea, it is like one shown to-day at the Temple Show.—*A. S. B.* Labels detached, Acorus gramineus, Erigeron philadelcus, Brassia verrucosa.

Over-grown Plants: *A. B., Ireland.* Pittosporum Tobira; Benthamia fragifera, and Veronica may be planted in sheltered places outside, with a good chance of their doing well; but the Olives, Neriums and Acacias will not survive the first winter if of moderate severity.

Plum Shoots: *F. S.* Next week.

Viola: *Thompson.* A very dark variety likely to be useful.

Communications Received.—R. Mitchell.—J. W.—J. A.—M. W.—T. R.—G. Truffaut.—S. N. Cooling.—J. S. (with thanks).—W. W.—Dr. Wittmack, Berlin.—W. B. H.—H. C. F.—J. S. V. & Co.—T. F.—Sir E. Lechmere.—T. H. Storey, Oodeypore.—C. B. C.—H. H., Darmstadt.—P. P.—Dr. McFarlane, Philadelphia.—T. R., Castlewellan.—H. W. W.—J. Milsom.—E. J. P.—H. S.—Sutton & Sons.—J. B.—D. T. F.—W. A. C.—I. R. J.—W. H. D.—M. T.—C. C. H.—C. A. M. C.—W. G. S.—Dr. Rodigas.—F. W. B.

Photographs Received with thanks.—S. N. Cooling. T. S., Oodeypore.—Osborne.—Cereus.—Hartland.

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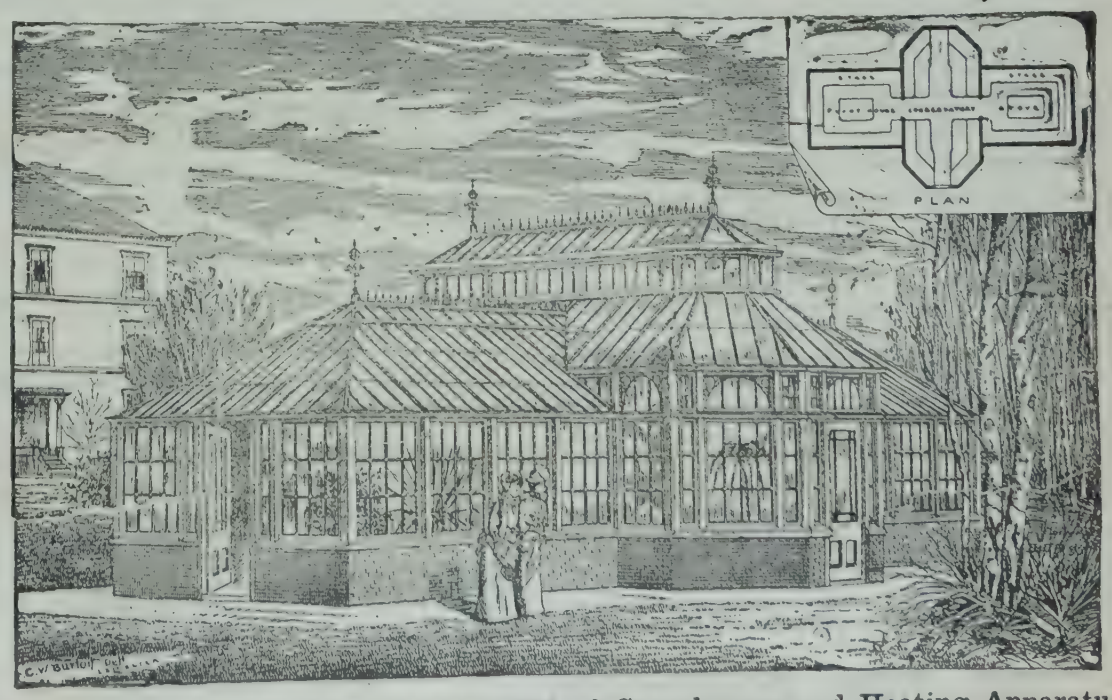

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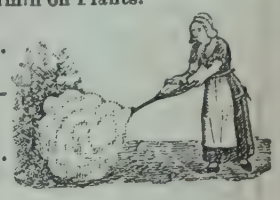

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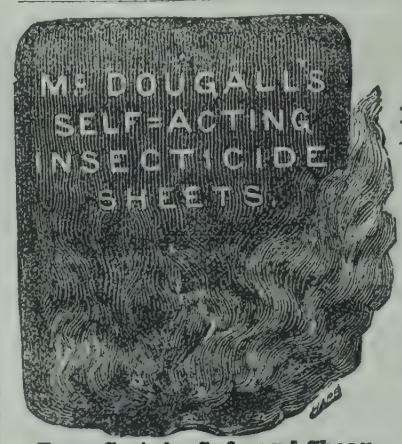

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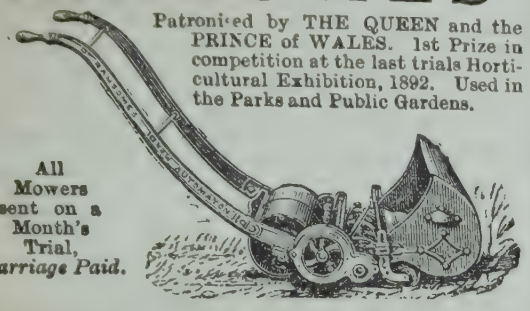

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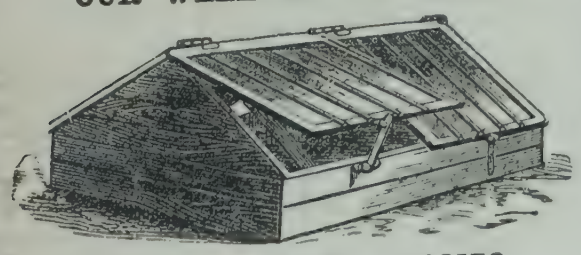

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OWING to the unprecedented early season, we are receiving outdoor Strawberries, both from Essex and Hants, and coming during holiday week they have seriously affected the value of indoor fruit, leaving little or no hope of any recovery. Business very quiet this week. *James Webber, Wholesale Apple Market.*

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Adiantum, per doz.	6 0-12 0	Lobelia, per doz.	5 0- 8 0
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— specimen, each	7 6-21 0	Mignonette, per doz. pots	5 0- 9 0
Cineraria, per doz.	6 0- 9 0	Musk, per doz.	2 0- 4 0
Cyperus, per dozen	4 0-10 0	Nasturtiums, p. doz.	4 0- 8 0
Dracæna, each	1 0- 5 0	Palms, various, each	2 0-10 0
Erica, various, doz.	9 0-21 0	— specimens, each	10 6-84 0
Ferns, various, doz.	4 0- 9 0	Pelargoniums, p. doz.	8 0-15 0
Ferns, small, per 100	5 0- 8 0	— scarlets, p. doz.	4 0- 9 0
Ficus elastica, each	1 6- 7 6	Primula sinensis, doz.	4 0- 6 0
Foliage plants, doz.	12 0-42 0	Saxifrage, per doz.	12 0-18 0
Fuchsias, per doz.	6 0- 9 0	Spiræas, per dozen	8 0-12 0
Genista, per doz.	6 0- 9 0		
Ivy Geraniums, doz.	6 0- 9 0		

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Arum, per doz. bl.	1 0- 3 0	Orchids:—	
Azalea, dozen sprays	0 6- 0 9	Cattleya, 12 blms.	6 0-12 0
Bouvardias, per bun.	0 6- 1 0	Odontoglossum crispum, 12 blms.	2 0- 6 0
Carnations, 12 blms.	1 0- 3 0	Pansies, per doz. bun.	1 0- 2 0
Cornflower, 12 bun.	2 0- 4 0	Pelargoniums, scarlet, p. 12 bun.	4 0- 6 0
Eucharis, per dozen	3 0- 4 0	— 12 sprays	0 6- 0 9
Gardenias, per dozen	1 0- 3 0	Polyanthus, 12 bun.	2 0- 4 0
Heliotropes, per doz. sprays	0 4- 0 6	Primulas, dble. p. bun.	0 6- 1 0
Iris, doz. bunches	6 0-12 0	Pyrethrum, 12 bun.	2 0- 6 0
Lilac, French, per bunch	4 0- 6 0	— large bun., each	0 9- 1 6
Lilium Harrisii, doz.	2 0- 4 0	Roses, Tea, per dozen	0 6- 2 0
Lily of the Valley, doz. bunches	3 0- 6 0	— coloured, dozen	2 0- 4 0
Maiden Hair Fern, 12 bunches	4 0- 6 0	— yellow (Maréchals), per doz.	1 6- 6 0
Marguerites, p. doz. bunches	1 6- 3 0	— red, per dozen	1 6- 3 0
Mignonette, 12 bun.	3 0- 6 0	— (French) p. doz.	0 9- 1 6
Narcissus, various, French, doz. bun.	2 0- 6 0	Spiræa, 12 bunches	3 0- 6 0
Myosotis, 12 bunches	2 0- 3 0	Sweet Sultan, 12 bun.	4 0- 6 0
Pæony, per doz. bun.	9 0-18 0	Tuberoses, 12 blms.	0 6- 1 0
		Violets, small English, p. doz. bunches	1 0- 1 6
		Wallflower, 12 bun.	2 0- 3 0

ORCHID-BLOOM in variety.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, p. half-sieve	2 0- 3 6	Lemons, per case	12 0-20 0
— Nova Scotia, per barrel	10 0- 17 6	Peaches, per doz.	6 0-20 0
— Tasmanian, case	2 6- 8 6	Pine-apples, St. Michael	2 0- 5 0
Cobs, per 100 lb.		Oranges, per case	20 0-30 0
Gooseberries, half-sve.	3 0 3 6	Strawberries, per lb.	0 9- 2 0
Grapes, per lb.	1 6- 3 0		

VEGETABLES. — AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Beans, French, lb.	1 6- 2 0	Mushrooms, punnet	2 0-
Beet, red, per dozen	2 0- 3 0	Mustard and Cress, punnet	0 4-
Carrots, per bunch	0 4- 0 6	Parsley per bunch	0 3- 0 6
Cauliflowers, each	0 3- 0 6	Seakale, per basket	2 0- 2 6
Cucumbers, each	0 4- 0 8	Shallots, per lb.	0 6-
Endive, per dozen	2 0- 3 0	Tomatos, per lb.	1 0- 2 0
Herbs, per bunch	0 9- 1 0	Turnips, per bunch	0 4- 0 6
Lettuces, per doz.	1 6- 2 0		

POTATOS.

A very limited trade for old Potatos, and only for best samples.

NEW POTATOS.—Jerseys are now arriving freely, and selling. Flukes and Myatts, 12*s.* to 13*s.*; Malta Kidneys, 12*s.* to 14*s.*; Canary's, 7*s.* to 9*s.* *J. B. Thomas.*

SEEDS.

LONDON: *May* 24.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report that as a result of the recent welcome rains, partial and insufficient as they have been, numerous sowing orders come to hand; under which the meagre supplies available are rapidly melting away. Prices all round are in consequence substantially higher. Wonderfully little seed of any kind will this season be carried over. Full prices are asked for Rapeseed. Canary seed is quietly hardening in value, holders point to the fact that stocks are rapidly shrinking, and that the new crop is some months distant. More money is asked for Hempseed. For Blue Peas there is an improving tendency. Linseed is steady.

FRUITS AND VEGETABLES.

BOROUGH: *May* 23.—Quotations:—Spinach, 1*s.* 6*d.* to 2*s.* 6*d.* per bushel; Cauliflowers, 2*s.* to 3*s.* per dozen; Greens, 2*s.* 6*d.* to 4*s.*; Parsley, 2*s.* 6*d.* to 3*s.* per dozen bunches; Carrots, 3*s.* to 3*s.* 6*d.*; Egyptian Onions, 5*s.* to 6*s.* per cwt.; Horseradish, 2*s.* 6*d.* to 2*s.* 9*d.* per bundle; Apples, 7*s.* to 12*s.* per case.

SPITALFIELDS: *May* 23.—Quotations:—American Apples, 17*s.* to 20*s.* per barrel; Tasmanian do., 8*s.* to 10*s.* per case; foreign Tomatos, 1*s.* 6*d.* to 2*s.* per box; Asparagus, 1*s.* 6*d.* to 2*s.* per bundle; Gooseberries, 3*s.* 6*d.* to 5*s.* per half-sieve; Cabbages, 3*s.* 6*d.* to 5*s.*; Radishes, 4*s.* 6*d.* to 5*s.* 6*d.*; Cauliflowers, 7*s.* to 10*s.* per tally; Greens, 1*s.* 6*d.* to 3*s.*; Spring Onions, 3*s.* to 5*s.*; Parsley, 3*s.* to 6*s.* per dozen bunches; Rhubarb, 2*s.* to 2*s.* 6*d.*; Mint, 4*s.* to 6*s.* per dozen bundles; Horseradish, 2*s.* 6*d.* per bundle; Cucumbers, 3*s.* to 5*s.*; Cos Lettuces, 8*d.* to 1*s.*; Cabbage do., 8*d.* to 1*s.*; Endive, 1*s.* 6*d.* to 2*s.* per dozen; Mustard and Cress, 2*s.* per dozen baskets; Egyptian Onions, 5*s.* to 7*s.* per cwt.

FARRINGDON: *May* 25.—Quotations:—Spinach, 1*s.* 6*d.* to 2*s.* per bushel; Cabbages, 5*s.* to 6*s.* per tally; Greens, 2*s.* 6*d.* to 5*s.* per bushel; Cucumbers, 2*s.* 6*d.* per dozen; Gooseberries, 3*s.* 6*d.* per half-bushel; Apricots, 1*s.* per box; Peas, 4*s.* 6*d.* per bushel; Egyptian Onions, 5*s.* per cwt.; Apples, Tasmanian, 9*s.* per box.

POTATOS.

BOROUGH: *May* 23.—Quotations:—Old: 40*s.* to 70*s.* per ton; and New: 17*s.* to 18*s.* per cwt.

SPITALFIELDS: *May* 23.—New: Jersey Kidneys, 11*s.* to 13*s.*; Lisbon Rounds, 7*s.* to 8*s.* 6*d.*; Malta Kidneys, 11*s.* to 12*s.* per cwt. Old: 40*s.* to 60*s.* per ton.

FARRINGDON: *May* 25.—Quotations:—Main Crop, 70*s.* to 80*s.*; Sutton's Abundance, 65*s.* to 70*s.*; Bruces, 55*s.* to 60*s.*; Magnums, 45*s.* to 55*s.* per ton.

LONDON AVERAGES: *May* 24.—Quotations:—Magnums, 40*s.* to 70*s.*; Hebrons, 50*s.* to 60*s.*; Imperators, 50*s.* to 60*s.*; Belgians, 35*s.* to 45*s.* per ton. New:—English, 2*d.* to 4*d.* per pound; Jersey Kidneys, 14*s.* to 16*s.*; Canary do., 9*s.* to 12*s.*; and Lisbon, 7*s.* to 8*s.* per cwt.

CORN.

Averages.—Official statement of the average prices of British corn, imperial measure (quarter) for the week ending May 20, and for the corresponding period last year:—1893: Wheat, 27*s.*; Barley, 23*s.* 2*d.*; Oats, 19*s.* 8*d.* 1892: Wheat, 31*s.* 6*d.*; Barley, 24*s.* 10*d.*; Oats, 21*s.* 3*d.*

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 80*s.* to 126*s.*; do., inferior, 70*s.* to 75*s.*; hay, best, 85*s.* to 126*s.*; do., inferior, 65*s.* to 75*s.*; and straw, 30*s.* to 45*s.* per load.

GARDENING APPOINTMENTS.

MR. JOHN COLLYER, for the past three years Head Gardener to Major W. G. BARTTELOT, Brookdean, Pulborough, is reappointed to the same post with Major, now Sir WALTER BARTTELOT, Bart., Stopham House, Pulborough, Sussex.

Mr. JOSEPH MCCORMACK, formerly of the Gardens, Trentham, Staffordshire, as Head Gardener to Lord WIMBORNE, Canford Manor, Wimborne, Dorset.

Mr. C. GIBBONS, late of Grove Park, Kingsbury, Middlesex, as Gardener to Captain WILSON TODD, The Leases, Bedale, Yorkshire.

Mr. THOMAS JACKSON, formerly at Berry Hill, Mansfield, as Head Gardener to GEORGE DOUGHTY, Esq., Waltham Hall, Grimsby.

CATALOGUES RECEIVED.

FRED. END, 23, Wellington Street, Covent Garden — Cut Flowers and Plants.

THOS. FARMER & CO., Limited, Billiter Street, London, E.C.—Results of New Guano.

T. S. WARE, Hale Farm Nurseries, Tottenham—Dahlias and Begonias.

KELWAY & SONS, Langport, Somerset—Plants, Trees, and Seeds.

PITCHER & MANDA, United States Nursery, Shorthills, New York—Floral Rarities.

JNO. LAING & SONS, Forest Hill, London, S.E., and Catford, Kent—Tuberous Begonias.

H. C. STEPHENS, 191, Aldersgate Street, London, E.C.—Copying and General Inks, Gum Mucilage, &c.

THOMAS FARMER & CO., Ltd., Billiter Buildings, Billiter Street, London, E.C.—The New Guano.

WANTED, IMMEDIATELY, a HEAD GARDENER, for Vines, Cucumbers, Melons, &c. General supervision over Garden, Orchards, and Two Cows. One man under, who milks. House and Garden found. State wages.—Dr. GRANT, Chaxhill, nr. Newnham, Gloucestershire.

WANTED, a good all round GARDENER for Market, especially Tomatos and Flowers. Sole charge of small range of Houses and Firing. Satisfactory references required. Cottage supplied.—Apply, stating full particulars and wages required, to L., La Poudretterie, St. Martin, Jersey.

WANTED, a GARDENER, for South Hants. Used to Cucumbers, Tomatos, and Flowers for Market.—ANIMATED, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a thorough practical Gardener as FOREMAN, for the Perth Mushroom Grounds in the North of Scotland. Must be good with Grapes, Peaches, Tomatos, &c. Thoroughly acquainted with Outdoor Mushroom Culture. Apply, with references, to A. L. RUPE, Proprietor, Perth Mushroom Grounds, stating wages and commission expected on per cwt. of Mushrooms.

WANTED, OUTDOOR FOREMAN, for Nursery.—Well up in Herbaceous Plants, Grafting, and Budding.—Apply, stating wages, &c., to WALTER LITTLE, The Nurseries, Stafford.

WANTED, for a Nursery, where Cut Flowers are grown for the Market, a SECOND GARDENER. Must be a good Salesman.—Address, stating age, wages, and experience, to E., Rose Bank, Caterham Valley, Surrey.

WANTED, as GROOM and GARDENER, a reliable MAN, with some House-work. Abstainer preferred. ALSO, a young MAN, as UNDER-GROOM, and for House-work.—Apply by letter, marked private, stating experience and weekly outdoor salary, to G. RUSHBROOKE, Ampthill, Beds; or, 67, Charterhouse Street, E.C.

WANTED, THREE MEN, in Cucumber and Tomato Houses. Also, TWO for Vineries. Constant Places.—Apply to ARTHUR MATTHEWS, The Nurseries, Waltham Cross.

WANTED, a young MAN for the Houses.—Age about 24, Catholic; send full particulars, wages, with bothy, to A. ROCHE, Cossey Hall Gardens, Norwich.

WANTED, a NURSERY HAND, under Glass, accustomed to Market Work.—HEWITT AND CO., Solihull.

WANTED, a first-class all-round GARDEN LABOURER, thoroughly efficient. Mowing with scythe, hand and horse machines, especially the latter. State full particulars, age, whether married, and wages expected.—G. GROVES, Temple House Gardens, Great Marlow, Bucks.

WANTED, a YOUTH for Plant-houses, about 17 years of age. Strong and active.—Apply to C., Messrs. Durrant, Stationers, Chelmsford.

WANTED, AT ONCE, a young MAN, accustomed to Nursery.—Quick and active. State wages required.—A. BRINKMAN, Nurseryman, Great Berkhampsted, Herts.

WANTED, an active young MAN, with knowledge of Palms, Cucumbers, and general stock under Glass, not under 19; Permanency.—Apply personally, Saturday or Monday afternoon, at Worple Nursery, Wimbledon.

WANTED, a steady young MAN, well up in Grapes and Tomatos. Wages 21*s.*, and overtime.—GEO. THOMAS, Church Road, Bexley Heath, Kent.

WANTED, SEVERAL YOUTHS, from 18 to 20 years, experienced in Grapes and Tomatos for Market. Bothy and vegetables free. State wages.—W. COMPTON, Lambley, Nottingham.

WANTED, a smart YOUTH, as IMPROVER in the Seed Trade.—One with knowledge of Plants preferred.—State age and experience, with salary required, ROWE AND CO., 65, Broad Street, Worcester.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. *on Wednesday will, in all probability, be held over to the next week.*

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character, and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—

F. SANDER AND CO., St. Albans.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. All particulars on application.

Telegraphic and Postal Address—"DICKSONS, CHESTER."

B. S. WILLIAMS AND SON beg to intimate that they have at present in their Nursery and upon their Register some excellent Men, competent either to fill the situation of HEAD GARDENER, BAILIFF, FOREMAN, or JOURNEYMAN. Ladies and Gentlemen requiring any of the above will please send full particulars, when the best selections for the different capacities will be made.—Victoria and Paradise Nurseries, Upper Holloway, N.

JOHN COWAN, The Vineyard, Garston, near Liverpool, is desirous of recommending to any Nobleman or Gentleman, who may require a thoroughly competent HEAD GARDENER, JOHN GOULD, who has been for a number of years Head Gardener at Bromborough Hall, Bromborough, Cheshire, the residence of the late R. N. Dale, Esq. Mr. Gould is a man of excellent character, and is thoroughly competent to take charge of a large Garden where a number of men are employed. He has a thorough knowledge of Orchids, as well as all other branches of Gardening. Unexceptional references. Mr. Cowan will be glad to furnish further particulars.

GARDENER (HEAD).—A. YOUNG, Gardener to J. P. C. Musters, Esq., Annesley Park, Notts, can with confidence recommend his Foreman, John Charlton, to any Lady or Gentleman requiring a good and trustworthy man. Good Fruit and Flower Grower.

GARDENER (HEAD); age 31, married.—WILLIAM HOVELL, Gardener to G. H. Morrell, Esq, Headington Hill Hall, Oxford, can with confidence recommend his Foreman, Thos. Porter, who has been with him four years, to any Lady or Gentleman requiring a good practical man.

GARDENER (HEAD).—J. MAYNE, Bicton Gardens, B. Salterton, recommends a man as above. Thoroughly acquainted with all matters relative to Horticulture. Testimonials of the highest order.

£5 will be given for intimation that will secure a situation as HEAD WORKING GARDENER. Over twenty years' experience in all branches of Gardening.—R. G., 41, Wellington Street, Strand, W.C.

GARDENER (HEAD), where two or three are kept.—Thorough good all-round general experience, both Inside and Out. Near London preferred. Four years' good reference.—Apply, stating wages, to W., Gardener, Effingham Park, Crawley Down, Sussex.

GARDENER (HEAD).—JOHN GILBERT; age 33, married, one child. Late Gardener to the Earl of Ancaster, Normanton Park, for two years and three months, wishes to engage with any Nobleman or Gentleman. Well up in most matters relative to horticulture. For testimonials and all particulars, JOHN GILBERT, The Laurels, Empingham, Stamford.

GARDENER (HEAD WORKING), where four or more are kept.—Age 40; twenty-six years' experience in general Garden work.—A. B., Mr. E. Moore, 63, City Road, Beeston, Notts.

GARDENER (HEAD WORKING), where two or three are kept.—Age 35; good practical experience in all branches of Gardening. Highest references from previous and present employers.—10, Edith Terrace, Lower Woolwich Road, Charlton, S.E.

GARDENER (HEAD WORKING).—Age 40, married, no family; understands Gardening in all its branches. Good characters from present and past employers.—B. N., Falconwood Lodge, Welling, Kent.

GARDENER (HEAD WORKING).—Thoroughly practical, sober, and industrious. Awarded 50 1st Prizes for Fruits, Flowers, Orchids, Vegetables, and Floral Decorations.—H. Y., 88, Beulah Road, Thornton Heath, S.E.

GARDENER (HEAD WORKING).—Age 40, married, no incumbrance. A life of thorough practice in all branches. Present place seven years.—W., The Gardens, Arabin House, High Beech, Essex.

GARDENER (HEAD WORKING).—Age 40, married; practical experience in the requirements of a good establishment, Forcing Hardy Fruits, &c.; also Mushrooms and Tomatos. Wife cou'd Manage small Dairy, or Poultry.—HORN, The Lodge, Cedar Lawn, Hampstead Heath, N.W.

GARDENER (HEAD WORKING), where three or four are kept.—Age 30; fifteen years' experience in the general routine of Gardening. Three years' good character.—E. REFFOLD, Margery Hall, Reigate.

GARDENER (HEAD WORKING).—Age 30; married; fourteen years' practical experience in first-class Gardens. Three years in last place as Head. Left through death of owner. First-class references.—A. BROOKER, 9, Church Fields, West Malling, Maidstone, Kent.

GARDENER (HEAD, or SINGLE-HANDED).—Age 27; twelve years' experience with all branches. Good references.—B., 6, Lansdown Place, Upper Weston, Bath

ARDENER (good SINGLE-HANDED, or with help).—Ten years' experience. First-class characters. G., *Gardeners' Chronicle* Office, 41, Wellington Street, and, W.C.

ARDENER (good SINGLE-HANDED, or where help is given).—Age 29, married; thirteen years' expe- ce with Vines, Peaches, Melons, Cucumbers, Mushrooms, wer and Kitchen Garden. No objection to Poultry. Good racter.—J. H., 22, Vicarage Road, Neasden, N.W.

ARDENER (SINGLE-HANDED, or where help is given).—Age 25, single; good experience Inside Out. Highly recommended from previous places. Ab- ner.—E. KEMP, Emberfield, Hampton Wick.

ARDENER (SINGLE-HANDED, or where help is given).—Age 31, married, two children; under- ds Greenhouse, Vinery, Kitchen Garden, &c. Two years five months' good character.—GARDENER, 130, Bartho- ew Street, Newbury.

ARDENER (SINGLE-HANDED, or otherwise), —Age 25. Vines, Cucumbers, Tomatos, &c. Three rs in last situation. Good character.—P., 26, Elm Street, don Road, Peterborough.

ARDENER (SINGLE-HANDED, or otherwise). Can have excellent personal character from last em- er.—G., 24, Elspeth Road, Lavender Hill, S.W.

ARDENER (SINGLE-HANDED, or good UNDER).—Age 25, single; nine years' experience.— COUSINS, The Gardens, Malvern House, Sydenham, S.E.

ARDENER (SINGLE-HANDED, to Country Gentleman, Clergy, or Farmer).—Young man, age 21, ried; good character.—C., *Gardeners' Chronicle* Office, 41, lington Street, Strand, W.C.

ARDENER (SINGLE-HANDED or otherwise). Age 25; eleven years' experience in Gardens Inside and . Well recommended.—W. HUNT, High Trees, Redhill, ey.

ARDENER (SINGLE-HANDED).—Age 22, single; good character. Experienced.—G. SPURGEON, mansfield, Hampton Wick.

ARDENER (SINGLE-HANDED).—Age 28, twelve years' experience; three years in last situation; d references. Now disengaged—F. STURMEY, Windsor a, Walton Road, East Molesey, Surrey.

ARDENER (SINGLE-HANDED, or other- wise).—Age 38, married; well up in Forcing Fruits. ood Chrysanthemum-grower, and good all-round Flower Kitchen Gardener. Wages moderate. Thirteen years' ellent character.—J. I., West Ilsley, Newbury.

ARDENER.—A LADY wishes to highly recommend her GARDENER, as SECOND or UNDER RDENER. No objection to Odd Jobs Age 24, height 5 feet nches, strong and willing; disengaged when suited.— W., 17, Arthur Road, Norbiton, S.W. Surrey.

ARDENER (SECOND, or good THIRD), in a Gentleman's Establishment.—Age 20; four and a half rs' experience, Inside and Out. Good references.—W. INERY, Pentwyn, Rockfield, Mon.

ARDENER (SECOND); age 22.—H. R. SEAMENS, Gardener to the Right Hon. Stavely Hill, can roughly recommend a young Man as above; near London ferred.—F. LACK, Gardens, Oxley Manor, Wolverhampton.

ARDENER (SECOND).—Age 23; experienced in Vines, Peaches, Cucumbers, Tomatos, &c., Stove and enhouse Plants. Good references. Abstainer.—A. WHITE, orpe, Chertsey.

ARDENER (SECOND), or JOURNEYMAN (FIRST).—Age 23; experience in Fruit, Stove, and enhouses; two years in Nobleman's establishment; ex- ent characters; abstainer.—E. STOKES, East Ashling, chester, Sussex.

ARDENER (SECOND), or JOURNEYMAN (FIRST), in a good establishment.—Age 24; two years' d character.—G. FORD, The Gardens, Wexham Park, ugh.

ARDENER (UNDER), or otherwise.—Age 25, married, without encumbrance; abstainer. n be well recommended.—WHEELER, 3, Summerset Road, omhill, Orpington, Kent.

ARDENER (UNDER); age 20.—The Hon. Mrs. STIRLING will highly recommend the above; four rs' experience, Inside and Out.—F. S., Garden Cottage, les Road, Cheltenham.

ARDENER (UNDER).—Age 22; five years' experience Inside and Out. No objection to other ies. Three years' excellent character. Strong and active. . W., 15, Munden Street, West Kensington, W.

ARDENER (UNDER).—Age 19; three and a half years' in present place. Abstainer. Bothy ferred.—A. BAKER, New Chapel Road, Lingfield, Surrey.

RUIT GROWERS, &c., MANAGER.—Advertiser, many years' experience in Grapes, Cucumbers, natos, Tea Roses, Carnations, Chrysanthemums, choice cut ff, Palms, Ferns, &c., in quantity for Market, open to imme- te engagement as above. Highest references.—GROWER, Wellington Street, Strand, W.C.

RCHID GROWER (SINGLE-HANDED or otherwise).—Age 25, married; thoroughly experienced. od character from last situation.—NORFORK, 5, Oxford rrace, Malham Road, Forest Hill, S.E.

GROWER, or Otherwise.—Age 30, married, no family; thoroughly experienced with Vines, Tomatos, Cucumbers, and Bedding Plants. Good character and testimonials.—W. H., 125, Bynes Road, South Croydon.

PROPAGATOR and GROWER of Soft-wooded Stuff.—Thirteen years' experience. Good reference.—W. MILLS, Colegate Cottages, Locksbottom, Farnborough, Kent.

TO NURSERY PROPRIETORS.—Expert GROWER of Roses, Fruits, Ornamental Trees and Shrubs. Has had charge of Branch. Good character.—Q. C., 18, Claverton Street, Widcombe, Bath.

FOREMAN, in the Houses.—Age 27; eleven years experience in Fruit and Plant Growing, including Chrysanthemums for Exhibition and House Decoration. Excellent references. Two years in last situation.—F. DEAVES, Great Horkesley, Colchester, Essex.

To Nurserymen and Florists.

FOREMAN.—Twenty-five years practical experience in the Cultivation of Plants and Cut Flowers. Could take entire Management if required. Good Salesman. —G. PESTRIDGE, 5, Beale Street, Lower Edmonton.

FOREMAN.—Age 27; thirteen years' practical experience, two years as Foreman previously. Thoroughly experienced in all branches. Excellent testimonials.—FOREMAN, 2, Clarence Cottages, Milton Road, Hampton.

FOREMAN, in a good establishment.—Eleven years' experience. Excellent character from good places. Table Decoration.—G. COOPER, High Street, Ware, Herts.

To Head Gardeners.

FOREMAN (INSIDE), where two or three are kept.—Age 24; eleven years' experience in good places. Good testimonials.—E. T., Mr. T. Teear, Husbands Bosworth, Rugby.

FOREMAN.—Age 26; twelve years' experience in Fruit, Plants, Chrysanthemums, &c. First-class testimonials. Left through a death.—W. J. DODWELL, Waddesdon, Aylesbury.

FOREMAN, where three or more are kept, Inside.—W. HIGGS, Fetcham Park Gardens, Leatherhead, can with confidence recommend his late Foreman, J. Cawley, who was three years in last situation. Good testimonials.—Address as above.

FOREMAN, Inside.—Age 24; ten years' experience. Can be well recommended.—W. PARROTT, Frensham Place Gardens, Farnham, Surrey.

FOREMAN, or PROPAGATOR and GROWER.—Well up in growing large quantities of Plants and Cut Flowers for Market, as Eucharis, Arums, Double Primulas, Chrysanthemums, Pelargoniums, Roses, Ferns, Palms, Carnations, Cyclamen, Bouvardias, and Bedding Plants; also Pot Vines, Tomatos, Cucumbers, Grapes, Strawberries, and Mushrooms. Well up in Wreaths, Crosses, and Bouquets, &c. Excellent references.—RANDALL, 2, Fairlawn Road, Wimbledon.

FOREMAN (WORKING).—Has a thorough knowledge of Growing Roses, Fruit, Tomatos, Vegetables, &c., for Market. Highest references.—G. RUSSELL, Church Road, Stanmore, Middlesex.

FOREMAN, Inside.—Age 27; ten years' experience in Plant and Fruit-houses. Good reference.—GEORGE THOMPSON, Bawdsey Manor Gardens, Woodbridge, Suffolk.

JOURNEYMEN.—C. BOATWRIGHT, Gardener, Beckenham Place, Beckenham, can with confidence recommend SEVERAL JOURNEYMEN (through the breaking up of the establishment), to Gardeners wanting good and reliable men.

JOURNEYMAN, Inside, or Inside and Out.—Age 25; six years' experience in Gentlemen's Gardens. Total abstainer. Well recommended from present and previous places.—F. BEESON, Marden Park Gardens, Caterham Valley, Surrey.

JOURNEYMAN (age 23).—J. ROWLANDS would be pleased to recommend F. Atkin, who has been employed here in the Gardens over three years, to any Gardener requiring a hard-working young Man as above. Abstainer.—The Gardens, Bardney Manor, Lincoln.

JOURNEYMAN, Inside and Out.—Age 19; two years' good character from last place.—ARTHUR HOLBEN, 1, Ebenezer Cottages, Grange Road, Willesden Green, N.W.

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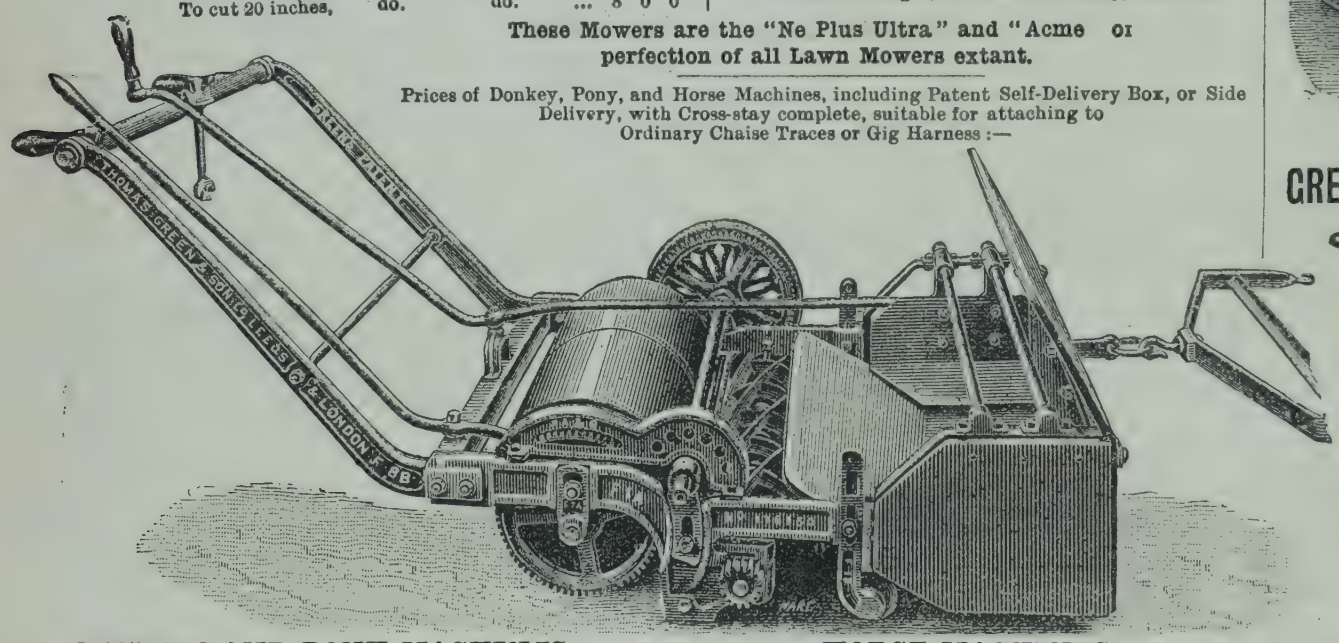

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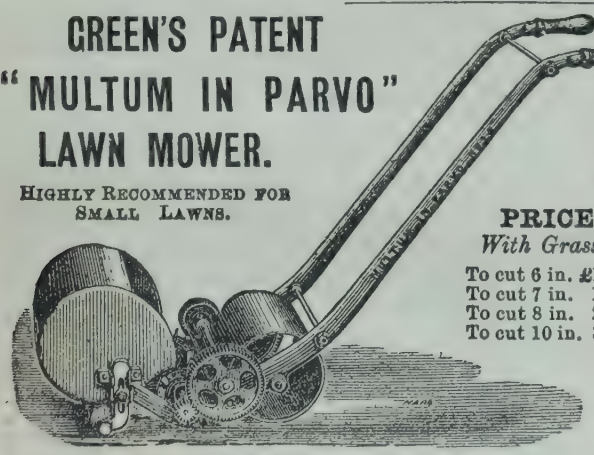

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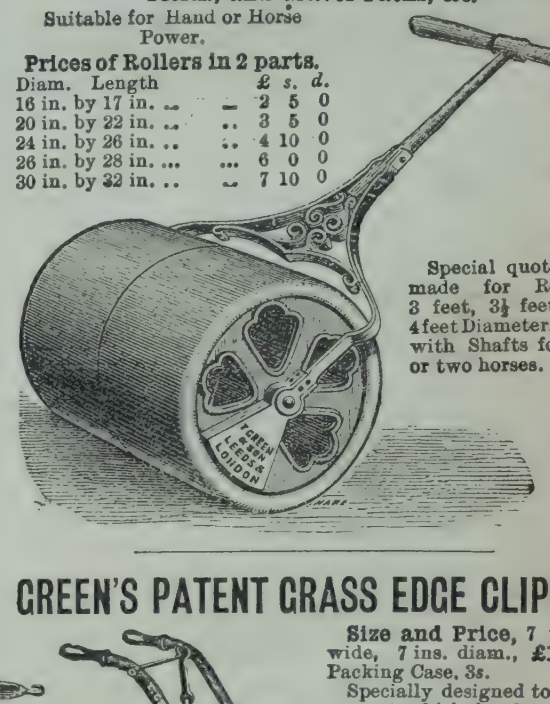

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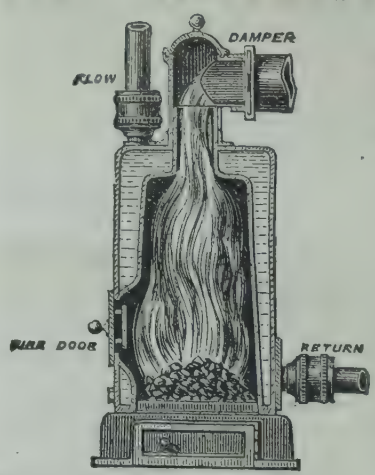

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CONTENTS.

piary, the	660	Orchid notes and gleanings—	
zaleo-dendron × Count de Kerchove	660	Odontoglossums at Burnpark	658
elgium—		Peas, early	667
Conferment of honours	658	Plants, new or noteworthy—	
Notes from nurseries...	658	Crassula centauroides	656
Orchidéenne, meeting of the	658	Galanthus gracilis ...	656
Bordeaux mixture ...	664	Pyrethrum, the ...	660
California	657	Rose Show fixtures ...	665
Chicago Exposition, the	656	Runner Bean, Girtford Giant	665
Coombe Warren House...	663	Say, M. Léon	657
Cucumber rot	668	Smithsonian Institute ...	665
Cypripedium calceolus...	647	Societies—	
Drought and the birds ...	664	Pansy Exhibition at Tamworth	668
Isle of Man, the	655	Royal Horticultural ...	662
Kew notes...	658	Temple show, the ...	662
Mesa, the Grand, West Colorado	660	Summer-pruning of fruit trees 652,	666
Mushroom growing ...	665	Technical education ...	654
Nectarine, Rivers' early	664	Tsuja Pattoniana ...	659
Nursery notes—		Tulip, the...	667
Charlesworth, Shuttleworth & Co.... ...	659	Weather and the crops, the	663
Jones, H. J., Mr., at Hither Green ...	659	Week's work, the—	
Obituary—		Flower garden, the ...	661
Barlow, Samuel ...	668	Fruits under glass ...	661
Odontoglossum polyxanthum	667	Hardy fruit garden ...	661
Oodeypore	665	Kitchen garden, the ...	661
		Plants under glass ...	661

ILLUSTRATIONS.

Azaleo-dendron × Count de Kerchove 663
Onion-fly, the 670
Say, M. Léon 657
Tsuga Pattoniana cone, &c. 659
Tulip, a florist's 667

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LARGELY INCREASED CIRCULATION.

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An absolutely new and astonishingly beautiful Orchid, for which a new genus has been created.

THIS NEW MADAGASCAN SPECIES IS NOW OFFERED FOR THE FIRST TIME.

It was the one particular gem, and by far the loveliest New Orchid in the Great International Show at Ghent in April last. A magnificent importation, in the finest possible condition, has been received direct from its discoverer, Mr. L. Hambelin, every plant being sound and healthy. The Collector states its blooms are like Phalænopsis, and as many as forty are borne on a single spike, and he has seen masses with twenty or more spikes. The flowers last two months in perfection. *Every plant has been collected that was worth collecting.*

CYPRIPEDIUM VICTORIA-MARIÆ.

New, and beautiful. In form like C. Mastersianum, with petals suggestive of C. Chamberlainianum.

THE NEW DENDROBIUM O'BRIENIANUM,

Only one plant of which is in cultivation, i.e., that in the Burford Lodge collection.

DENDROBIUM SPECIES, STRATIOTES SECTION.

CATTLEYA LABIATA.

THE GOLD and BRONZE ONCIDIUM GRAVESIANUM.

THE LANG-TANG MOUNTAIN FORM OF DENDROBIUM NOBILE

From which the grandest forms ever seen have been produced.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, June 9, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

There will also be included, the GOD of the WOODS and FORESTS, the Protecting Deity of Growing Plants, sent by the natives as Guardian over the Plants on their journey.

Isleworth.

Well situate on main road within 9 miles of Covent Garden.

The desirable LEASEHOLD PROPERTY, known as the Silver Hall Nursery, Twickenham Road, Isleworth, with 10 capital GREENHOUSES, all heated by about 2000 feet of Hotwater Piping, Pits, and Potting Sheds, together with the GOODWILL of the Business.

MESSRS. PROTHEROE AND MORRIS will SELL the above at the Mart, Tokenhouse Yard, E.C., on TUESDAY, June 13, at 2 o'Clock.

May be viewed. Particulars may be had at the Mart; also on the Premises; of Messrs. VINCENT AND VINCENT, Solicitors, 20, Budge Row, E.C.; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Friday, June 16.

The COLLECTION OF ORCHIDS, formed by J. Batters, Esq., of Highfield, Bickley, Kent, who is giving up their cultivation.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY, June 16, at half-past 12 o'Clock, the above Collection of well-grown ESTABLISHED ORCHIDS, including about 400 fine Plants of ODONTOGLOSSUM ALEXANDRÆ; also CATTLEYAS, LÆLIAS, DENDROBIUMS, ONCIDIUMS, and others.

On view morning of Sale, and Catalogues had.

Clapham, S.W.

ABSOLUTE CLEARANCE SALE.

EXPIRATION OF LEASE.

By order of Messrs. Charlesworth, Shuttleworth, & Co., whose lease expires at Midsummer Day next.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, 213, Park Road, Clapham, S.W., near Clapham Road Station, on WEDNESDAY and THURSDAY NEXT, June 7 and 8, at half-past 12 o'Clock, without the least reserve, the remainder of the Stock of about

3000 ESTABLISHED ORCHIDS.

The whole in fine health, and adapted for the Trade and large Buyers, as well as Gentlemen forming collections, including

1000 ODONTOGLOSSUM ALEXANDRÆ,

300 being fine plants in pots, and 700 bedded out, 150 Odontoglossum cirrhosum, O. Andersonianum, O. Hallii, and O. polyxanthum.

CATTLEYAS AND LÆLIAS.

The former comprising Cattleya Schroderæ, C. Schilleriana, C. gigas, C. Wagneri, C. Gaskelliana, C. aurea, C. Bowringiana, C. Trianæ, and C. Mendelii; and the Lælias consisting of Lælia anceps alba, L. harpophylla, L. grandis tenebrosa, and L. anceps Schroderæ.

MASDEVALLIAS AND CYPRIPEDIUMS.

Embracing Masdevallia Mooreana, M. Harryana vars., M. Chimæra, M. trochilus, M. Chestertoni, M. Arminii, M. Shuttleworthii, and many others; Cypripedium insigne nitens superbum, C. Chantinii, C. Sallierii, and C. Insigne Hallianum. CŒLOGYNE MASSANGEANA, LYCASTES, ANGULOAS, PILUMNAS, MILTONIAS, and other ORCHIDS.

Also the Erections, SIX GREENHOUSES, Boilers, and Utensils in Trade, Boilers, and Hot-water Piping.

May be viewed two days prior to the Sale. Catalogues can be obtained on the Premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Tuesday, June 20.

The collection of Orchids formed by W. Houghton, Esq., of Hoe Street, Walthamstow, who has sold his Estate, and is removing from the neighbourhood.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Rooms, on TUESDAY, June 20, the collection of well-grown ESTABLISHED ORCHIDS, comprising about 1100 plants, and including several fine pieces and varieties, particulars of which will appear in future announcements.

On view morning of Sale, and Catalogues had.

Enfield.

TO LAND SPECULATORS, HORTICULTURISTS, BUILDERS, and OTHERS.

IMPORTANT FREEHOLD BUILDING LAND, an old-fashioned RESIDENCE with ORCHARD LAND, 14 newly-erected COTTAGES, and numerous enclosures of Land suitable for Horticultural Purposes, &c., well situated, with frontages upon the Enfield Highway and adjacent to Brimsdown Station, on the Great Eastern Railway, whence London is reached in 35 minutes. Payment (if desired) by instalments extending over five years.

MESSRS. HUMBERT, SON, AND FLINT are instructed to offer the above important PROPERTIES for SALE by AUCTION, at the Mart, Tokenhouse Yard, E.C., on TUESDAY, June 20, 1893, at 2 o'Clock precisely, in numerous lots. The Estate altogether comprises an area of 45 acres, through which an excellent 40-feet thoroughfare known as the Carterhatch Road (kerbed, channelled, and sewered), has recently been constructed, giving access to the numerous lots, and direct approach from Enfield Highway to Brimsdown Station. A portion of the Estate is utilised for Horticultural Purposes, an industry that is making rapid progress in this locality, and for which it is exceptionally well adapted. There are also numerous ripe Building Frontages, which will be offered in small lots, an Old-fashioned Residence, with Orchard, Garden, &c., and 14 Newly-erected Cottages.

Full particulars of Messrs. R. S. TAYLOR, SON, AND HUMBERT, Solicitors, 4, Field Court, Gray's Inn, W.C.; at the Mart, E.C.; and of the Auctioneers, 11, Serle Street, Lincoln's Inn, W.C., and Watford, Herts.

BY ORDER OF THE LIQUIDATOR.

GREAT SALE

OF THE ENTIRE STOCK OF

ORCHIDS, TEA ROSES, FERNS, PALMS,

And General Stock of

STOVE and GREENHOUSE PLANTS, GRAPE VINES, &c.,

THE PROPERTY OF THE

LIVERPOOL HORTICULTURAL COMPANY (JOHN COWAN, Limited).

The Company are now selling their entire Stock as above, at extremely low prices, and in addition to the low prices quoted in the Catalogues, very large discounts are allowed.

Inspection is earnestly invited.

The Company are also offering, for the first time, their splendid NEW GRAPE VINE, HAMBRO-COLMAR.

Descriptive and Priced CATALOGUE of the entire Stock will be sent, post-free, on application to the Company.

THE VINEYARD and NURSERIES,
GARSTON, near LIVERPOOL.

THE "WILDERSPOOL" COLLECTION OF ORCHIDS.

THE LIVERPOOL HORTICULTURAL CO.

(JOHN COWAN) LIMITED,

Have received instructions from W. BOLTON, Esq., Wilderspool, Warrington, to SELL his entire **COLLECTION of ORCHIDS** for him.

The Collection consists of over 5000 fine healthy Plants, and includes grand lots of—

CYPRIPEDIUMS, which consist of numbers of the very finest named hybrids, and a great many unnamed Seedlings, including many of the finest crosses obtainable; a splendid lot of C. Chamberlainianum, &c., &c.

CATTLEYAS in great variety, and in fine health and condition.

DENDROBIUMS in great variety, and fine plants.

ODONTOGLOSSUMS in great variety, and the very finest strains in each section, all in splendid health.

ONCIDIUMS in great variety.

And many other kinds.

The Collection is now on view on the Company's Premises at Garston, and will be on SALE from WEDNESDAY, the 7th inst. Inspection is earnestly invited.

Descriptive and Priced CATALOGUES are now ready, and will be sent post-free on application to

THE COMPANY, THE VINEYARD,
GARSTON, near LIVERPOOL.

TO BE LET, Rent-free for three years, from Midsummer or Michaelmas, in consideration of supplying Bedding Plants, &c., the KITCHEN GARDENS and GROUNDS of a Gentleman's House, comprising Kitchen Gardens, walled in; Glasshouses, Lights, Sheds, Cottage, and every convenience, situate within easy distance of town, and close to Station.—Apply, A. B., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

TO BE LET, within 4 miles of Bournemouth, in consequence of sudden death of Tenant, REMAINDER of LEASE of HORTICULTURAL ESTABLISHMENT, consisting of twenty trade houses (majority nearly 100 feet long), with Cottage. Very small incoming. Rent £180. New Lease obtainable. Apply—
WATTON, Agent, Southbourne-on-Lea.

NURSERY for SALE, or to be LET, near Blackheath, S.E., in working order. Land, 442 feet by 150 feet (more or less), at low ground rent. Contains seven Glass Houses, about 100 feet to 123 feet long, heated by three Boilers; three Cold Frames, about 100 feet long; Planting Ground, &c. Stock at valuation, if desired. — Apply to THOMAS PEACOCK, Warwick Square, London, E.C.

The Watersend Nursery, Ewell, near Dover.

To NURSERYMEN, MARKET GARDENERS, and OTHERS.

FOR SALE, with Immediate Possession, PREEHOLD PROPERTY, comprising 4½ Acres of fertile land, in good cultivation, with capital Residence, Coachhouse, Stabling, 5 Large Greenhouses, &c., within 5 minutes' walk of Kearsney Junction Station on the London, Chatham & Dover Railway.—Apply to Messrs. WORSFOLD AND HAYWARD, Estate Agents, Dover.

FOR DISPOSAL.—The old-established NURSERIES and Cotswold SEED STORES, Cirencester (Nurseries containing about 6 Acres). The Proprietor, having recently lost his son as Manager, and himself advanced in years, is desirous to retire. This offers an excellent opportunity for an energetic man of business with a moderate capital. To principals, all information will be supplied, and every facility given on application to R. F. DARBY, as above.

To Lovers of Forestry and Gardening.

THE LEASE of a charmingly-placed HIGH CLASS RESIDENCE, in 40 acres of luxuriantly-timbered Grounds, for SALE, eight or nine miles from the City and West-End. A Gentleman's Residence in every respect.

Apply to Messrs. HARMAN BROS., Auctioneers, 75, Aldermanbury, E.C.

Fifty Nurseries, Market Gardens, Florist and Seed BUSINESSES to be DISPOSED OF.

MESSRS. PROTHEROE AND MORRIS' HORTICULTURAL REGISTER contains full particulars of the above, and can be obtained, gratis, at
67 and 68, Cheapside, London, E.C.

CARNATIONS FROM SEED.—Seed of my own saving and hybridising, producing 75 per cent. of Double Flowers, equal to the finest-named sorts, but with greater vigour of growth and abundance of flowers. 25 seeds, 1*s.*; 100 seeds, 3*s.*; 500 seeds, 12*s.* 6*d.* Carnation Marguerita, flowering first season, 1*s.* per packet, post-free.

THOS. BUTCHER, Seed Merchant, Croydon.

EXHIBITIONS.

GRAND YORKSHIRE GALA,
YORK, JUNE 14, 15, 16, 1893.
£650 OFFERED in PRIZES.
£280 for ORCHIDS, STOVE AND GREENHOUSE PLANTS, &c.
£130 for PELARGONIUMS, &c.
£160 for ROSES, CUT FLOWERS, &c.
£80 for FRUITS, &c.
Apply for Schedules to—
CHAS. W. SIMMONS, 13, New Street, York.

ISLE OF WIGHT ROSE SOCIETY
GRAND EXHIBITION,
In the Vicarage Grounds, Newport, June 15.
For Schedules and Entry Forms apply to the
Rev. G. E. JEANS, Shorwell Vicarage, I.W.
Train from Waterloo or London Bridge, 6.45, arrive 11.7.

NUNEATON FLORAL and HORTICULTURAL SOCIETY.—ANNUAL EXHIBITION in the Recreation Ground, on MONDAY, August 21, 1893. Prizes nearly £100. Special Prizes for Collections. Schedules on application to
MARK T. BLACK, Secretary.

Under the Protectorate of His Majesty King Albert of Saxony,

INTERNATIONAL HORTICULTURAL EXHIBITION At LEIPZIG.

From August 25 to September 5, 1893.

All Nurserymen are Invited to Compete.
For details, apply to—

OTTO MOHRMANN, Leipzig-Lindenau.

SCOTT'S WASP DESTROYER has stood many years test as the only effectual protection for Fruit Trees, &c., from Wasps and Flies. Price 1*s.* 6*d.* and 2*s.* 6*d.* per bottle. Sold by all Nurserymen and Florists. — Makers: CORRY AND CO., Limited, 13, 15, and 16, Finsbury Street, London, E.C.

TROPÆOLUM SPECIOSUM. — The well-known hardy scarlet climber. Strong plants, in or out of pots, 1*s.* each; extra strong, 1*s.* 6*d.* each.
HOWDEN AND CO., The Nurseries, Inverness.

TRICOLORS and BRONZES.—Special offer of several thousands of Tricolor GERANIUM, Sophia Dumaresque, £1 per 100; Bronze ditto, Marshal MacMahon and George Peabody, 16*s.* per 100, for cash. Thorough good stuff. Free on rail in London.
G. MESSER, Florist, Hyde Side Nursery, Lower Edmonton.

To the Trade.
MANGEL WURZEL and TURNIP SEED.

H. AND F. SHARPE will be pleased to make special offers of their fine Selected Stocks of MANGEL WURZEL and TURNIP SEEDS of 1892 growth, and raised from carefully-selected Stocks and Transplanted Bulbs.
SEED GROWING ESTABLISHMENT, WISBECH.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for List, free.—P. MCARTHUR, The London Nursery, 4, Maida Vale, London, W.

To the Trade.

IMPORTANT NOTICE.—When you are in London, it will be well worth your time to pay a visit to Albert Nurseries, Peckham Rye, S.E.; or Fleet, Hants. You can make your notes, and have a business look round, combined with an outing; you will NOT be worried to order.
E. D. SHUTTLEWORTH AND CO., LTD.
Awarded Silver-gilt Flora Medal by the Royal Horticultural Society; also Gold, Silver-gilt, Silver, and Bronze Medals, Prizes, and Certificates at other First-class Shows. Our specialty—really good stuff grown for the Trade.

Herbaceous Plant Supplement.

PAUL AND SON have ready the above, containing all recent ADDITIONS to their collection of HARDY HERBACEOUS and ALPINE PLANTS.
The Old Nurseries, Cheshunt, Herts.

CALADIUM EXHIBITION.—JOHN LAING & SONS' magnificent Gold Medal Collection of these fine foliage plants is now in splendid condition. Visitors are cordially invited. Descriptive Catalogue gratis and post-free.
JOHN LAING AND SONS, Forest Hill Nurseries, London (Catford Railway Station).

NEW LOBELIA,
BARNARD'S PERPETUAL.
One of the best of the Blue Bedding Lobelias; also a useful variety for pot culture. Awarded a Certificate of Merit by the Royal Horticultural Society when exhibited at the Temple Show, in May, 1892.
Plants now offered for the first time. Price, 2*s.* 6*d.* each; 18*s.* per dozen; £5 per 100.
WILLIAM BULL, F.L.S., Establishment for New and Rare Plants, 536, King's Road, Chelsea, London, S.W.

Now Ready.

H. B. MAY'S NEW ILLUSTRATED CATALOGUE of Ferns, Fine Foliaged Plants, Tree Carnations, Bouvardias, Roses, Clematis, Ivies, &c. H. B. M. will have pleasure in forwarding a copy of the above to all intending purchasers, and earnestly invites an inspection of his unrivalled stock of Ferns and other specialties.
Postal Address: Dyson's Lane Nurseries, Upper Edmonton. Railway Stations: Angel Road (Main Line), and Silver Street (Suburban Line), G.E.R.

SPECIMEN LAPAGERIAS,
ALBA and ROSEA SUPERBA.
Extra fine Plants.
Prices and sizes on application.
JOHN S. IRELAND, 81, Princes Street, Edinburgh.

TO THE TRADE. — Having just imported large stocks of the undermentioned BULBS, in splendid condition, I shall be pleased to quote Low Cash Prices for really good Bulbs:—
PANCRATIUM CARIBÆUM, P. AMŒNUM, CRINUM KIRKII, C. ZEYLANICUM, ZAMIAS, AMARYLLIS, HÆMANTHUS, CALLAS, NERINES, WATER LILIES, FREESIAS, IXIAS, BABIANAS, AMMOCHARIS, TUBEROSES, and ORCHIDS. Also New Seeds of TEA, COFFEE, CAPE SILVER TREE, &c. Send for LIST.
J. JAMES, New Malden, Surrey.

THE BLUE CACTUS DAHLIA—"ROBERT CANNELL."
The Best and Most Distinct—a Real Gem—2*s.* 6*d.* each.
6 Best New Cactus Dahlias, including "Robert Cannell" 6*s.* 0*d.*
6 Very Fine Varieties ... ... 2*s.*, 12 for 3*s.* 6*d.*
6 Lovely Single Varieties ... ... 1*s.* 9*d.*, 12 for 3*s.* 0*d.*

IVY-LEAF PELARGONIUM—"RYECROFT SURPRISE."
The best habit, freest bloomer, largest pip and truss, Salmon-Pink. First-class Certificate Royal Horticultural Society.
1*s.* each; 3 for 2*s.* 6*d.*
6 Fine Varieties, including "Ryecroft Surprise," 3*s.*

ZONAL GERANIUMS.
6 Finest New Varieties, Single ... 2*s.* 6*d.*, 12 for 4*s.* 6*d.*
6 Very Good Varieties, Single ... ... 1*s.* 9*d.*, 12 for 3*s.* 0*d.*
6 Best Double Varieties ... ... 1*s.* 9*d.*, 12 for 3*s.* 0*d.*
6 Finest Double PETUNIAS, 3*s.* 0*d.*
All the above Post-free. Cash with Orders. Send for Catalogue.
H. J. JONES, Ryecroft Nursery, Hither Green, Lewisham, S.E.

NOTHING is too small.
NOTHING is too much trouble.

THE TRADE SUPPLIED.
E. D. SHUTTLEWORTH & CO., Ltd.,
(Albert Nurseries)
PECKHAM RYE, LONDON, S.E.,
and FLEET, HANTS.

SPECIALITY—
FOLIAGE PLANTS
ICETON'S
LARGE PALMS.
PUTNEY,
S.W.

FERNS A SPECIALITY.

A magnificent stock of all kinds of Ferns. Abridged Catalogue of 1400 varieties free on application.
ILLUSTRATED CATALOGUE OF FERNS (No. 22), the most beautiful and complete ever published, 2*s.*, post-free. It contains 150 illustrations, and an immense amount of interesting and instructive matter of great value to all Fern cultivators.

W. & J. BIRKENHEAD, F.R.H.S.,
FERN NURSERIES, SALE, near MANCHESTER.

NEW COLEUS, "DISTINCTION."
INTRODUCED 1892.
To the Trade, 9s. per dozen, in Small Pots.
This is undoubtedly the finest introduction in the way of Coleus yet announced, and will prove a most valuable acquisition for Bedding or Decorative Purposes, the foliage being of a striking reddish rich maroon, and darker in colour than any other variety; it is also of a very sturdy growth, and hardy character.
Award of Merit from the Royal Horticultural Society, August 22, 1892.
J. A. MORRIS, Nurseryman, Church Road, Acton, W.

FOR ORCHIDS and GARDENERS to Grow Them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

The Best Present for a Gardener.

VINES AND VINE CULTURE.
The most complete and exhaustive Treatise on Grapes and their Culture ever published.
Third Edition just out.
Price 5*s.*, post free, 5*s.* 6*d.*
A. F. BARRON, Royal Horticultural Society, Chiswick.

FERNS! FERNS!!—Trade.—Greenhouse and Stove, 25 saleable sorts, in 2½-in. pots, 12*s.* per 100; 10 best market sorts, in 48's, 6*s.* per doz.; stores, 6*s.* per 100. Large Adiantum cuneatum, value in fronds, 6*s.* and 8*s.* per dozen. Cyperus, Aralias, Rhodanthe, Grevilleas, in 48's, good value, 6*s.* per doz. Palms, Ficus, Hydrangeas, Pelargoniums, Marguerites, Dracænas, in 48's, 1*s.* each. P. tremula and A. cuneatum, for making large plants quickly, 16*s.* and 20*s.* per 100, well packed, put on rail free for cash with order.—J. SMITH, London Fern Nurseries, Loughboro' Junction, London, S.W.

CLEARANCE SALE of BULBS for Summer and Autumn Flowering. PRICE LIST on application.
Finest named Gladioli, 3*s.* 6*d.*, 5*s.* 6*d.*, 7*s.* 6*d.* and 10*s.* 6*d.* per dozen. Finest Mixed Gladioli, per 100, 15*s.*; per dozen, 2*s.* 3*d.* Lemoine's Beautiful Butterfly Gladioli, mixed, per dozen, 4*s.* 6*d.* Lilium auratum, 7*s.* 6*d.* and 10*s.* 6*d.* per dozen. Anemone fulgens, per 100, 5*s.* 6*d.*; per dozen, 1*s.* Red Tiger Spotted Flower (Tigridia), White Tiger Spotted Flower, Yellow Tiger Spotted Flower, all at 15*s.* per 100; per dozen, 2*s.* 3*d.* Single Begonias, mixed, 3*s.* 6*d.* per dozen, &c.
BARR AND SON, 12, King Street, Covent Garden, W.C.

CAULIFLOWER, Autumn Giant, all transplanted, and extra strong, 8*s.* per 1000. CELERY, Clayworth Pride, all transplanted, 100,000 for sale, 6*s.* per 1000. SAVOY and GIANT BRUSSELS SPROUTS, strong, stout plants, 6*s.* per 1000. Cash with Order.
G. YORKE, Seedsman, Retford.

SPECIAL CHEAP OFFER of LARGE FLOWERING BULBS.
FREESIA REFRACTA ALBA, 20*s.* to 30*s.* per 1000; 3*s.* 6*d.* per 100. This pure white, sweet-scented, easily-grown flower should have a place in every garden.—J. JAMES.
Please note price of undermentioned, all first-class goods:—Amaryllis, in sorts, large bulbs, sure to please, 30*s.* per 100; 5*s.* per dozen. Callas, in sorts, grand bulbs, 18*s.* to 25*s.* per 100; 3*s.* per dozen. Nerine corusca and sarniensis, Spider Lilies, 35*s.* per 100; 5*s.* per dozen. Ixias, in sorts, 12*s.* per 100. Babianas, in sorts, 15*s.* per 100; 2*s.* per dozen. Pancratium caribæum, 8 to 10-inch bulbs, 50*s.* per 100; 8*s.* per dozen. P. amœnum, large bulbs, 35*s.* per 100; 6*s.* per dozen. Water Lilies, 6*s.* per dozen. Crinum Kirkii, very large bulbs, 18*s.* per dozen; 2*s.* each. C. asiaticum and C. zeylanicum, same price. Hæmanthus in sorts, large bulbs, 2*s.* each. Ammocharis, very large, 2*s.* 6*d.* each. Zamias in sorts, 2*s.* each. Orchids, from 6*s.* per doz. New Seed of Tea, Coffee, Silver Cape Tree, 1*s.* per packet. Cash with order. New LIST free. All other Bulbs at low rates. Trade supplied.
J. JAMES, Importer of New and Rare Bulbs, Plants, and Seeds, New Malden, Surrey.

SERPENTINE GARDEN FOUNTAIN.
New—Effectual—Unbreakable.
Placed on Lawn will throw water 20 to 40 feet, according to power. Price, 2*s.* 9*d.*; larger, 5*s.* 3*d.*, post free. Buy one, and astonish your friends.
4, Windsor Court, Monkwell Street, E.C.

WARE and SONS' FLOWER POTS ARE THE BEST.
THE SUSSEX POTTERY WORKS, UCKFIELD.
Quotations given for quantities. Carriage paid to any Railway Station. **The Best are Cheapest.**
SAMPLES and LISTS FREE. Crates packed.

NICOTINE SOAP.—Effectually eradicates all Insect Pests, without injury to foliage. Price, 1*s.* 6*d.*, 3*s.*, and 5*s.* 6*d.*; 14 lb., 15*s.* 6*d.*; 28 lb., 25*s.* To be obtained through all Seedsmen and Florists.—CORRY & CO., Ltd., 13, 15, and 16, Finsbury Street, London, E.C.

ORCHID PEAT; Best Quality; BROWN FIBROUS PEAT for Stove and Greenhouse use. RHODODENDRON and AZALEA PEAT. Samples and Prices of
WALKER AND CO., Farnborough, Hants.

ORCHID PEAT.
PREPARED, ready for use, all fibre, 10*s.* per sack; 5 for 47*s.* 6*d.*
SELECTED, in blocks, very fibrous, 8*s.* per sack; 5 for 37*s.* 6*d.* SECOND QUALITY, 5*s.* per sack; 5 for 22*s.* 6*d.*
BROWN FIBROUS PEAT, for Azaleas, Rhododendrons, and Ferns, 4*s.* per sack, 5 for 18*s.*; and 3*s.* per sack, 5 for 12*s.* 6*d.*
PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM, each 2*s.* 6*d.* per sack; 5 for 10*s.* PREPARED POTTING COMPOST, 4*s.* per sack; 5 for 18*s.* All sacks included.
Send Postal Order for Sample Sack.
Special terms to the Trade. For Price List apply to
THE FORESTER, **Joyden Wood**, near **Bexley, Kent.**

EPPS'S Selected PEAT,
For ORCHIDS, STOVE PLANTS,
Hardwood do., Ferns, and Rhododendrons, by sack, yard, ton, or truckload. **SPECIAL ORCHID PEAT,** in sack only.
Rich fibrous LOAM, superior LEAF-MOULD, Coarse, Crystal, and Fine SILVER SAND, CHARCOAL, C. N. FIBRE REFUSE, fresh SPHAGNUM, Patent MANURES, FERTILISERS, INSECTICIDES, and all other Garden Requisites. **Peat Moss Litter.**
The Original Peat Depot, RINGWOOD, HANTS.

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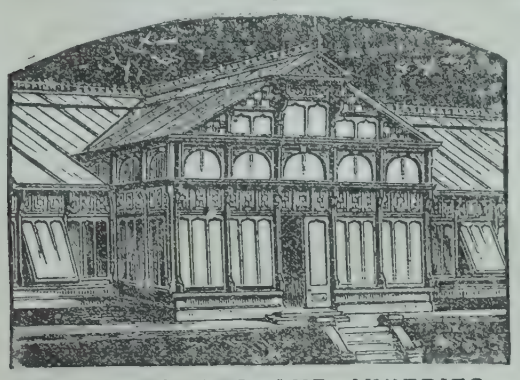
WINTER GARDENS, CONSERVATORIES.

Surveys made in any part of the Country.
Ladies and Gentlemen waited upon by Special Appointment.



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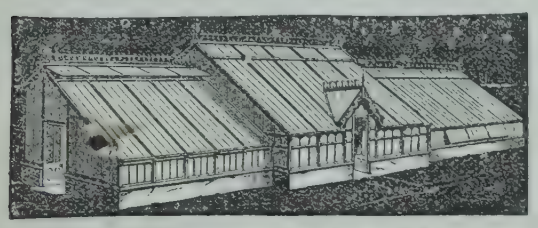

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GARDEN FRAMES in great VARIETY.

The BEST and CHEAPEST in the MARKET.
WRITE FOR LISTS.

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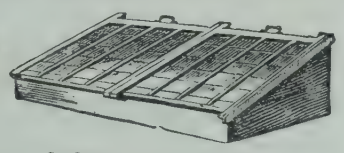

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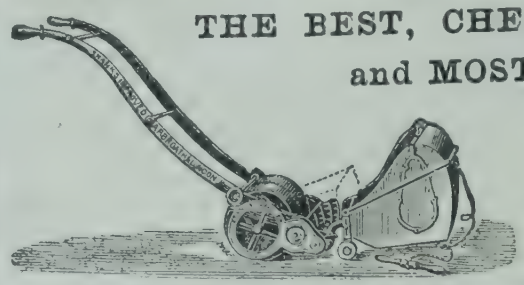

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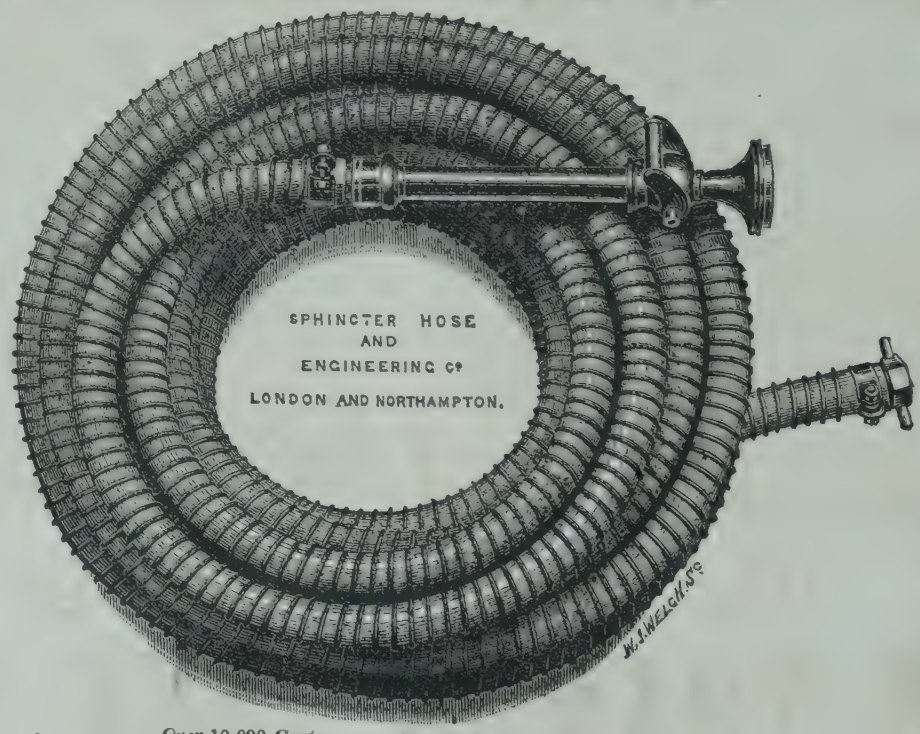

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(See Large Advertisement facing page 623, May 27, 1893).

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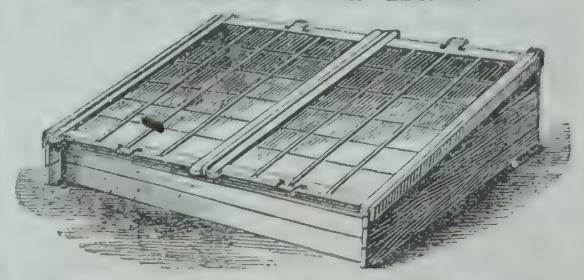

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Owing to the exceptionally early season a SUPPLEMENTARY SHOW of **CUT ROSES** will be held on **June 14 and 15.** A SPECIAL SCHEDULE is NOW READY, and may be had on APPLICATION to Mr. H. E. Milner, the Chairman.

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,, 13.—12 ,, Teas and Noisettes, distinct, single trusses	20/-	15/-	10/-
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,, 15.—12 ,, any Tea and Noisette	20/-	15/-	10/-
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** Exhibitors may only Show in one of these Classes.*

Meritorious Exhibits not named in the Schedule will be recognised. Prizes, Medals, and Certificates awarded for every Show.

All applications for entries, schedules, regulations, and further information should be addressed to Mr. H. E. Milner, the Chairman, at the Offices of the Exhibition, Earl's Court, S.W.

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EULOPHIELLA ELISABETHÆ

An absolutely new and astonishingly beautiful Orchid, for which a new genus has been created.

THIS NEW MADAGASCAR SPECIES IS NOW OFFERED FOR THE FIRST TIME.

It has been named in honour of the Queen of Roumania, Carmen Sylva.

Messrs. F. SANDER & CO. will include in their GREAT SALE of DENDROBIUM PHALÆNOPSIS SCHRODERIANUM, on FRIDAY NEXT, a grand importation, in magnificent order and condition, of the above New Orchid. It was discovered and collected by an independent gentleman, M. L. Hamelin, who has previously sent only three plants to Europe, one of which was exhibited, in flower, at the last Ghent International Exhibition, where it created, among Orchidologists, a profound sensation, and commanded universal admiration. It was the one particular gem, and by far the loveliest New Orchid in the whole exhibition. Plants now offered have been received direct from its discoverer, M. L. Hamelin, who says its flowers resemble Phalænopsis blossoms, and are produced as many as forty on a single spike, and he has seen masses with twenty and more spikes. The flowers last two months in perfection, April, May, and June being its season of flowering. This new Orchid grows on trees, at about 40 feet from the ground, over swampy land, and only on one species of tree, in the far interior of Madagascar, and Mr. Hamelin assures us that he has collected every plant he could find worth collecting.

The *Gardeners' Chronicle* says:—"It was decidedly one of the most remarkable Orchids, if not the most remarkable plant, in the last Ghent International Exhibition."

Mr. W. WATSON, in the *American Garden and Forest*, says:—"This is a plant of extraordinary interest and beauty, with white flowers, a yellow lip, and rich crimson-purple scapes."

The *Gardeners' Chronicle* also says:—"The flowers are as large as those of Odontoglossum citrosmum, white, with the outer surface purplish-red, callus of the lip orange-yellow. We earnestly recommend to purchasers this very free-growing and truly magnificent new Orchid."

SANDER, ST. ALBANS.

J. WEEKS AND CO., F.R.H.S.,

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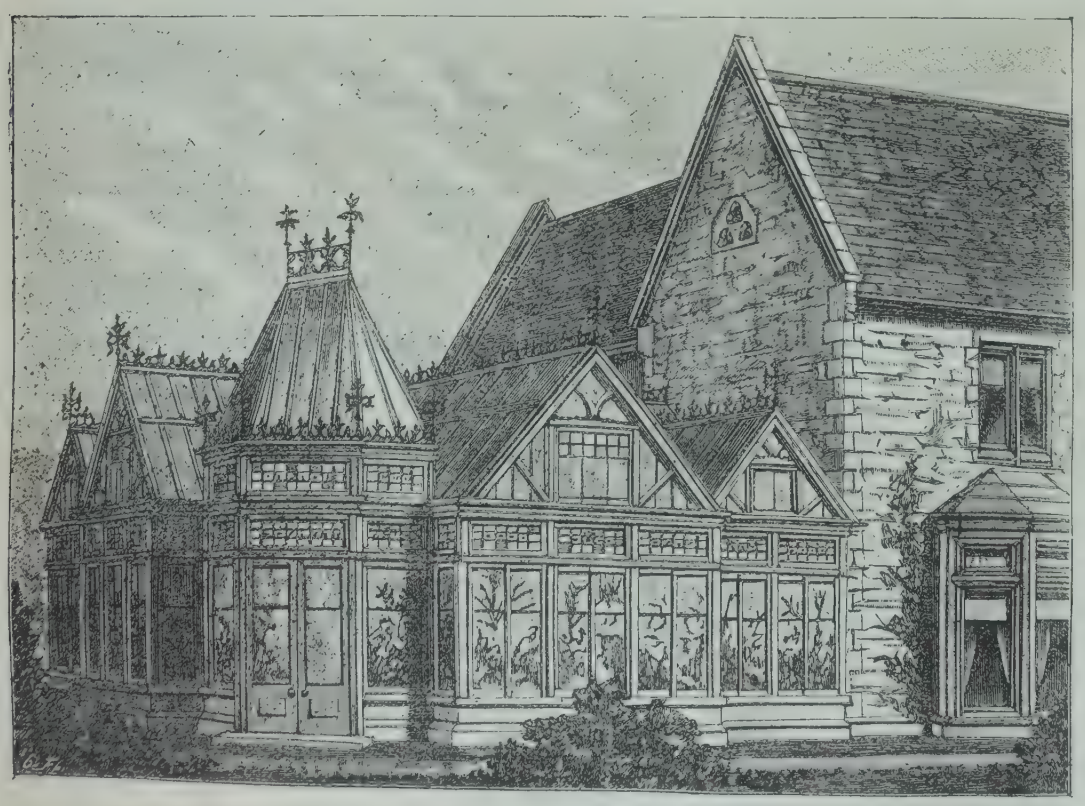

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THE ELEPHANT MOTH DENDROBE.

DENDROBIUM PHALÆNOPSIS VAR. SCHRODERIANUM,

THE KING OF THE GENUS.

Which may be considered the GRANDEST and in every way the FINEST-KNOWN ORCHID, and

THE ORCHID SENSATION OF THE CENTURY.

It is the grandest Orchid ever introduced. There is no gem in the whole Orchid Flora comparable to this, the "KING OF DENDROBES;" and, for the introduction, we are indebted to the energy and enterprise of Mr. F. Sander.

THOUSANDS of PLANTS will be SOLD by AUCTION at

MESSRS. PROTHEROE & MORRIS' ROOMS,

On FRIDAY NEXT, June 9.

This Orchid is, among Dendrobes, the Vanda Sanderiana among Vandas, and as totally distinct from all other Dendrobes as Vanda Sanderiana from all other Vandas. It is a gem among Orchids quite incomparable.

THE FACT of the sensation it has caused when exhibited before the Royal Horticultural and other societies, at the Drill Hall, and elsewhere, proves than when we state this Dendrobium to be "THE KING OF THE GENUS," we do not over-estimate its beauty.

THE FACT is, Mr. James O'Brien says it is a very free doer, as is evidenced by the fact of the original plants, now in collections, having been grown from such small scraps as they were when first received.

THE FACT that there will be shown, on the day of Sale, dried flowers, ranging from white to rose and purple, proves that our New Guinea variety is finer than the original.

THE FACT that we are able to show quantities of flower-spikes over 2 feet long, proves that this Dendrobe is as fine for cutting-purposes as Odontoglossum Alexandræ, and it even surpasses that grand Orchid in its more brilliant colouring, lasting equally long in perfection.

THE GARDENERS' CHRONICLE, November 28, 1891, says:—"THE ELEPHANT MOTH DENDROBE.—A good many superlatives have been made use of in alluding to this plant. Those who will go and see for themselves, will come to the conclusion that the plant is none the better for these high flown epithets, which lead rather to distrust than to confidence. But in presence of the flowers themselves, the visitor is apt to get enthusiastic, and himself indulge in the very figures of speech which previously he had made up his mind to consider as auctioneer's rhetoric."

THE JOURNAL OF HORTICULTURE, March 24, 1892, says:—"E. M. Mundy, Esq., Shipley Hall, Derby, had a remarkable group of the magnificent new Dendrobium Phalænopsis, known as Schroderianum, the flowers of great size, and varying in colour from the richest crimson to the most delicate tints of pale crimson. A Silver Banksian Medal was awarded for the group."

THE GARDEN, March 26, 1892, says:—"DENDROBIUM PHALÆNOPSIS SCHRODERIANUM (Shipley Hall var.).—This recently-introduced type from New Guinea was shown in splendid form at the last Royal Horticultural Society's Meeting on March 22. In the forms of Schroderianum there is great diversity of colour. The flowers of some may be termed quite light, while others have a rich rosy-purple shade. In the Shipley Hall variety, the latter shade of colour is well represented, combined with flowers of beautiful form. The plants shown betokened a free growth, especially so considering the little time they had been imported. The flowers last a long time in beauty. Some already have been in good condition for two months; this in itself is a good recommendation."

THE GARDENERS' CHRONICLE, October 15, 1892, says:—"DENDROBIUM PHALÆNOPSIS SCHRODERIANUM.—Mr. Jas. Cypher, of Queen's Road, Nursery, Cheltenham, like all others who have it, speaks in the highest terms of the beauty and free habit of this fine Orchid, and sends two made-up sprays of a dozen flowers each to show how the different shades may be worked in for florists' purposes. The combinations arranged with Maidenhair Fern are very beautiful. This fine introduction of Messrs. F. Sander & Co. is pronounced on all hands to be one of the most satisfactory of recent times. It is free to grow, profuse in flowering, and the variation in the different specimens is so great, that while all are beautiful, there are scarcely two exactly alike. Recently the Rev. E. Handley exhibited a plant with twenty-three flowers on a spike, and now Mr. Jaques has one with twenty-six in the collection of Baron Ferdinand de Rothschild at Waddesdon."

THE GARDENERS' CHRONICLE, November 28, 1891, says:—

DENDROBIUM LEEANUM.

"This is a handsome new species imported with D. Phalænopsis var. Schroderianum by Messrs. F. Sander & Co., of St. Albans, and bears stout sprays of handsome flowers, arranged after the manner of those of D. superbiens. The flowers are distinct in all points, and more especially in the open form of the labellum, and in the petals being narrower than the sepals. The sepals are formed like those of D. Phalænopsis, white at the base, and tinged and freckled with pink on the outer halves. The petals, which are slightly twisted, are of a bright rosy-crimson. The labellum is green at the base, with radiating reddish lines, and the front lobe and the margins of the side lobes are of a rich rosy-crimson. It is a very showy species, and it is to be hoped that other examples of it will appear. It is named in honour of W. R. Lee, Esq., of Manchester, a keen collector of rare Orchids.

The GARDENERS' CHRONICLE, May 21, 1892, says:—"F. Wigan, Esq., Clare Lawn, East Sheen, exhibited Dendrobium Leeanum atro-purpureum, which differed from the type in having the labellum wholly rich dark purple."

The GARDENERS' CHRONICLE, December 3, 1892, says:—

DENDROBIUM PHALÆNOPSIS FITZGER. VAR. ROTHSCHILDIANUM.

"This is one of the best and the most distinct varieties of this noble plant. The flowers are fully 4 inches broad and nearly 3½ inches in height. The colour is snowy-white, with the most tender blush of pink. The plant flowered in Lord Rothschild's collection at Tring Park."

Another white variety flowered in the collection of Mr. P. McArthur, Maida Vale, which, we understand, **realised over one hundred pounds sterling.**

SANDER, ST. ALBANS.

THE

Gardeners' Chronicle.

SATURDAY, JUNE 3, 1893.

THE ISLE OF MAN.

FOR several years past the Isle of Man has been growing rapidly in popularity, and it is now visited in summer by a constant stream of holiday-folk. The fast vessels of the Isle of Man Steam Navigation Company run at almost railway speed, making the passage from Fleetwood to Douglas, 54 miles, at the rate of 18 or 20 miles an hour. The cost of a return-ticket is 5*s.* 6*d.*, and the holder may land at Liverpool on the return journey; or he may start from Liverpool, and return by Fleetwood. The tickets are available for a month, and the saloon costs only 9*s.* 6*d.* Speaking roughly, the island is situated midway between the English and Irish coasts. It may be described as small for an island, large for a watering-place. It is, in fact, about one-fourth the size of the county of Surrey, and it resembles Surrey in the possession of great picturesque beauty, and in the occasional poverty of the soil. Manx has been described as a rock 33 miles long. It would be more correct to say that it embraces within narrow limits an extensive series of rocks of varied strata and formation. The fields throughout the elevated portion of this hilly little country are divided by stone walls. The exposed slopes are generally bare for want of trees. But in one part of the island not far from Tynwald, a very interesting experiment in the planting of hill-sides has remedied this defect to a considerable extent.

Some years since, Messrs. Little & Ballantyne, of Carlisle, were engaged by the Government to plant many thousand acres of land on the sites just referred to, and this they did with great skill and judgment. I was unable to spare a day to inspect their woods and plantations, but I saw them waving their tops in the distance, and I afterwards had a chat with the local authorities at Douglas on the subject, and learned from them that they regard the experiment as having proved eminently successful. A beginning has been made which will render the next steps easier, since one plantation shelters another, and in Manx shelter is all that is needed for the growth of timber.

Rough as the wind may be in exposed places, the island is full of richly-wooded and lovely glens, where the Atlantic winds cease to blow, where the shelter is complete, and where trout-streams rush and glide, and luxuriant foliage overhangs the hurrying water. Ascend Douglas Head on the south side of the bay, and you will find atmospheric pressure enough to shatter the sails of a windmill, or to blow your hat into the sea instantly unless it be held on tight. Descend

into the grounds of the Nunnery near the town, where an impetuous little river passes through a glen, and you will find the birds singing without a feather being ruffled.

A dozen other dells and dingles might be named which are all of them luxuriant with timber and rich in Ferns, such as Fern Glen, which takes its name from its abundant Ferns. On the face of precipices, the Samphire and wild Cabbage find their native sites, and within a stone's throw, in damp sea-caves, or sheltered ravines, are found the Osmunda and Maidenhair. So the contrasts in vegetable growth are considerable. One of the commonest weeds of the island, if I may venture to call it so, is the Fuchsia. It grows everywhere except on the hills, where the wind-proof and stubborn Gorse takes its place. It cheers the cottage gate, the gardens, and the way-sides. If the Gorse should fail and the wind would drop, the Fuchsia might replace it on the mountains, where at present the golden blossoms of the above-named native shrub glitter in the sun, while the air is full of their nutty perfume. This, I think, is good evidence of the mildness of the climate, softened as it is by influence of the same sea that brings to the coast of Cornwall its early Broccoli and Potatos, and its many kinds of outdoor exotics.

Considering the beauty of this bright and breezy island, its relics of the past, its stirring and eventful history, its customs, obsolete but not entirely abandoned, its old castles and new palaces (i.e., hotels at Douglas, and the palatial houses outside the town), its romantic past, and the eager energy of its modern life, it must be confessed that the people of Mona form a very interesting nationality. "Mona the lone"—no longer left alone—has well-earned its Celtic name of "Ellan Vannin Veg Veen," "Dear little Isle of Man," and till the speech here quoted disappears, as it must under the vigorous annual blast of Lancashire talk and song hurled from the throats of prompt-paying tourists, it will remain one of the five representatives of a great primordial language; while the little nation of Manxmen, only 60,000 in number, but full of vigorous character, still represents a distinct branch of one of the primitive races of Europe. Mr. Hall Caine, author of *The Little Manx Nation*, has correctly described ten centuries of Manx history as having been much like our own record, "full of lusty fights, victories, vanquishments, quarrels, peace-making, shindies big and little, rumpus solemn and ridiculous." It must have been in the course of the fighting epoch of their history that Manxmen were endowed with three legs to insure their mutual safety in fight, or sometimes perhaps in flight; and in the same troubled epoch probably the cats lost their tails. On this point, however, it is pleasing to report, in proof of progress, that at the present time the cats for the most part have been re-tailed; while the extra leg has become a legend, and a mere heraldic device. The little Manx nation is, in fact, as modern as most others in its developments. Douglas is not the ancient capital, but it has become by far the most important port and town. Nine-tenths of the visitors to the Island, and half its native population, dwell in Douglas, in houses that ascend the slope on which the town is built, or cluster round the pier and quays, and extend about a mile along the concave shore of the bay. The beauties of the coast may readily be seen in the course of a trip round the island in a steamboat, which sails daily for the purpose and keeps close to the shore. Tynwald Hill, where an annual function still takes place founded on ancient Scandinavian custom, can best be visited by railway. Those who do not care to walk far may explore the island, with economy, in coaches and carriages chartered by visitors who co-operate for the purpose. Many persons will find the trip to Peel Castle the most interesting of all. The castle is the oldest in the island. It is planted on a rock fretted by the waves on three sides, and known as "St. Patrick's Isle." Within its walls, inclosing a little territory of 7 acres, the ruined cathedral carries us back to the fifth century, and the introduction of Christianity to the island, and ruins still more ancient survive from pre-Christian times. The kings of Man kept their state here, including the Earl of Derby and his celebrated Countess, who defended Lathom House, the seat of her husband's family, before Knowsley was built. As Peel Castle is one of the many places which Sir Walter Scott has peopled by the magic of his pen, we should like to speak of *Peveril of the Peak*, and of some of the scenes which were laid in Peel Castle. And I could willingly tell the story of some of my walks and rides in the island, but the limits of space in this journal forbid. Some of the best gardens are found in the suburbs of Douglas. *H. E.*

New or Noteworthy Plants.

CRASSULA CENTAUROIDES.

A fine pan of this beautiful South African species, covered with countless rose-coloured, star-shaped flowers, has been in bloom in McArthur's Nurseries, Maida Vale, London, W., for a considerable time, and it will continue to flower yet for an indefinite period.

As a basket plant for conservatory or greenhouse, or to be used in the many ways such graceful plants are now in decorations, it should be a good thing worth growing in quantity. It may probably be useful for bedding also, or at least for hanging over the edges of vases in the flower garden. *J. O'B.*

Galanthus gracilis, *Celakowsky, in Zylas. otisk vest. Krakos*, pp. 184—198, tab. 9.

I am indebted to Herr Polaky, of Prague, for beautifully-dried specimens of this plant, collected in woods near Sumla or Choumla, in Bulgaria, by J. Milde, flowering in March. It is fully described and figured by Celakowsky, as above cited, and is also described in Velakowsky's *Flora Bulgarica*, p. 539. It is very nearly allied to G. Elwesii, being similar in stature, and in having a large blotch at the base of the inner segments of the perianth, of which, however, the apical lobes are oblong, and not at all crisped at the edge. It appears to be widely spread in Bulgaria. The following description is drawn up from Herr Polaky's specimens:—

Bulb small, globose. Sheath 1½ to 1⅔ inch long, truncate at the apex or laterally slit a little. Leaves at the flowering time produced about 2 inches from the basal sheath, ¼ to ⅓ inch broad, glaucous, the edges not at all reflexed. Scape overtopping the leaves; bract convolute, about an inch long; pedicel shorter than the bract. Outer segments of the perianth obovate-cuneate, ¾ inch long by half as broad; inner segments half as long as the outer, deeply emarginate, with two round apical lobes not at all crisped at the edge, and a large green blotch over the lower part of the back, which is either confluent with or separate from the green horse-shoe shaped blotch that runs round the apical sinus. Anthers very mucronate; filaments very short.

I find that Velakowsky, in his *Flora Bulgarica*, published in 1891, on p. 540, also describes a Galanthus maximus, so that this anticipates my name for Mrs. Backhouse's Snowdrop, published in *Gardeners' Chronicle*, 1893, i., 354, which I will therefore change to Galanthus grandiflorus. The Bulgarian G. maximus, of Velakowsky, is also nearly allied to G. Elwesii, and has a truncate basal sheath, leaves not reflexed at the margin, obovate very concave outer perianth-segments, abruptly contracted at the base and inner segments with a large green blotch on the lower part of the back and not crisped divergent quadrate apical lobes. *J. G. Baker.*

Orchid Notes and Gleanings.

THE BURNPARK ODONTOGLOSSUMS.

I have had the pleasure, along with three friends, of seeing this fine collection of Orchids, and I have no hesitation in saying that, although small, it would be very difficult to find another to equal it in point of good cultivation. Before describing a few of these plants, I may for the benefit of your readers say a few words about the owner of them.

Edward Bryce, Esq., of Burnpark, is a Glasgow merchant. An enthusiast in horticultural pursuits, whose name is well known in Scotland as a Heath grower, as he has carried off many of the leading prizes at flower-shows in various parts of the country. Ultimately, the Heaths became too large for his houses, and having a wish to try the cultivation of Orchids he sold them off, and turned his attention to Odontoglossums. I may say that Mr. Bryce in person looks after the Orchids, and he has three nice houses filled with them, and to see him in his glory one has to find him among his plants, a number of which are in bloom at the present time. The plants are grown in 12 and 14-inch pots and pans, many of them possess three and four spikes, with twelve to fifteen blooms on each, a number of which measure 3 and 4 inches across. There was noted a very fine piece of O. Ruckerianum, with a branching spike having twenty-eight blooms on it, which average 3 inches across; some good pieces of O. Hallii have long spikes of rich flowers; a fine variety of O. crispum, which Mr. Bryce thinks is novel in point of colour, was imported a few years ago, and the plant has grown very well, having now nine fine pseudobulbs, and a flower-spike with twelve blooms, of which I send one for your inspection. [The flower sent was of large proportions, with broad sepals and petals, handsomely marked with brown. Ed.]

There is a good collection of Masdevallias, including M. Veitchiana, M. Harryana maxima, M. Bull's Blood, the true variety, and in fine condition; M. ignea, also the true variety of M. militaris, beside many others, which are all in the finest possible health.

The Cœlogynes here are also in capital order. They are grown in Teak-wood tubs, 8 inches deep, 16 and 18 inches in diameter, and the compost used for them is principally sphagnum, with a few pieces of good fibrous peat and some silver sand. *J. F.*

THE CHICAGO EXPOSITION.

Our correspondent at Chicago writes as follows "The great fair is opened at last, and it is a matter of pride to our fraternity that the floricultural exhibit was far more advanced than any other department at the time of opening. Most of the buildings were full of unpacked cases, with a completed exhibit here and there amid a waste of unfinished arrangement, but although the department of horticulture was not nearly completed, there was a very attractive show.

The Primula display in January was closely followed by a show of Cyclamens, the exhibitors being much the same as those in the Primula classes. Very grave dissatisfaction was caused by the system of judging: for judging the Cyclamens the committee on awards selected a lady, utterly unknown to horticultural fame, from some little town in Indiana. Her incompetence was so marked that a storm of criticism ensued, resulting in her withdrawal, and the substitution of Mr. Pfister of Washington, who judged

the Primulas. The same gentleman was called on to adjudicate on the Cinerarias and Calceolarias, the latter plants being now in fine bloom. The committee on awards, which had at first ignored the suggestions of prominent horticulturists in selecting judges for this department, have been brought to task by the horticultural press, and appears willing now to receive advice, but they are seriously embarrassed by the lack of an appropriation to pay the judges their expenses, apart from any compensation for their work.

The backward spring and continued wet has retarded the work outside, and May 1 found the outdoor flowers conspicuously absent. The Tulips were just showing colour, which will sound odd to English gardeners, whose displays were, I judge, nearly over by that time. The Pansies, which we were looking forward to for a fine display, were without any open flowers. So far as we can judge now, the outdoor displays have stood the winter very well. The very severe weather was, however, continuous, instead of the alternate freezing and thawing which is so injurious to our gardens, and every possible care was taken in the planting.

In the great Horticultural Building, the space under the dome is now filled with magnificent specimen plants, the States of New York, New Jersey, Pennsylvania, and Massachusetts, contributing the greater part of the display. Little Jersey has the distinction of furnishing the largest individual exhibit, that of Pitcher & Manda. Their exhibit covers 20,000 square feet. One of their groups consists of Araucarias, including some sorts never before exhibited here; while another attraction is a double avenue of Tree Ferns, ranging in height from 7 to 20 feet. In addition to this indoor display, the same firm has a fine collection of hardy plants on the Wooded Island.

Ontario, Canada, has sent us a large exhibit, including some very showy specimen plants. It also should be mentioned that the Canadian exhibit excelled any other received in the excellence of its packing. Among the Canadian Palms was a Livistona australis, having thirty-six leaves; Areca rubra, 15 feet high, and some very fine Latanias. There were some very fine Araucarias, and a Cycas revoluta with ninety leaves. These plants are all from the vicinity of Toronto, and are in the charge of Mr. Ewing of the Normal School, and Mr. Houston of the Central Prison.

A quantity of superb Rhododendrons has arrived from France. They are fully set with buds, and came in the best of condition. Their roots were wrapped in moss enclosed in basket-work. Those remarkable Platyceriums from New South Wales have been arranged charmingly by Mr. Thorpe. These Ferns when collected, were entirely girdling trees, and the trunks had been simply sawed off above and below the plants. These sections of the trunks have been spliced, above and below, to other trees, while a growth of Vines has been encouraged, so as to disguise the fact that the trees are no longer growing. The result is, that we see the Ferns as they grew at home. The other Ferns in the New South Wales exhibit are all doing well.

The miniature Japanese garden, under the care of Mr. Isawa, is now completed; with its little bridge and oddly dwarfed trees, it is quite suggestive of the landscape on an old-fashioned willow pattern tea-cup. The Japanese gardeners are very intelligent men; they have favoured the Chicago Florists' Club with some interesting papers on the progress of their art in Japan, and have made many friends here in the trade. *E. L. Taplin.*

M. LÉON SAY.

(President of the Société Nationale d'Horticulture de France.)

LÉON SAY.

The recent exhibition at Ghent was remarkable, among other things, for the very large gathering of horticulturists from all corners of the globe. Specially noticeable also was the way in which the great horticultural societies of Europe were represented by their Presidents or other officials. The Ghent Society was of course presided over by Count de Kerchove, as learned as eloquent, as genial as hard-working, and to whom representatives of all nationalities were eager to express their gratitude, in the firm conviction that they belonged to the most favoured nation! We had the pleasure of presenting his portrait to our readers at p. 449. At the side of Count Kerchove, at the luncheon given to the jury, were the President of the Verein zur Beförderung des Gartenbaues of Berlin, Baron von Pommer-Eschen, the President of our own Royal Horticultural Society (Sir Trevor Lawrence, Bart.), the President of the Angers Society (M. de la Devansaye), and so many other Presidents that they might have constituted a numerous upper chamber. Conspicuous also was M. Léon Say, the President of the Société Nationale d'Horticulture de France, a society which held high festival last week, its great summer show taking place on the banks of the Seine simultaneously with our own on the banks of the Thames. We may venture to congratulate our French neighbours on the circumstance that their Society is presided over by so distinguished and far-seeing a man. Far beyond the bounds of horticulture, M. Say is known as a political economist, a financier, and a statesman. We claim him as a colleague—not only as a horticulturist, but as a journalist, as for several years M. Say edited the *Journal des Débats*, the French journal which is perhaps better known and more highly regarded in this country than any other. M. Say has been Préfet of the Seine, in which capacity he came to London to express the thanks of his countrymen to our citizens for the manner in which they contributed to the relief of the beleaguered inhabitants of Paris. Under the *régime* of M. Thiers, M. Say became Minister of Finance, and held that office under several administrations. For a short time also he acted as Ambassador at the English court. To some extent the Ghent show was utilised as a demonstration in favour of Free Trade, without which the generally-diffused prosperity of horticulture would be impossible. M. Say's presence at Ghent was from this point of view specially significant, and his speech at the luncheon was particularly appropriate. In the duty of conferring the greatest amount of happiness on the greatest number of individuals, horticulture plays a very important part; and so long as men like M. Say preside over the destinies of our great horticultural societies, there is no fear that the great principle we have alluded to will be lost sight of.

CALIFORNIA.

With reference to the article on "California," which appeared in the *Gardeners' Chronicle* of March 11 last, I send you the following correspondence which I have had since on the subject from two friends engaged in the fruit-growing industry of California. I quote first from one who has been engaged in that line for the last fifteen years, and therefore can speak with some authority on the subject:—

"I have received the *Gardeners' Chronicle* of March 11, 1893, and have read the article 'California.' I regret to say that we often hear statements like those of Mr. Malcolmson, but as yet I have failed to find the parties making these immense profits. If you read the last paragraph in the article, you will get at the gist of it. The article is written in such a way as to state nothing

improbable or untrue, but the whole case is not submitted—only the side for the plaintiff. I could give you a far different version. Nothing is said of the failure of crops, the loss by Phylloxera and other diseases of Vines, or about the 'cottony cushion' and other varieties of scale attacking fruit trees; nor about the high rate of freight, which makes a fine crop a miserable failure. Mr. Malcolmson apparently has gone to Scotland with the object of floating the San Fernando Ranch. There is in this ranch (Santa Monica) some very good land, provided you can get water for it, and some which is absolutely waste. The horticulturist from the home country would have to unlearn all he knows, and to begin afresh, as the problems here are entirely different from what they are with you; in fact, the most successful have been those who knew nothing whatever of horticulture when they began, and so had nothing to unlearn. Good land, with water in good location, commands a very high price, even as much as £200 an acre for the bare land. In fact, the land is valueless, unless the position is good and there is plenty of water. There is a saying here, that they give you the land, and sell you the water and climate.

"I know people in Vernon Dale who have a ranch of 9 acres. They have been cultivating it for over twelve years, and are only making a bare existence. They are only four in family, and live in a way that you would shudder at. Mr. Malcolmson cites his own case of taking possession of 160 acres in a desert state, and transforming it within the short space of three months into one of the most promising vineyards in California—a statement which the Editor of the *Gardeners' Chronicle* wisely called in question. Mr. M. broke up the land and planted it in that time—no great task, with plenty of help. I planted 30 acres of Vines in three days, but never got any return from them in ten years. For this reason alone I say that the article is overdrawn. Mr. M. is wise to state that there is plenty of hard work, but there is very little to show for it. He probably has land for sale, or, rather, wants to make a commission."

My other correspondent has been in California only a short time, but has had all his wits about him. He dates from Glen Rosa Vineyard, Fresno County, and writes:—"I am afraid the writer in the *Gardeners' Chronicle* of March 11 last is not quite correct about the fruit-growing industry here. As far as I can gather, things are not very promising in this part, and the accounts one gets are greatly over-rated. I have been taking every opportunity of getting information from people round about, and nine out of every ten would sell his ranch if he could. Nearly every ranch is mortgaged, and the lowest interest is 8 per cent. The owner of this ranch has not paid working expenses since he came, and he has been here for five years. This is the best district for raisin-making, but the price has been so low for the last two years, that it has been hardly worth while to pick them. I would not take a ranch at present, as there seems little prospect of making more than an existence. A 20-acre ranch with bearing Vines would cost between 4000 dols. and 5000 dols., and that would only be sufficient to keep one person. There is a great amount of steady labour required to keep your land in order. During the last two months, a friend and I have ploughed between us 60 acres, and, as the weeds grow so quickly, had to cross-plough the whole again. You must keep the land broken up and free from weeds, which is a difficult and laborious matter to do. Our daily routine is:—Up at 5.30, feed and groom the horses, breakfast at 6, out to work at 6.30; dinner at 12, out at 1, work till 6; supper at 6.30, and to bed at half-past 8 or 9 o'clock. I have given you a rough idea of the fruit-growing industry of California to the best of my ability, but will be very glad to answer any questions you may care to ask."

The above statements from two reliable authorities, whose names and addresses I enclose, are so opposed to what Mr. Malcolmson stated in the *Gardeners' Chronicle* of March 11 last, that I think it only fair to acquaint your readers with them, and show them the other side of the question. *A. B. Steele, F.B.S.Scot.*, 9, *Wolseley Crescent, Edinburgh.*

KEW NOTES.

Alocasia Dussii.—Some specimens of this plant obtained from Dammann & Co., Naples, under this name, are at present in flower, and, according to Mr. Brown, they are nothing but the common Indian Colocasia antiquorum, which is cultivated in most tropical countries for its edible roots and leaves.

Crinum yemense, or jemense.—This was distributed as a new plant by Messrs. Dammann & Co. last year. It has lately flowered at Kew, and has been identified by Mr. Baker as Crinum latifolium, a common species in tropical Asia, and well-known in English gardens. There are several varieties, and Messrs. Dammann & Co.'s plant differs from the type in having less red colour in the flowers.

Amorphophallus giganteus.—Tubers received under this name from Messrs. Dammann & Co., Naples, have lately flowered at Kew. They prove to be Sauromatum guttatum, an Indian Aroid, not uncommon in English gardens. It is grown permanently outside in a sheltered border at Kew, where it flowers freely every spring, the flowers being succeeded by handsome foliage. The true Amorphophallus giganteus has a large inflorescence not unlike that of A. campanulatus.

Amorphophallus oncophyllus, a new species, which was sent to Kew a few months ago from the Calcutta Botanical Gardens, has just flowered. It is distinct and handsome, with a long-stalked inflorescence of the usual striking appearance. A figure of it has been prepared for publication in the *Botanical Magazine.*

Masaranga, or Mappa Porteana, is a handsome stove foliage-plant, which was introduced to Paris from the Philippines in 1888, and is represented in the Jardin des Plantes by a fine specimen. Through the kindness of Professor Max Cornu, Kew obtained a small plant of it last year, and this has grown so rapidly, that it is now an imposing object in the Victoria-house, its large, deep olive-green coloured, with whitish veins, and shield-shaped leaves measuring 2 feet across; when young, the leaves are of a purplish tint. This plant is now in flower, and a figure of it has been prepared for publication in the *Botanical Magazine.* The flowers are not ornamental. The genus belongs to Euphorbiaceæ, and is closely allied to Mallotus.

Stravadium insigne.—Under this name Kew obtained from M. Van Houtte in 1891, a plant which may now be seen in flower in the Victoria-house. Stravadium is now included under Barringtonia, a Myrtaceous genus of tropical trees or shrubs. I know nothing of S. insigne beyond the fact that the Kew plant has a head of large oblong leaves on a stem 1 yard high, and a drooping tail-like raceme, 1 foot long, bearing numerous flowers, which are chiefly a cluster of filaments, 2 inches across, of soft rose-colour. The flowers expand at about six in the evening and fall off early the next morning.

Protea effusa.—A plant, probably of this species, which was raised from seeds collected in South Africa in 1886, is now in flower in the Cape-house. It has a swollen rootstock and a short branching stem, 2 feet high, clothed with pale-green leaves, which measure about 4 inches in length, and ¾ inch in width, and bears at the apex a flower-head 3 inches in diameter, of a dull red tint, and of paler hue inside. A figure of it has been prepared for the *Botanical Magazine. W. W.*

BELGIUM.

M. A. A. PEETERS' FINE ODONTOGLOSSUMS.

Among many fine species and varieties of Odontoglossum, there are some which deserve special mention. O. Ruckerianum purpureum, colouring an uncommon shade of rosy-purple, spots and flecks of unusually dark colouring, the divisions broadly bordered with pure white; O. Andersoni sulphureum, sulphur-yellow, shading into gold—a variety of great delicacy of tone; O. Wilckeanum, flower of large size, divisions very broad, spots of uncommon size; O. Wilckeanum, an offset from the plant from which Professor Reichenbach described the species, which has become very rare—certainly the flower is unusually striking, owing to the contrast between the flush of dark velvety-red, and the ivory-white of the ground; O. crispum lilacinum, a very pretty variety; O. crispum var. virginalis, described last year, and fulfilling all its promise; O. c. guttatum Mariæ, a pretty novelty, flower of perfect form, purest white, and having round markings of rich red; O. crispum, found among an importation, and flowering for the first time; flower admirable, sure to find favour with orchidists, one of the finest crispum seen of recent years. The form of the flower is perfect, but its principal feature is the really wonderful way in which all the large divisions are spotted; the two pure white petals have in the middle a large red-brown spot, with on either side a long-lobed marking of deep blood-red—a few small spots and ten lilac specks give to the whole a most effective tinge. The three sepals are much spotted with brownish-red, shading to lilac, or one might say flushed with lilac. The lip is well marked with the same colours as are the other parts; the whole flower has a beautiful velvety surface. No variety shows to an equal degree the transparency of the spots on the dorsal surface of the divisions; the flower is beautiful even when the back of it is seen. The plant, still young, bears two stems of closely-packed flowers. M. Peeters, contrary to what was stated, obtained the 1st prize for twelve Anthurium Scherzerianum, with spotted flowers, all novelties remarkable for the sizes of the spathes and their brilliant colourings.

Conferment of Honours.

After the Ghent Quinquennial Exposition, His Majesty, the King, conferred the cross of Chevalier of the Order of Leopold upon M. Ernest Fierens, the zealous and devoted Secretary of the Société Royale d'Agriculture et de Botanique; M. Arthur Desmet, nurseryman, who took a prominent part in the Exhibition; and M. Ch. Spae, a member of the Council of the Society; and M. Vanderswaelman, architect, of Brussels, attained the same distinction.

Meeting of the Orchidéenne on May 14.

A brilliant meeting, at which more than eighty Orchids were noticeable for novelty or good flowering. Among the novelties we noticed a Catasetum of the Rodigasianum class, but with the lip quite different; Mormodes buccinator aurantiacum, of a splendid yellow colour, most showy; a large-lipped variety of Epidendrum Randi, Cattleya Aclandiæ salmonea, with broad divisions, and exceptionally brilliant colouring; and Odontoglossum hystrix var. gigantea, which I may term monstrous, all the divisions are so broad, large, and beautiful. All these Orchids were shown by M. Linden. Odontoglossum vexillarium, from M. le Comte de Bousies, obtained an award, *à l'acclamation*, on account of the uncommon size of all the divisions, but principally of the lip—the colouring is quite exceptionally dark. M. Linden showed a remarkable Cattleya Schroderi alba, Cattleya Mendeli var., with large divisions, and a very beautiful lip; and another fine form of the same Cattleya. We must also mention a choice Gongora tricolor, pretty and novel, from M. Imschoot; Odontoglossum crispum from M. le Dr. Van Cauwelaert, with a large brownish spot on each sepal and on the lip; a pretty, well-coloured Cattleya Aclandiæ, from M. Van Imschoot; and Cattleya Warneri, of fine deep colouring, from M. Linden, who also showed a fine Maxillaria Sanderiana. The lot of Odontoglossum vexillarium from M. le Comte de Bousies, his O. Andersoni giganteum, Selenipedium Parishi, with seven flowers; Cochlioda Noetzliana, well bloomed; Cattleya Skinneri, from MM. Vervaet et Cie.; Lælia purpurata from M. Linden, and his Masdevallias especially deserve notice.

Orchids at Bruges.

At a visit recently paid to the establishment of M. G. Vincke-Dujardin, we could but admire the immense quantities of Lælia purpurata in bloom. These beautiful Orchids were surprising, owing to the sizes of the flowers, the distinct pure white tint of their divisions, and the largeness of the lip, which suggested a Gloxinia. A certain variety was remarkable for the unusually dark colouring of the lip and the golden-yellow background of that part; another for the shape of the lip, as, for instance, in the fine Lælia purpurata Nelisii. All the specimens are in full vigour; some are flowering and forming new spathes at the same time. We admired L. purpurata, with an inflorescence composed of six fine flowers; all had four or five blossoms. The many fine Odontoglossum Coradinæ, with large and beautiful flowers in distinct varieties, make us consider this species as one of the best in the genus Odontoglossum. One O. hastilabium has a floral stem nearly 5 feet long, bearing large flowers. Cattleya Mossiæ is flowering in quantities. We may enumerate C. M. Arnoldiana, new during the last few years, with large pale flowers, the lip all white, lightly specked with purple, the petals white, veined with purple; C. M. aurea, with a powerful Heliotrope-like perfume, &c. *Ch. de B.*

De Smet Frères.

This fine establishment at Chaussée de Bruxelles is steadily improving, and the glass structures seem to encroach somewhat on the area at command, until at the present time there are some fifty houses of large size, and beside these is a great number of skeleton houses which must have cost almost as much to construct as those. The skeleton houses are used as shady quarters for enormous numbers of Araucaria excelsa, which are cultivated. Some of these houses are warmed in the winter season, so as to protect Bay trees and other things which are benefited by a slight amount of protection. The cultivation of Araucaria excelsa is carried out here very extensively, and the houses filled with the evenly-grown perfect plants, ready for sale, form a fine sight. To succeed these there are at present no less than six housefuls of Araucarias under process of propagation, each cutting being covered by a bell-glass.

The Kentia Palms are cultivated in even greater quantity than the Araucarias, and it was stated that some thirty houses are occupied by them alone, in sizes from specimens 10 or 12 feet in height down to tiny seedlings, and all look healthy and well furnished. The prominent things which we noted on this occasion were a noble collection of Cycads, a good collection of Cypripediums, besides other Orchids in excellent condition; numerous Palms, as Raphis, Phœnix, and others; something like 5 acres of Bay trees of all sizes, a very useful and well-grown stock of plants.

Louis de Smet, Chaussée de Bruxelles.

This compact nursery we have never seen in better order than on this occasion, all the Palms, Aspidistras, and other decorative plants being examples of admirable culture. Plants of moderate size seem to be the aim of the proprietor. The Latanias were especially fine and well grown.

Alexis Dallière, Ledeberg.

This establishment was also found in good order. A large quantity of fine Cypripedium insigne showed that this species is largely grown for cutting purposes. Anthuriums filled a large house, their scarlet spathes showing well up from end to end. Besides those above noted, was found the usual good culture of Palms and some other specialties.

TSUGA PATTONIANA.

Thanks to Mr. Croucher, we are now in a position to give an illustration of the mature cone of Tsuga Pattoniana, and in so far to complete the illustrations already given at p. 10, July 2, 1892. The cones in question were produced at the Cairnies, Perthshire, and exactly resemble those we have from native specimens gathered in Oregon. The cone is pendulous, and measures from 2 to 3 inches in length; in form it is cylindric oblong obtuse. The scales are somewhat wedge-shaped at the base, rounded, undulated at the margins, striated, purplish. When fully mature the upper border of the scales is revolute. The bracts are much shorter than the scales, roundish, stalked, shortly acuminate. The seeds are small, like those of other Tsugas, with an oblique brown membranous wing. We must refer to our previous article for further details relating to this interesting species, which differs in some particulars from other Tsugas, particularly in the almost fasciculate arrangement of the leaves, and which is, accordingly, made the example of a new genus called, by Lemmon, Hesperopeuke. Lemmon's view as to its distinctness from Tsuga is supported by the observations of Van Tieghem on the leaf anatomy, the solitary resin canal being in this case separated by two or three rows of cells from the central bundle, not in contact with it as in other Tsugas. For garden use, at least, we prefer to consider Hesperopeuke as a section merely of Tsuga, the points of difference not being of sufficient moment to warrant generic rank. This, however, is a matter of opinion. The leaves are usually more or less angular, but, not unfrequently they are flattish, in which condition, if

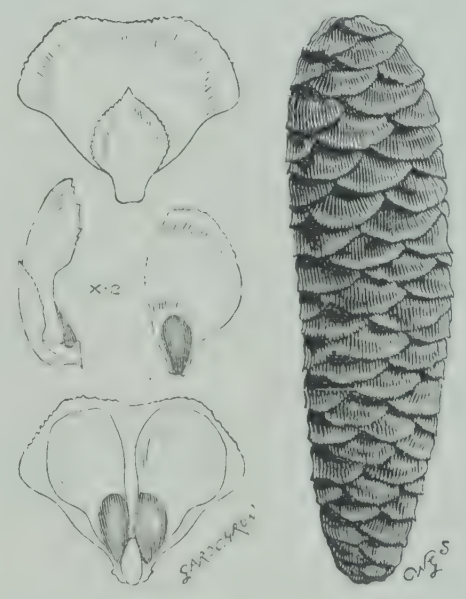

Fig. 96.—Tsuga Pattoniana.

Cone of real size; scale from the back with bract; scale and bract from the side; seed-scale from inside, with two scales. The ripe scales are more striated than here shown, and also more revolute at the upper border.

seen detached from the branch, they resemble those of Mertensiana (Albertiana), but are narrower, not so abruptly rounded at the apex, and stomate-bearing on both surfaces, not on the upper only. The fullest and best account of this alpine species is given in Lemmon's *Third Biennial Report to the California State Board of Forestry*, 1890, p. 126. The tree was first discovered by Jeffrey, and introduced by him to Edinburgh.

NURSERY NOTES.

ORCHIDS AT MESSRS. CHARLESWORTH, SHUTTLEWORTH and CO., BRADFORD AND CLAPHAM.

As importers of fine showy Orchids, this firm has steadily made headway, and in the same proportion has their neat establishment increased in importance. At the present time, the fine condition of some of the Orchids to be found there in quantity is truly remarkable, and among these we may call attention to the houseful of their noted strain of Oncidium macranthum, whose large golden-yellow flowers appear on the fine healthy plants in great profusion. That this is a difficult plant to import is often advanced as a reason for supplying an indifferent specimen, but Mr. Charlesworth asserts that, properly collected and packed, it is easy to get it over in good condition; and surely the matter is worth doing well, for any other than thoroughly sound plants, unchecked in importation, are almost valueless; Oncidium Marshallianum, O. Forbesii, O. Gardneri, O. anthocrene, O. monachicum, and other of the showiest Oncidiums are in quantity here, and many in flower, and the grand strain of Odontoglossum crispum which fill several large houses with established and chiefly unflowered plants, are in fine condition, a very large quantity of sound fresh imported pieces being under treatment ready to swell their ranks.

Cattleya labiata, autumn-flowering type, is another plant of which this firm have made heavy importations; their introductions of Lælia grandis tenebrosa are well-known; Mesospinidium vulcanicum grandiflorum, and Cochlioda Noezliana are two very fine plants; Odontoglossum polyxanthum, O. Hallii, and O. cirrosum, are special features here, and of all these, and of most other showy Orchids there are large quantities, which Mr. Eichel, the cultivating member of the firm, keeps in excellent health. Taking a rapid glance through the houses, we note the first and second are filled with Odontoglossums chiefly O. crispum; with dwarf species, such as Sophronitis, Cochlioda, &c., suspended overhead, and many in bloom. In the next range, a large span-roofed structure in four divisions, we notice in the first the Miltonias in good condition, and among them M. Bluntii Lubbersiana. In the second are Cattleyas Lælia tenebrosa, some of which have broad reddish petals tinged with purple, and a beautiful development and colouring of the lip. In the next division Cattleya Schofieldiana, Lælia purpurata, L. cinnabarina, Oncidium Krameri, and O. sarcodes are in profusion. The last-named, which many find difficult to grow, does well here in a warm and rather shady part of the house. In the fourth division are a fine lot of Miltonia Warscewiczii, a few presumably true Cattleya dolosa, very strong plants of Grammangis Ellisii, a freely-grown plant of Cœlogyne Sanderiana, a nice lot of Cattleya aurea, not large plants, but sound and healthy; and among them a curious-looking plant with two-leaved pseudobulbs, supposed to be a natural hybrid with C. aurea.

Next we come to a range filled principally with the handsome Maxillaria Sanderiana, some in flower; a grand lot of Miltonia vexillaria, also in bloom; and a fine stock of Oncidium tigrinum, &c. Then we enter the Cypripedium-house, also well-filled, and pass to the house of home-raised seedlings—a branch of the business which is here being pushed with evident success.

In the large Cattleya-house we noticed the strain of Cattleya Warscewiczii and C. Mossiæ as being specially fine, and here, too, was a plant of the pure white Cattleya intermedia alba, and some selected forms of Lælia tenebrosa; overhead being well-bloomed plants of Odontoglossum citrosmum, a fine specimen of Oncidium Lanceanum, a pure white Cattleya Schroderæ, and various other good things. In another house Miltonia Roezlii and M. Phalænopsis thrive well, and in the large span-roofed cool house we found a superb stock of Oncidium macranthum, Odontoglossum Harryanum, O. ramosissimum, O. Halli, Epidendrum Frederici Guilielmi, Oncidium concolor, the pretty Bifrenaria Charlesworthii, and other showy species. A consignment of Cypripedium bellatulum, Vanda cœrulea, V. Amesiana, V. Kimballiana, and Odontoglossum crispum, was just being unpacked as we passed out.

Large-flowered Pelargoniums.

It is to the credit of Mr. Jones, of Hithergreen, Lewisham, that he should endeavour to rescue the once so highly-favoured large-flowered Pelargonium from the state of neglect into which it has to some extent fallen; not that it is entirely so as an ordinary greenhouse decorative plant, or in a market-plant sense, but rather that for exhibition, especially in the production of good specimens. Literally, for

several years only Mr. Turner, of Slough, has kept alive interest in show Pelargoniums, through the exhibition of his beautiful specimens. Still, not merely is there room for more specimens, but many more are needed, not only for the beautifying of our shows, but to enable all the best sorts to have adequate representation. In one respect, Mr. Jones does not follow in the Slough path. Mr. Turner still adheres mostly to the old florists' forms, all very beautiful in their way. Mr. Jones, on the other hand, seems mostly to favour what are variously termed French, spotted, regal, or decorative varieties, which produce flowers in exceeding abundance of very varied outlines, and usually have stout compact habits. Then, at Lewisham there is little effort at specimen training. The tying out is of the simplest, a few stakes suffice just to pull the branches abroad somewhat, so that the head be not unduly crowded, and thus specimens some 20 to 24 inches across, with heads literally one mass of flowers, are produced. The advantage specially of this form of training is, beyond its simplicity, that many good plants of diverse varieties may be grown in one house, or be presented in one group, and such representation is needful because of the infinitude of colours and markings found in the section. Here is a list of a couple of dozen selected from the plants in bloom, because fine in flower, very free, varied, and very effective: Empress of India, very large flowers, salmon-orange, top petals blotched crimson; Mr. J. T. Hayes, crimson and maroon, very fine indeed; H. M. Stanley, compact habit, soft lake, with maroon blotch; Agnes Cook, pale lilac, feathered maroon; Duke of Fife, charming lake colour, white throat; Countess, cerise-salmon, white throat, and maroon-splashed top petals; Princess May, soft flesh-pink, a beautiful variety; Starlight, orange-red, deep blotch on upper petals; W. C. Boyes, a pleasing salmon shade of colour; Sir T. Lawrence, purplish-red; Purple Emperor, rich deep hue, very fine; Mrs. H. M. Stanley, soft lake, maroon blotch; Prince of Orange, intense orange shade; Rose Bard, soft rose, blotched maroon; Dorothy, salmon, shaded rose; Champion, huge flowers, white, delicately shaded blush; Alfred Brown, deep red, shaded chocolate; Improved Mrs. Bradshaw, white, dark blotch on each petal; Volonté Nationale, rosy-carmine, edged white; Rose Queen, bluish-pink, strikingly spotted, maroon and red; Kingston Beauty, pure white, purple blotch, old but lovely; Jubilee, soft pink flowers, maroon blotch, a very striking kind; Edward Perkins, bright orange-scarlet; Lady Isabel, soft rosy-lilac; and of distinct new varieties, Mrs. H. Jones, large white flowers, flushed pink, upper petals blotched deep maroon, shading to scarlet; and Mr. H. J. Jones (Hayes), brilliant rosy-scarlet, wonderfully free and effective. The varieties named, and so imperfectly described, for the colouring and marking of the flowers are multiplex, nevertheless give very wide diversity. The culture given at Lewisham includes hard cutting back at the end of July, or early in August, repotting with good turfy loam three parts to one of well-decayed manure, giving the plants plenty of light and air, fumigating to check insects, and keeping clean and well-watered. *A. D.*

THE PYRETHRUM.

Florists have of late years effected such great improvements upon Pyrethrum roseum, or its modern descendants, that it now bids fair to rival the Aster and similar flowers. Messrs. Kelway & Son have greatly contributed towards making it a first-class florist's flower. Probably a few horticulturists can remember the first introduction of the species from the Caucasus, about the end of the first quarter of this century, and the advent of the first double-flowered form, named Pyrethrum roseum flore-pleno, which, though little better than our wild Scabious in form, was thought good enough in its day to receive the honour of illustration in the current botanical literature at that time. Though many bright-coloured single-flowered varieties are still cultivated, and deservedly so, few, I imagine, would care to give space to that first double form in their gardens. As regards the single varieties, however, the old P. r. arlequin, P. r. meteor, and P. r. striatum multiflorum, are still desirable varieties. The Pyrethrum was first taken in hand, probably, by M. Themisterri, a continental grower, followed by others of his neighbours. Mr. Salter, late of Hammersmith, ably seconded their efforts, both as a distributor of their novelties in this country and an improver of the plant and raiser of new varieties. Happily, these plants are very hardy, vigorous, free-flowering, and the blooms last a reasonable time in beauty, being suitable for most of the many decorative uses cut flowers are applied to. At this time we could enumerate almost a hundred distinct and named double-flowered varieties, consisting of very numerous self and particoloured flowers, and with shapes varying from perfect rosettes to Anemone-flowered. To these may be added half a hundred very fine single-flowered forms, also named, comprising many tints between vivid crimson-scarlet, crimson-maroon, cherry-rose, rosy-pink to pure white, &c. Mixed beds of either double or single varieties are charming, such beds when once established, with proper cultural attentions, commencing to bloom early in the summer, and afford supplies of bloom until autumn.

As with all plants that have to bear the heat and aridity of midsummer, and which continue to bloom during that time, these Pyrethrums require abundance of good rotted manure, intermixed with deep rich soil, without which their height is limited, vigour checked, and their endurance curtailed. Beyond this, liberal mulchings with rotted manure, or failing this, Cocoa-nut fibre, tend to retain moisture at the root and increased coolness in the hottest weather. To more effectually aid and protect the roots and enhance the value of such mulchings, it is always desirable to have slightly-elevated edges to the beds they are grown in. In private gardens such edgings either of turf, box, or edging-tiles generally exist. This is not usually the case in nursery grounds, where simple walk divisions occur around rounded beds, from which the rain runs away, and against the sides of which, the heat of the sun's rays is intense. It is well, moreover, to remark here, that not only are more blooms, and in longer succession, produced upon plants having deep rich soil, but the size of the blooms individually is greatly enlarged.

As regards propagation, this is easily done by division. Plants should not remain too many seasons in one place, but be periodically renewed, so that fresh manure be added to the soil below. As the plants commence growing early, even in the month of February, all should be planted permanently for blooming by the end of that month. *William Earley.*

THE GRAND MESA, WEST COLORADO.

Cactuses, etc. — This part of America, which at present is not half explored, has a most interesting flora, and offers to the collector an abundance of new and valuable plants. Besides trees, shrubs, and hardy plants, which are quite hardy for the whole of Europe, the hills and valleys surrounding the Grand Mesa are covered with a profusion of beautiful and rare Cactuses, which stand all our winters without being protected. They have been cultivated at the botanical gardens at Darmstadt, to which they have been sent by Mr. C. A. Purpus, who has during the last year explored these regions. To those who travel in these parts of West Colorado at the beginning of the summer, the Cactuses, with their differently coloured flowers, offer the grandest sight imaginable. There are of all shades, from soft and dark yellow to purple and rose-coloured, blood-red and orange. The Opuntias surpass all the others by their splendid shades of colour, and are represented by four species and as many varieties. Echinocactus is represented by a new species, with one variety, and grows up to an elevation of 6000 feet. In the same regions, and several hundred feet higher up, grows the little Mammillaria missouriensis of Sweet, remarkable for the brilliant scarlet fruits. Mammillaria cæspitosa and M. vivipara, or a variety of it, grow even more plentifully. Cereus phœniceus grows still higher up, the flowers open in June, and are of a gorgeous red, with green pistil; it grows up to an elevation of 7000 feet, but there is a remarkable difference of colour in the variety growing here. There are also growing in the Adopes region up to an altitude of 6000 feet Opuntia rutila, Nutt, and varieties and forms; and Opuntia Camanchica, Eng. and Big. At from 6000 to 7200 feet, the genus Opuntia is also mostly represented, besides Mammillaria cæspitosa, which grows to 2400 feet, and in South-west Colorado even as high as 8000 feet. Regarding the flowers, we find the same different shades, from purple to soft rose, yellow and orange. The third and last Cactus region is also marked by the presence of Quercus undulata and its varieties, from 7300 to 8200, and even higher. Here also Opuntias thrive, and mount higher than any others, in spite of the severity of the climate. All these varieties flowered abundantly last summer at the Darmstadt Botanical Gardens, where they have been cultivated by the Curator, Mr. A. Purpus, a brother of the collector. Regarding their cultivation, it is necessary to plant these Cactuses in very sunny spots, and to keep them dry from the end of July in a very poor soil, consisting of two-thirds stones and sand, and one-third loam. If they are starting to grow again, the young shoots are sure to be cut off by hard frost. The more exposed to the sun they are kept the better they will flower, and the more they shrivel the more readily will they stand the coldest winter. Here the temperature goes down to —20° or —24° Celsius = —11° F., and high up it is still colder. *F. H.*

THE APIARY.

EARLY HONEY.

The honey taken early in the season is rarely good in quality, a fact which has been very apparent this year, and some of the samples which have come under my notice have had a particularly strong aroma. In looking for a cause for this peculiarity, the conclusion come to was that black Currant bushes are much responsible for it, as directly these ceased blooming, an improvement in flavour was noticeable.

The Wells' System.

The honey-flow from fruit trees, Horse-Chestnuts, Hawthorn, &c., which has just ended, has given an opportunity of comparing the results obtained from double and single-queened colonies, these being entirely in favour of the former. The writer is experimenting with two double hives, which, for the sake of convenience, we will call Nos. 1 and 2. No. 1 contains twenty frames in the bottom or brood-chamber, which is divided in the middle with ordinary perforated zinc, and has two entrances, one at each end, extending along the whole width of the hive. Two stocks of fair strength were put into this hive last autumn. They wintered well, and were strong enough to super on April 23, at which date another body-box, containing twenty standard frames, with full sheets of foundations, was put on. On May 13 these were filled, excepting one or two at each end, and 60 lb. of honey was then extracted. Hive No. 2 contains twenty frames in the brood chamber, but in this case the perforated division is made of wood, in accordance with the plan that Mr. Wells advocates, and the two entrances are side by side, and extend along the entire length of the hive, there being a dividing block in the middle to keep them distinct. Two rather weak colonies were put into this hive this spring, and the bees from that time increased in numbers so fast, that they were ready for supering on April 27. Twenty standard frames were given them, some of which contained built-up combs, and on May 13, at which date the first honey-flow in the neighbourhood was over, there were fourteen frames ready to extract from, and from which 50 lb. of honey were obtained. The most honey that has been taken from any one single-queened colony, standing in the same apiary, has been 14 lb. during

the same period, so that if a double-queened hive is considered as equal to two colonies, the results obtained are twice as good with this system of management, and there is no reason to doubt that it will be maintained till the close of the season. A double hive, when stocked with bees, is not more trouble to work than a single one, and so long as care is taken to open only one side of the brood-chamber when any examination is necessary, no trouble is likely to ensue. *Expert.*

The Week's Work.

THE KITCHEN GARDEN.

By H. C. Prinsep, *Gardener, Buxted Park, Uckfield.*

URGENT WORK.—With so many other matters claiming attention at once, it is difficult to afford them attention simultaneously. In districts similar to this part of Sussex, where the rain has been very slight since the beginning of the month of March, advantage should be taken of dull weather, or when rain threatens, to plant out such things as are likely to suffer if kept in the seed or other beds. It is better to defer the planting of others. At such times, the necessary sowings should also be made in drills made moist a few hours previously.

ONIONS. — Spring-sown plants are coming up very badly, especially when the sowings were not very early made; and where this is the case, the land should be thoroughly watered, and when the soil is sufficiently dry to tread upon, the plants, where crowded together, should be thinned, the thinnings being carefully lifted with all their roots, and transplanted into vacant spaces in the lines, and well-watered. Where the seed germinated well, and plants are plentiful, the thinning may be done in the usual manner. The Onion-ground should then receive a dressing of soot at the rate of half-peck to one square rod, and a liberal watering. Seed of quick-growing varieties may still be sown; we have had good results from those sown in June, especially when the character of the weather in the autumn was mild.

CARROTS. — These have also come up very patchy with us, except the short-rooted horn varieties. Carrots do not pay for transplanting, and sowings may still be made with a fair prospect of obtaining good roots if due care be paid to keeping the plants growing. Where the ground is very dry, it should be heavily-watered an hour or two after sowing the seed, or other expedients resorted to. Watering the land, and covering it with mats, hastens germination, and is desirable always with summer-sowings, unless moist conditions of weather prevail. Freshly-dug soil has more moisture at the surface than that which has been turned up for some length of time, and seeds sown on such germinate freely, and the plants make stronger growth from the first.

PEAS. — On heavy soils the last sowing of Marrowfat kinds should now be made. Autocrat is one of the best Peas to sow at this season, mildew making less havoc with the plants than with any other that I have tried. On light soils sowings may be delayed for a week or two longer. Guard against fly on those Peas which are in bloom, or the flowers will not expand or fulfil their purpose. On the first appearance of the fly, in the evening syringe the plants with water in which soft-soap (2 ozs. to the gallon of water) has been dissolved; and keep the soil moist at the roots always.

POTATOS.—As ground is cleared of the early crops, let it be got ready for something else—Kidney Beans, Cauliflowers, Early Broccoli, Lettuce, &c.—unless the site is close to warm walls, which is usually too dry a place for Cauliflowers or Lettuce.

FRUITS UNDER GLASS.

By M. Temple, *Gardener, Carron House, Falkirk, N.B.*

THE PINERY.—It is not a rare occurrence to observe Pine-apple plants infested with mealy-bug, but it is rare indeed to find a house in which the insects have once abounded, entirely freed of them. Some Pines of which the writer had charge some years since, were smothered with this dreaded pest; the stock of plants was large, and the manner in which they were practically cleaned of them is worthy of note in this place. The whole of the plants were, besides, in bad health through drip from the roof of houses and pits, with leaves brown, and hanging over the pots. I had them shaken out of the soil, the roots trimmed and repotted in smaller pots, using turfy-loam. They were then plunged in a warm-bed of leaves, and otherwise treated as I have advised (under similar conditions) in former Calendars; the plants speedily recovered their health, the time being early in the month of June, when sun-heat is usually powerful. Clear soot-water was used for sprinkling them, which was performed lightly with a syringe, and at shutting-up time the top-heat was allowed to rise to 100°, and all bare surfaces were moistened with the soot-impregnated water. In a few weeks little of the mealy-bug was noticed, but it was not entirely got rid of for six months. The continual dewing of the Pines early and late with the soot-water did it effectually. I was foreman in that garden in the South of England, but had full liberty to deal with the Pines and vermin as I chose. Once only have I had to deal with that other nasty pest, white scale, which came with some young plants which were purchased. I kept them (scale) in check with dry soot, frequently dusted over and under the plants; but ultimately a new stock of plants was obtained, which seemed to be the only effectual way of escaping from anxiety, labour, and expense. No half measures will destroy the pests, but soot-water made clear with lime, constantly in use, will eradicate them in course of time.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maiden Erlegh, Reading.*

PEACH AND NECTARINE TREES. — In most parts of the south of these islands the rain has not been sufficient as yet to warrant withholding artificial watering as regards trees on walls and other dry sites, and to do so, or neglect the syringing of the trees will certainly give encouragement to the spread of red-spider, which, if allowed to gain a footing, will entail much labour in dislodging it. The trees that are trained to so warm an aspect as a south wall I prefer to syringe late in the afternoon; those on a west wall in the early morning. The laying-in of current growths to form the foundation of the framework of young trees, disbudding of those that are older and less vigorous, and the final thinning of the fruits will now demand the gardener's attention. That a crop of fruit on a tree that is of vigorous growth may be heavier than that of a weak one, will be obvious to most persons. Any tree bearing a full crop, which is not vigorous, is much benefited if a few good soakings of liquid manure are applied, or failing this, then, some trustworthy artificial manure sprinkled on the soil over the area covered by the roots and watered-in.

FIGS.—Unlike most other wall fruits, Fig trees, where growing in unrestricted borders, have benefited by the heat and light of the past month, and our crop of Figs promises to be the best that we have had, besides being unusually early in ripening. Let sufficient young growths be tied-in to fill up blank spaces on the walls, and all superfluous shoots be removed, such as the growths at the base and those about the ends of the leading branches; and see to it that all shoots that are retained have space to grow, and are well exposed to direct sunlight. Liberate fruits which stick behind the branches; remove root-suckers or "water-shoots," and if the roots are restricted or the land dry, afford a good mulching of rotted manure and then a thorough watering.

PLANTS UNDER GLASS.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

CONSERVATORY DECORATIVE PLANTS.—Abutilons growing in pots or borders delight in good turfy loam and peat, with plenty of sand, sea or other, mixed in the soil, and abundance of water during hot weather. Young plants of these, either raised from seed or cuttings, require a little shade for a time after repotting; when quite re-established plenty of air should be afforded them, and sufficient space to obviate crowding. Habrothamnus elegans, H. aurantiacus, and H. Newelli are plants which possess foliage of a deep green colour, and panicles of bloom of a bright cheerful colour, making them beautiful decorative plants, which are the more effective in large examples, as when planted out. The variety with variegated leaves is very handsome. Notwithstanding the fact that the plants flower well in a border, they do very well if grown in large pots or tubs in good loam and leaf-mould if afforded good drainage, so that plenty of water may be given when they are growing strongly. Cuttings strike freely in sandy soil in heat. Swainsonia galegifolia, and S. albiflora, are among the most useful of plants for decoration and for affording cut flowers; and their graceful climbing habit makes them worth including in any collection. Grown in 8 or 10-inch pots, they may be forced into bloom at any time. The cuttings of Swainsonias strike well if from the young wood, placed in sand, under cover, in bottom-heat. The plant is equally at home planted out or in pots in sandy loam and peat in about equal parts. Cantua dependens, where space is available, is a beautiful old-fashioned climber to plant in the conservatory. It flowers abundantly during the summer months, and its small downy foliage, of a light green colour, and bright rose-coloured tubular flowers, are very attractive. It likes a well-drained border of loam, peat, and sand, with abundance of water when actively growing. Tacsonia hybrida [exoniensis × ?] is one of the best of this class of summer-flowering climbers; the colour of the flower is almost that of Tacsonia Van Volxemi. Tacsonias will now require to be copiously watered at the roots, and heavily syringed overhead, or red-spider will become very prevalent, spoiling their beauty. Some of the strong-growing varieties will need to have some amount of thinning the shoots carried out, care being taken not to injure the best flowering ones, cutting the other shoots right back to the wood. Solanum jasminoides, if growing strongly, and it is required for winter-flowering, should be cut well back to the old wood; when it will soon afterwards push new growths. Keep the plant well syringed, and afford water freely when growth becomes active. Bignonia Cherère, now flowering abundantly, is a very strong grower, and it must be let grow freely, but the shoots should be kept thinly trained over the trellis, crowded shoots flowering badly or not at all.

THE FLOWER GARDEN.

By T. H. Crasp.

The flower-beds should be furnished with all despatch possible, and the showery weather of last week has been favourable to such work. In the northern counties, however, it is advisable to delay the planting of a few tender plants, such as Alternanthera and Coleus a little longer than the general plants, especially if the pots or boxes are not full of roots. In preference to planting small weakly stuff out now, it will be better to keep it under glass another week or so. As soon as plants are put out, a good soaking of water should be given, which will settle the soil around the roots. Seedlings are best planted in drills, and after the plants are well established, the surface may be levelled down with the back of a trowel or a rake. Beds that are already furnished should be neatly hoed, and left in perfect shape around the edges. The practice of raising beds high above the grass and exposing the sides, is not tasteful, but unnatural. Calceolaria beds should have their surface mulched with cocoa-nut fibre or short manure directly after they are planted. A free use of foliage plants of a bold character is desirable wherever there is a suitable position. If such plants as Caladium esculentum, Cannas, Wigandias, Ricinus, Chilian Beet, Salvia patens, &c., are planted in bold masses, a fine effect is produced. Fuchsias are also becoming fashionable for summer bedding purposes, and look extremely pretty if associated with Abutilons; and very attractive beds can be obtained by planting white Marguerites on a groundwork of purple Viola. Beds of Salvia patens edged with white Marguerites, or *vice versâ*, also look very attractive. Where there are large beds of single Dahlias, it is well to adopt the pegging-down plan, particularly if strong plants are used; the top should be pinched out, which will cause numerous side-shoots to start, and these can be readily pegged down, which operation should be attended to until near the end of August. Herbaceous borders should receive another hoeing, at the same time continue the thinning-out of all hardy annuals as they grow large enough, and in the case of failures it is advisable to re-sow the clumps, if nothing else is at hand to fill the borders, and such clumps of annuals if sown late are very useful, especially Mignonette, Nemophila, Clarkias, Godetias, &c., as they come into bloom after most of the others are past their best. Although most lawns are very brown owing to the heat and dry weather, a lot of coarse weeds and grass will be found expanding their flowers, and if allowed to remain, they will soon seed, and produce a lot of plants, which will look very unsightly next spring. To check this, it is advisable to go over the lawns once a week with a scythe, removing the flowers before they run to seed.

EDITORIAL NOTICES.

LETTERS FOR PUBLICATION.—*All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for contributions, or to return unused communications, or illustrations, unless by special arrangement.*

PLANTS, &C., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be carefully packed and numbered, and not more than six should be sent at one time.*

LOCAL NEWS.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

ILLUSTRATIONS.—*Photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c., are particularly solicited; but the Editor cannot be responsible for loss or injury.*

NEWSPAPERS.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Advertisements should be sent to the PUBLISHER.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY, JUNE 6 { Royal Horticultural Society Committees, at the Drill Hall, James Street, Westminster; Lecture at 3 P.M. on Hardy Rhododendrons and Azaleas, by Sir J. T. Llewelyn, Bart.

WEDNESDAY, JUNE 7 { Royal Botanic Society: Musical Promenade.

FRIDAY, JUNE 9 { Royal Botanic Society: Lecture at 4 P.M.

SATURDAY, JUNE 10—Royal Botanic Society.

SALE.

FRIDAY, JUNE 9 { Orchids from Messrs. F. Sander & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—59°.7.

Summer pruning of Apples and Pears, &c.

THIS subject, which was debated fully, and thoroughly threshed out many years ago by the elder RIVERS, and men of his day, is a subject which must not be looked at only from the poetic side, as seems to be the case with some enthusiasts, but from the point of view of varied experience. We cannot let our fruit trees become thickets of shoots, as they assuredly will do if not summer pruned; or have their fruit-spurs, and consequently the blossoms, weakened by lack of direct sunlight and air. We are bound to prune, and the questions that concern us most are when and how much.

To prune earlier than the middle of the month of June is to commence the work before it can be seen which are the shoots that may be left in a shortened-back form to become in two years at the least fruit-bearing, and which are those that must be cut away entirely—that is, the weaker and the crowded shoots. Pruning, we may take it, is, as a rule, not necessary for the life of any kind of tree, but when Nature prunes she takes care, beforehand, that there shall be no open wounds, and she gradually sheds off the extreme tips of the shoots, so that the ground underneath an Oak tree or a Thuya in spring or early summer is often covered deeply with the fallen shoots. The process occurs more or less every year, sometimes to a greater extent than at others. But this natural pruning is apparently not intended to promote the formation of fruit buds, but simply to regulate the form of the tree, and preserve a balance between the tree and its surroundings. Any artificial mutilation causes an injury, although it may not be always observed by our dull selves; but if the trees could speak, as once we are told they could, we might hear some very uncomplimentary remarks, and the fewer mutilations, therefore, the better. In the shedding of the branches such as we have mentioned, mutilation is prevented by the gradual formation of a layer of cork over the surface, and separation does not occur till this is complete, so that there is no more of an open wound than when a leaf falls. In practice one pruning back of the current season's shoots in June, and a partial repetition in August, should suffice, the winter pruning finishing the cycle of work of this kind.

The present Mr. RIVERS, and other good cultivators, leave here and there at the summer pruning a current season's shoot, to act as safety-valves for the abounding energies of the tree—standard, bush, cordon, or trained—but delay this pruning till July. These shoots which are left are not topped, but have almost full play, and are not even laid-in if on a wall, and at the most are but loosely secured. They grow long, and thicken well at the base, but the tree puts forth few shoots after this July pruning, and these few are cut away in the early autumn, when growth is practically at an end; and at the same time the shoots left to act as outlets for energy are cut back to within 8 or 6 inches of their base. This is simplicity itself, and the practice may be recommended for Plums, Apricots, and sweet Cherries, as well as for Apples and Pears. A modification of it is good for the Gooseberry and red and white Currant, and is, indeed, imperative if these are grown as trained plants on a fence, or tied to tall stakes.

The practice of summer-pruning, or pinching-back, seems to have come into vogue with the orchard-house, where the trees are necessarily at some distance from the roof, and are shaded by each other, and the woodwork—however slight—of the rafters. It was seen that it would not do to allow these trees to become crowded with shoots, or the evils of too much shade would end in barrenness. Moreover, it was necessary to curtail growth, if the trees were to be kept within bounds; hence the incessant stopping of the shoots at first recommended, but now almost everywhere exploded in favour of lifting, root-pruning, and keeping the branches thin, so as to admit direct sunlight. The practice certainly tended to fruitfulness, and that was thought by many to be the only aim and object of it, but the trees so managed were usually short-lived, and seldom produced fine fruits. From the orchard-house it extended to Apples on the paradise, and Pears on the Quince stocks, but it is a practice that is deservedly dying out.

We got fine crops of fruit before the days of orchard-houses and the dwarfing stock, but it was only the best gardeners who were persistently successful, the rank-and-file had no code to keep them in the right path. And this code the late THOMAS RIVERS supplied in his work *On the Management of the Orchard-house and Miniature Fruit Garden.* Good work followed the publication of these manuals; but like everything else, the practices recommended were abused, and they are abandoned in part by the best men in favour of the modified system of summer-pruning, the chief points of which we have sketched; and root-pruning and transplantation.

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Royal Horticultural Society will take place in the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday, June 6. Besides the usual display of plants, flowers, fruits, &c., the members of the London Pansy and Violet Society will compete for prizes offered in the schedule. At 3 o'clock Sir JOHN LLEWELYN, Bart., will lecture on "Hardy Rhododendrons and Azaleas."

THE TEMPLE SHOW.—We regret to learn that great irritation was experienced at the regulations relating to the use of tickets at the late Temple Show, by exhibitors and others, with official duties to perform. We fully sympathise with the desire of the Society to prevent abuse and loss, but the show is so entirely dependent on exhibitors, that any undue restriction of their privileges is peculiarly ill-timed.

—— When preparing our report of the magnificent exhibition of the Royal Horticultural Society in the Temple Gardens, last week, we were unable to notice many things so fully as we wished, through having to go to press the same evening. One such exhibit, of which we said but little, was the very interesting collection of economic products and horticultural miscellanies sent by Mr. J. H. VEITCH from Japan, to whom we have been indebted for descriptions of Japanese gardens, as well as for many letters of experiences he has obtained during his travels in the East. Amongst the manufactures from Japan were many kinds of rope, prepared from the tissues of vegetables. One of these is from the hairy covering of the stem of Chamærops excelsa; another from Pteris aquilina, as wel as a much softer one prepared from Hemp. Brushes, too, made from the roots of a Rush and other fibres, and used for cleaning household utensils and kitchen furniture, &c. The climbing shoots of Wistaria sinensis, are used for binding Bamboos in the construction of summer-houses; mats made from the fibre of Pandanus odoratissimus, sieves made of Bamboo, silk and horse-hair; cushions and mats made from Thuia chips, and from paper. Some of the smallest-sized flower-pots said to be used were just a little larger than a thimble, and are used for Palms and other things that have been the subjects of the barbarous system of dwarfing practised by the Japanese. Some very pretty samples of silk illustrated the kinds manufactured there, and some Gall-nut powder, Rice powder, &c., is used in Japan as a toilet requisite for women. Some samples of incense in several qualities attracted considerable attention. A great deal of this is made from the leaves of Illicium anisatum (I. religiosum), and sandal wood, mixed with other ingredients, such as Cloves, &c. Many varieties of seaweed were included in the collection, some of which are used as food in various ways; and a large number of vegetable preparations, some of which looked eatable, whilst others were very far from enticing, showed some of the dainties appreciated by the Japanese. Bottled fruits, such as Oranges, Pyrus chinensis, Citrus Bigaradia, &c., and pickles prepared from Alliums and other vegetables, would scarcely be likely to create an appetite in this country. Some vegetables and fruits were also preserved in tins, such as Peaches and Bamboo Sprouts, which latter is described as being a good vegetable. Vegetable oils were well represented, some prepared from Orange-peel; others from camphor, Diospyros Kaki, &c.; from seeds and plants, such as Camellia, Perilla ocymoides, Torreya nucifera, Cephalotaxus drupacea, Rape-seed and Cotton-seed, besides a few oils prepared from various fish. Shoes, or "gettas," made from wood somewhat resembled clogs. A very nice pair were made from Cryptomeria japonica. Many boxes made from different kinds of Japanese wood, and illustrating the curious taste of the people were shown, including one made from a peculiar kind of Bamboo. The top was carved to represent the figures of lions—this was done rather rudely, but the box was attractive notwithstanding. A hundred or more

pecimens of timber indigenous to Japan, some of which are very pretty as well as odoriferous, conclude the more prominent of the articles in the exhibit.

—— There was no doubt as to the Royal Horticultural Society's Temple Show being a great success from an exhibition point of view, and it is an agreeable task to be able to record the fact that it was also a financial success. The receipts exceed those of any previous year, and this is remarkable, considering the great number of people who were "out of town" on their Whitsun holidays, and that the show had to stand on its own merits without having had the advantage of a Royal Duke to perform the opening ceremony.

COOMBE WARREN HOUSE.—The report published with so much of assurance in the papers on Monday last, to the effect that Lady WOLVERTON had presented her fine residence at Coombe Warren, Kingston-on-Thames, to Princess MAY, as a wedding gift, proved to be absolutely without foundation. The publication of such a report must of necessity inflict pain, and there was not the slightest reason for its circulation. It is not often that wealthy persons make big gifts, but when they do, it is usually for the benefit of the public at large, and not for that of any single individual. The Coombe Warren property, which if not extensive, and is on leasehold ground, is a very charming place, delightfully situated, and within easy driving distance of London. It is therefore a very desirable residence for a wealthy person, and it is not a matter for surprise to learn that its anticipated value is somewhere about £40,000. Whilst somewhat secluded on one side, it enjoys very charming views over Messrs. VEITCH & SONS' Coombe Wood Nursery, Kingston Vale, and Wimbledon Common, and residents have free range over Coombe Wood. The grounds are charmingly laid out, and are admirably kept, a portion being of a distinctly wild character. The favourite flower of Lady WOLVERTON seems to be the Carnation, for fully one thousand of these, many of them large plants, are grown in pots, and as many in beds and borders out-of-doors. Whilst some are of the white and pink Malmaison, and a few named varieties, the bulk are propagated seedlings, raised by Mr. WOODGATE, who certainly has a very beautiful collection.

FIG. 97.—RHODODENDRON (AZALEO-DENDRON) COUNT DE KERCHOVE: A HYBRID BETWEEN AZALEA MOLLIS AND A SPECIES OF RHODODENDRON.

A further feature of the place is found in large cones or pyramids of Ivy-leaf Pelargoniums, standard Fuchsias, and pyramidal Bays; also walls faced with diverse Fuchsias, Heliotrope, and Ivy-leaf Pelargoniums. It is an open secret that the place is now in the market, awaiting a purchaser.

CHICAGO EXHIBITION.—The official catalogue of the Chicago Exhibition, so far as relates to the British section, is published by CLOWES & SON. English exhibitors are few, but they comprise some well-known horticulturists, such as Mr. J. MCINDOE, Mr. W. BULL, Messrs. CANNELL & SON, CARTER & Co., KELWAY & SON, LAING & SONS, and ANTHONY WATERER. British gardening, however well represented in a few details, will be, we fear, inadequately represented as a whole. Mr. W. T. THISELTON DYER, the Director, Royal Gardens, Kew, contributes an introduction to Department B. Horticulture, containing an interesting sketch of the history and present condition of horticulture, with indications of the circumstances which have made it what it is.

FRUIT PROSPECTS.—Those interested in the prosperity of gallant little Wales, will be glad to learn that the prospects of the fruit crops are good at Rhosllanerchrugog!

LONDON AGRICULTURAL SEED TRADE ASSOCIATION.—The annual dinner of the above society was held at the Holborn Restaurant on Monday, May 29, JOHN HARRISON, Esq., of Leicester, in the chair. The chairman, in the course of his remarks, drew attention to the great importance to the trade itself, and to the public generally, of an association, the object of whose existence is protection from fraudulent dealing, the securing of genuine unadulterated seeds, and the settlement of disputes between traders without recourse to expensive litigation. The Association has been pursuing its good work for thirteen years.

ROYAL BOTANIC SOCIETY.—At these gardens on May 26, Professor S. H. VINES gave the first of a course of three lectures on the subject of "Leaves and their Functions."

THE NATIONAL UNITED ORDER OF FREE GARDENERS.—It would be interesting to know something of the origin of this Order, and why it bears the designation of "Free Gardeners." A meeting of the Order was recently held at Ashton-under-Lyne, when it was stated the rapid extension of the Order in the United Kingdom was somewhat remarkable. It is an Order of benevolence and charity, and it is announced that in December last there were 701 lodges, and over 60,000 members. A lodge has recently been opened in London, and it is a matter for speculation whether any *bonâ fide* gardener belongs to it.

PROTECTION.—Since the French Government imposed the exorbitant Import Tax upon Grapes, the Belgian export has fallen to a twentieth part of what it was under the former tariff. While fruits—Grapes, Strawberries, Peaches, Pine-apples, &c., pay 150 fr. per 100 k. (speaking generally, nearly £6 per 233 lb.) on entering France, they are only taxed on entering Belgium at 10 per cent. *ad valorem;* about 10 fr. generally. The vineries of Hoeylaert, which of recent years have attained to considerable importance, are now in a perilous state. Fifty hectares (1 hec.=2½ acres) are covered with glass, one establishment alone possesses 275. It is then comprehensible that the new rates cause considerable anxiety in the neighbourhood of Brussels.

THE DROUGHT AND BIRDS.—It is stated that owing to the drought and the drying-up of ponds and water-courses, thrushes in the southern counties, and especially in the dry county of Hants, found no mud with which to line their nests this year, and for want of it they built them without the usual lining. This has raised the question as to whether the birds falling back upon their hereditary memory, will use mud in the construction of their nests next season? The absence of mud for one season is scarcely enough to make them forgetful of this habit, but it would be interesting to know how many droughty years would be needed to have the effect of destroying their habit in this respect, and it is also asked—How was the habit formed? One can wonder why it is the thrush should line its nest with mud, when the nest of the blackbird has no such lining. In dry parts of the country it has been noticed that some birds have been put about to find water to drink.

GARDENING AND FORESTRY EXHIBITION.—His Royal Highness the Duke of CONNAUGHT, who it will be remembered opened the Horticultural Exhibition last year, visited this Exhibition on Tuesday afternoon, May 30, and was received by Mr. H. PERCY DODSON, in the absence of Mr. MILNER, the chairman. His Royal Highness was conducted through the Forestry section, where the exhibits recently received from Balmoral naturally attracted his attention. Passing through the Rhododendron garden, H.R.H. greatly admired the exhibits of Messrs. LAING and WILLIAM PAUL, and spent some time in the grounds inspecting Messrs. CHEAL'S miniature fruit garden. The Duke also visited other parts of the grounds, and expressed his approval of the improvements that had been made.

TECHNICAL EDUCATION IN LEICESTERSHIRE.—In the half-yearly Report of the Technical Education Committee of the Leicestershire County Council, we find that Mr. J. H. WALKER, F.R.H.S., has been lecturing on horticultural subjects to large audiences during the winter months in all parts of that county. Mr. WALKER is a practical horticulturist, a ready lecturer, and he has gained popularity by his plain and homely manner. Since October last he has addressed more than 15,000 persons, and already there may be seen in many parts of the county a great improvement in the allotments and cottage gardening. Last month Mr. WALKER commenced to give practical instruction on budding, grafting, pruning, inarching, planting, and cropping.

MIS-SHAPEN FUCHSIA.—Mr. MAWLEY obligingly sends us a flower of a Fuchsia in which two of the sepals are partially leafy, two petals are absent, and two of the stamens have petaloid anthers. It is noteworthy that the absent petals and the petaloid anthers are on the same side of the flower as that on which the leafy sepals occur, the other half of the flower being normal, so that the trouble is one-sided!

FARNHAM ROSE SHOW.—We learn that the annual show of the Farnham Amateur Rose and Horticultural Association will be held on July 5, when, besides other prizes, a prize of £5 will be given for the best twenty-four hybrid perpetual Roses, open to all amateur and professional growers.

AMERICAN NATIONAL FLOWER.—According to the *Botanical Gazette*, the Columbine (Aquilegia) is being proposed by Mr. L. F. SARGENT as the national flower of the United States. He finds in it the Phrygian cap of liberty, the five-pointed star, the cornucopia, the thirteen original States, and the red, white, and blue! We poor Britishers might fairly claim to use the Columbine for similar reasons, and on phylogenetic grounds our cousins would hardly deny the claim.

LIQUORICE CULTURE IN RUSSIA.—Though the cultivation of Liquorice (Glycyrrhiza glabra) in this country is gradually dying out, it appears to be produced in very large quantities in Russia, in the Caucasus, for instance, where three Liquorice factories are in full operation, as much as 16,639 tons of the root were produced during the year 1892, most of which was shipped at Batoum for the United States of America. Only 231 tons of Liquorice paste, and a very small proportion of the above mentioned root, was embarked for London and Marseilles.

DISEASES OF PLANTS.—At the Royal Pomological Institute of Proskau in Silesia, a course of lectures will be given from June 19 to 24 inclusive, this year, to gardeners, farmers, foresters, and others interested in country pursuits, for the purpose of spreading a knowledge of the life-history of the more prevalent diseases of cultivated plants, and the best methods of combating them. No charge is made for attending the lectures. The course will consist of lectures on the more important diseases of cultivated plants, with demonstrations in the lecture-room, in the plantations of the Institute. There will also be excursions in the fields, and in the neighbouring royal forests. The lectures will be given by Dr. SORAUER; the demonstrations and excursions will be conducted by Professor Dr. STOLL. The lectures will be given in the forenoon, and the demonstrations and excursions will take place in the afternoon. The lectures, &c., will be arranged as follows:—Monday, June 19 and Tuesday, June 20, "The Diseases of Fruit Trees and Vines; Wednesday, June 21, "Diseases of Cereals;" Thursday, June 22, "Diseases of Potatos;" Friday, June 23, "Diseases of other Agricultural Plants;" Saturday, June 24, "Diseases of Forest Trees." Those requiring further information should communicate with Director STOLL, at Proskau, Railway Station Oppeln.

MR. BULL'S ORCHIDS.—A new arrangement has this year been made in the Orchid Exhibition held by Mr. WILLIAM BULL, at 536, King's Road, Chelsea, inasmuch as the cool Orchids are now shown in a separate house, thus presenting at a glance the many handsome kinds that succeed in a low temperature. Here may be seen hundreds of spikes of Odontoglossums of many different sorts, notably various varieties of the chaste and beautiful Odontoglossum crispum. These make a grand display of themselves, while the exhibition proper is teeming with Orchids from nearly all parts of the globe.

MR. W. H. PROTHEROE.—A portrait and a sympathetically-written account of the career of this gentleman is given in *London*, of May 25. Mr. PROTHEROE, we observe, was a pupil of the State School of Horticulture at Ghent, which may pride itself on turning out so accomplished and successful a graduate.

CEREUS GRANDIFLORUS, THE NIGHT-BLOOMING CACTUS.—Mr. ROBERT FROST, photographer, of Loughboro', obligingly sends us a copy of a photograph of this flower. It was taken in the gardens of H. HOLE, Esq., Quorn Lodge, Loughboro', at 12.45 A.M., by the aid of ignited magnesium ribbon, and, considering the difficulties encountered, it is a very successful reproduction. A more magnificent sight than this Cactus affords when a number of them are open at once cannot be conceived, and the fragrance is that of Cedar wood. Photographs of bouquets are rarely satisfactory, but one sent us by Mr. FROST is an exception, every flower being clearly defined, while the shadows are not excessive and nicely graduated.

CHAMÆROPS EXCELSA.—Mr. KING, gardener to W. BICKFORD-SMITH, Esq., Trevarno Gardens, Helston, Cornwall, sends us a photograph of this Palm. It was planted in the terrace garden some fourteen years ago, and is now 10 feet 6 inches high, with a girth at 3 feet from the ground of 3 feet 8 inches. It first flowered in 1886, and does so every year. Our correspondent does not tell us whether the tree is male or female—probably male.

RIVERS' EARLY NECTARINE.—Mr. RIVERS has kindly sent us two fruits of the Nectarine, which attracted so much attention at the Temple Show on May 26. The fruits were large, 6 to 7 cm. each way, roundish-oblong, with a shallow suture and a deep depression for the stalk, ground colour yellowish-green, dull red, speckled and streaked on the sunny side. Flesh greenish-white, melting, very juicy, richly flavoured, adhering to the deeply-wrinkled stone. From its earliness and flavour it is a variety highly to be commended.

VEGETATION OF CENTRAL AFRICA.—In a lecture addressed to the Société Nationale d'Horticulture de France on March 23, M. JEAN DYBOWSKI

tes how, in the vicinity of the river Oubangui, and Coffee growing wild. The natives made no of it, but the lecturer spoke highly of its ties. India-rubber plants (Landolphia), Date s, and other Palms were also met with. More ge was it to find Tobacco cultivated round the ges. The natives had never had previous nunication with Europeans. The Tobacco, fore, could not have been directly of European n, but possibly it may have been introduced by Arabs.

SMITHSONIAN INSTITUTION: HODGKINS FUND ZES.—In October, 1891, THOMAS GEORGE HODG-, Esq., of Setauket, New York, made a donation he Smithsonian Institution, the income from a of which was to be devoted "to the increase and usion of more exact knowledge in regard to the ure and properties of atmospheric air in connec- with the welfare of man."

With the intent of furthering the donor's wishes, Smithsonian Institution now announces the lowing prizes to be awarded on or after July 1, 94, should satisfactory papers be offered in mpetition:—

1. A prize of 10,000 dols. for a treatise embodying some new d important discovery in regard to the nature or properties atmosperic air. These properties may be considered in their aring upon any or all of the sciences—e.g., not only in regard meteorology, but in connection with hygiene, or with any partment whatever of biological or physical knowledge.

2. A prize of 2000 dols. for the most satisfactory essay upon—
   (*a.*) The known properties of atmospheric air considered in their relationships to research in every department of natural science, and the importance of a study of the atmosphere considered in view of these relationships.
   (*b.*) The proper direction of future research in connection with the imperfections of our knowledge of atmospheric air, and of the connections of that knowledge with other sciences.

3. A prize of 1000 dols. for the best popular treatise upon tmospheric air, its properties and relationships (including hose to hygiene, physical and mental). This essay need not xceed 20,000 words in length; it should be written in simple anguage, and be suitable for publication for popular nstruction.

4. A medal will be established, under the name of "The Hodgkins Medal of the Smithsonian Institution," which will be awarded annually or biennially, for important contributions to our knowledge of the nature and properties of atmospheric air, or for practical applications of our existing knowledge of them to the welfare of mankind. This medal will be of gold, and will be accompanied by a duplicate impression in silver or bronze.

The treatises may be written in English, French, German, or Italian, and should be sent to the secretary of the Smithsonian Institution, Washington, before July 1, 1894, except those in competition for the 1st prize, the sending of which may be delayed until December 31, 1894.

To prevent misapprehension of the founder's wishes, it is repeated that the discoveries or applications proper to be brought to the consideration of the Committee of Award, may be in the field of any science or any art without restriction; provided only that they have to do with "the nature and properties of atmospheric air in connection with the welfare of man."

All communications in regard to the Hodgkins Fund, the Hodgkins Prizes, the Hodgkins Medals, and the Hodgkins Fund Publications, or applications for grants of money, should be addressed to S. P. LANGLEY, secretary of the Smithsonian Institution, Washington, U.S.A. *Washington, March* 31, 1893.

TEA.—As botanists mindful of the work done by the HOOKERS, the ROXBURGHS, the WIGHTS, the ROYLES, and so many others, we read with interest that, of every 100 pounds of tea consumed in England in 1892, 53 pounds were from India and 31 pounds from Ceylon, only 16 pounds out of every hundred being now derived from China. DR. TRIMEN, in citing these figures, points to a large increase in the use of Ceylon tea in Australia; and to a prospective increase in the United States in consequence of the exhibition at Chicago.

FLORAL DIAGRAMS.—Mr. J. ROHWEDER has published, under the title *Bluthen Diagramme*, a series of coloured diagrams, showing the arrangement and relationships of the various parts of the flower in numerous common plants. It is excellent practice for the student to make these diagrams for himself, and we know no surer test whether a student really understands the conformation of a flower than to get him to make a diagram of it. All who aspire to draw flowers should be well grounded in making these ground-plans from nature. As it is, we often see drawings which are botanically useless, pretty perhaps and effective, but not conveying any accurate notion of the real structure owing to the ignorance of the artist as to the construction of the flower. The book we allude to is in German, and may be had of Messrs. WILLIAMS & NORGATE.

MIS-SHAPEN CATTLEYA.—Mr. F. MOSELEY kindly sends us a Cattleya Mendeli in which the flower segments are in crossed pairs, two sepals back and front, and two petals right and left of the column, which is normal. Of course, there is no lip. A tendency to a reduction of the parts of the flower to two or to successive pairs is very common in Orchids.

GIRTFORD GIANT RUNNER BEAN.—In a phenomenal season like the present, one may expect some vegetables to show a more or less remarkable precocity, but to be able to pick Runner Beans from the open ground before May is out is surely unprecedented in England. The seed was sown in pots in March, and planted out in a very warm and early place, where the plants had good shelter. You will see, write Messrs. VEITCH from Exeter, from the accompanying pods how far advanced the crop is. [The pods measured 8 inches in length by 1 inch in breadth.] In the same garden (Major TRACEY's, Pytte House, Clyst St. George), Early Nantes Horn Carrot as thick as one's thumb were pulled in the open border more than a fortnight ago; and in a neighbouring garden Exonian Peas were picked on May 6, the pods being well filled.

HARDY EUCALYPTS.—Mr. RYAN, of the Gardens, Castlewellan, co. Down, Ireland, obligingly writes in answer to our inquiry, to say that the following species of Eucalyptus have proved themselves hardy there:—Eucalyptus coccifera, E. cosmophylla, E. cornigera, E. cordata, E. piperita, E. rostrata, E. obliqua, and E. urnigera.

ROSE SHOW FIXTURES.—In addition to those already noted by us, Mr. E. MAWLEY, Rosebank, Berkhamsted, Herts, has supplied the following:—

June 14 (Wednesday), Earl's Court (two days).
" 15 (Thursday), Newport.
" 24 (Saturday), Reigate.
" 27 (Tuesday), Maidstone.
July 20 (Thursday), Bedford.

During the present month a list of Rose show fixtures will be issued each week, and Mr. MAWLEY will be glad to have early notice of the dates of any shows not mentioned above, and also of any change of dates.

OPENING OF A PUBLIC PARK AT ST. HELENS, LANCASHIRE.—On Thursday, May 18, the Taylor Park was formally opened by the Mayor, A. SINCLAIR, Esq., who received the deed of gift from the donor, S. TAYLOR, Esq., B.L. The park has an area of 36 acres of land, and 11 of water. Mr. THOS. SMEATHAM, late of Seaton Knolls, Shrewsbury, has been appointed the superintendent.

OLIVE GROWING IN GREECE.—It is stated on the authority of the British Consul in the Piræus, that the custom is now prevailing of cutting down the Olive-bearing trees for firewood, and to make the land where these trees stood into vineyards, which appear to pay far better than Olive growing.

OODEYPORE.—We have received through the courtesy of Mr. T. H. STOREY, the Superintendent of the Saj-jan Niwas Bagh, a series of photographs of the gardens. Among them is a splendid bush of Bougainvillea glabra, 30 to 40 feet through; Ficus elastica, of even larger dimensions; a fine bush of Lagerstromia indica, in full flower; Livistona mauritiana, in fruit; a garden-view, with specimens of Parkia biglandulosa, Pithecolobium Saman, Ficus elastica, Dillenia speciosa, Tamarindus indica, &c. A rock-pool (tank), full of Nelumbiums and other aquatics, and a large architectural fountain of white marble and elegant design, with 102 jets.

PUBLICATIONS RECEIVED.—*Production et Mérite des Hybrides, par* M. VIVIAND MOREL. (Société Nationale d'Horticulture de France).—*The Botanical Gazette*, Bloomington, Indiana, U.S.A.—*Tropical Agriculturist.*—*Les Orchidées Rustiques, par* HENRY CORREVON (Geneva: 2, Chemin Dancet).

RHODODENDRON
(§ AZALEO-DENDRON), RODIGAS.

BOTANISTS are unanimous nowadays in considering that between Rhododendron and Azalea there is no difference sufficiently constant and sufficiently reliable to warrant the maintenance of two genera. Botanically, therefore, we must admit but one genus, Rhododendron, with many sections of which Azalea is one. And in Azalea are included plants of the group of which A. mollis is an illustration. The Indian Azaleas belong to quite another section, and botanically (queer people, these botanists!) are not Azaleas at all. Gardeners who have to deal with plants from a practical, business point of view, will no doubt continue to speak of Rhododendrons, of Ghent Azaleas, and of Indian Azaleas, as before. Custom and practical convenience with them are of more importance than the niceties of botanical discrimination. Nevertheless, their familiarity with the mode of growth of plants in general, and their knowledge of the "sportive" character of Azaleas in particular, induce them to concur in the judgment of the botanists. The plants of which we have now to speak, will but confirm them in this opinion, seeing that they are the offspring of crosses between various Rhododendrons fertilised by the pollen of Azalea mollis. They are not Azaleas, for they have persistent somewhat leathery leaves, and they have a spotted corolla. Botanically, they seem to be intermediate between the series i., Eu-Rhododendron, or Rhododendron *par excellence* of Maximowicz (the most recent monographer of the group), and series iv., Azalea of the same author, and, therefore, it was a happy thought of Director Rodigas to designate them Azaleo-dendron. (*Illustration Horticole*, 1892, p. 53.)

Before proceeding to describe these crosses, some of which we saw at the recent Exhibition at Ghent, and others in the nursery of M. Pynaert Van Geert, we may advert in passing to similar crosses, which are now matters of ancient history. Thus, in 1837, Dean Herbert in his *Amaryllideæ*, p. 356, mentions a Rhododendron azaleoides obtained by the accidental impregnation of an Azalea [? mollis] by Rhododendron ponticum, and he goes on to cite a very great number of crosses from "American White" Azaleas by Rhododendron ponticum at Highclere, one of which is figured in *Bot. Mag.*, t. 2308.

In the year 1839 was exhibited at Ghent a cross raised by Mr. Smith, a nurseryman of Norbiton, near London, from Rhododendron ponticum, by the pollen of A. sinensis. Seedlings of this cross were at one time well known in England as the Norbiton hybrids, and one of them was figured in Paxton's *Magazine of Botany* (1842), vol. ix., p. 79. See also *Die Pflanzen Mischlinge*, by Dr. Focke, 1881, p. 243.

The plant was an evergreen shrub with wrinkled leaves and very large terminal clusters of yellow flowers, which were shaded and spotted with light brown. This, or an allied hybrid, was seen only a short time since.

The late John Standish also raised seedlings from R. catawbiense, fertilised by pollen of Ghent Azalea (see Burbidge, "*Cultivated*" *Plants, &c.*, p. 237); whilst Davis of Ormskirk, raised numerous seedlings between A. sinensis fertilised by Rhododendron.

For the history of similar crosses between other species, reference may be made to an article by the late Mr. Mangles in the *Gardeners' Chronicle*, August 2, 1879, p. 137.

Reverting now to the crosses put in commerce by M. Pynaert, and which were raised by Mr. Vander Meulen, we are informed that Rhododendrons Prince Camille de Rohan and Leopard, and perhaps John Waterer and Bylsianum have served as seed-parents, the male parent in each case being Azalea mollis; but whether the pollen was furnished by one or by several varieties we do not know—all of them are hardy, and very free-flowering. M. Rodigas, in the article to which we have referred, says that Azalea mollis was the seed-parent; indeed, M. Vander Meulen effected the cross in both directions.

As considerable interest attaches to these plants, a botanical description of one of them may be given, whilst of others a less full description may suffice.

Rhododendron (§ Azaleo-dendron), *Rodigas*, in *Ill. Hort.*, 1892, p. 53.

1. *Comte de Kerchove.*—A shrub with the habit of A. mollis, the leaves persistent or nearly so, intermediate in texture and form between those of the parents. Flowers, produced with the leaves, palest yellow flushed with rose, and arranged in a loose, terminal, many-flowered inflorescence. Calyx about 1 cm. long, tubulate-campanulate, of five ascending, leafy, oblong-obtuse, slightly pubescent segments. Corolla 5 cm. long, tube broadly funnel-shaped, five-ribbed, slightly pilose within, limb spreading; segments five, broad-obtuse, the three upper rather slightly broader than the lower two. The central portion of the median lobe, and, to a slight extent, that of the lateral ones, is marked with numerous densely-arranged spots, of a reddish-chocolate colour, gradually passing into olive and pale green. Stamens ten, hypogynous, five rather shorter than the others; filaments rather shorter than the corolla, whitish, hairy at the base. Anthers whitish. Ovary green, pilose, oblong, truncate, five to six-lobed, five to six-celled, surrounded at the base by an annular fleshy disc. Style perfectly glabrous, protruding beyond the mouth of the corolla. Ovules imperfectly developed (fig. 97).

2. *Dr. Masters.*—Leaves oblong acute, tapering at the base. Flowers of moderate size, rosy-lilac; spots, horse-shoe shaped, rich brownish-crimson. A plant has been presented to Kew.

3. *Dr. Wittmack.*—Leaves oblong lanceolate. Flowers large, pure white, slightly flushed with rose at the base of the tube; spots delicate green.

4. *Director Rodigas.*—Leaves oblong. Flowers pale rose, shaded with a darker rose; spots bright chestnut, bordered with pale brown.

5. *Edward André.*—Leaves linear lanceolate. Flowers of moderate-size, creamy-white, with the edges wavy; spotting rather inconspicuous, pale green.

6. *Jules Closon.*—Flowers very large, of good form; segments rounded; colour white, flushed with rose; spots well-marked, deep brown, almost black.

M. Vander Meulen states that the plants of A. mollis, fertilised by Rhododendron pollen, are less hardy than is A. mollis. The flowering-period of these hybrids is the same as that of A. mollis; but by placing the plants in a greenhouse after the frosts, they may be had in bloom in four or five weeks. If grafted on to Rhododendron stocks, they can be hard pruned, and nevertheless all the new shoots will flower as freely as if they had not been pruned. R. ponticum is recommended as the best stock whereon to graft them. *M. T. M.*

Home Correspondence.

Bordeaux mixture.—I shall be glad to hear of the experience of some of the readers of your valuable paper relative to the use of the above mixture on fruit trees in general. My first experience has turned out a dismal failure. I was tempted out of the beaten track through having read so much lately, in French and English papers, of the beneficial results obtained by its employment, and notably by the quantities to be used being brought before my notice in your issue of May 6, p. 550. These quantities tally exactly with those given in one of your numbers, for March 26, 1892, p. 403, viz., six pounds of sulphate of copper, four pounds of lime to twenty-two gallons of water. To make sure of not using it too strong, I mixed the above to about twenty-eight gallons, and used it on Plum, Cherry, Pear, Peach, and Nectarine trees, with this result: the Plum and Cherry trees having a northern aspect have not suffered in the least. The Pear tree Beurré Diel, a magnificent specimen, planted against the house in a full southern aspect, is apparently none the worse; but the Peach and Nectarine trees have suffered so badly, that I fear for the result of the crop. I have kept them shaded for the past three days. It is piteous to see the continual fall of leaves; in fact, some of the trees are almost entirely denuded of them. These trees, through not having the necessary material at hand and pressure of work, had become neglected, and were suffering from mildew and insects. I must also add that the spraying was succeeded by two very hot sunny days, but on each of these days the leaves remained firm on the healthiest of the trees, and showed no signs of suffering from the mixture. On the evening of the second of these days I syringed them well with clean water, but when I examined them the third morning, I found the leaves covered with little brown spots, and since then they have been gradually dropping. If you will kindly insert this, perhaps it may bring forth a little useful information as to the good or bad results obtained by others. *W. E. G.*

Mushroom growing by the aid of tree leaves.—The best Mushrooms in size and quality I have obtained for several years past have been grown in a disused silo. The beds were made upon a mass of slowly-fermenting material, chiefly leaves, which give a gentle and an enduring heat. I have observed that beds made in the ordinary way begin to decline in productiveness with the expansion of the heat from the materials of which they are composed. Our beds, as a rule, might be provided with accessory means of prolonging the gentle warmth the Mushroom enjoys, and nothing seems more suitable than a body of leaves. The silo I have made use of is of rough stone, 15 feet in length, 5 feet wide, and 5 feet 6 inches deep. I send you some examples of the present crop. *W. Ingram, Belvoir.* [The samples sent were excellent. Ed.]

The weather and the crops.—Rain to the amount of 0·46 inch fell on the 17th, just saving the life of many of our plants and shrubs, and we now have cooler and moister weather. Temperature varied considerably during the period of the drought—March 4 to May 15—the highest in the shade being 80° on April 20, and the lowest, 20°, on March 19; the lowest on the grass, 13°, on March 19; the mean temperature, 49°; the mean daily maximum in shade, 62°·43; mean daily minimum, 35°·58; mean grass minimum, 28° 91. What may be the ultimate effect of this kind of weather remains to be seen, but so far we appear to have suffered in gardens very much. Herbaceous plants which should have been full of flowers are scarcely to be found, although some of the deep-rooted species, as Pæonies, Verbascum phœniceum, V. phlomoides, Papaver orientale, Iris germanica, Shirley Poppies sown in September, and some others are as good as in usual years. The abundant promise of Apples and Pears that was apparent at the flowering season has departed, and crops will be thin. The Plums have withstood the drought better than those, but the trees are infested with aphides. The Apricots in this neighbourhood are carrying very heavy crops. The Gooseberries and Currants an average crop, although the former suffered severely from red-spider, but persistent syringing saved them. Strawberries may yet afford an average crop if showery weather continues. Morello Cherries set very thickly. The main crops of Carrots, Beets, &c., are not yet through the ground (May 20), and in some instances the seed could not be sown before the rains came. Peas, Laxton's Earliest of All, sown on November 7, was ready for table on May 17; and Laxton's Standard, sown the same day, was fit on May 20. The earliest date of gathering the first-named variety here during the last nine years is June 4, in 1889 and 1892. The hay crop on high land will be a thin one. Spring-sown Corn has come up very badly, but Wheat in many places looks well, especially where the ground has been well manured. *W. H. Divers, Ketton Hall Gardens, Stamford.*

Summer-pinching of fruit trees.—Your correspondent, "W. L. C.," criticises my note on this subject, p. 606, in a former issue of the *Gardeners' Chronicle*, somewhat severely, which, however, I accept in a friendly way. I wrote for the purpose of raising a discussion, because I am positive that there is an erroneous idea amongst cultivators as to the immediate advantage of the summer-pruning or pinching fruit trees. "W. L. C." misses the point of my argument at the start. What I meant to convey was this: too many persons assert both in writing and speaking, that to pinch back the young growths to within 3 inches or so of their base in June, causes fruit buds to form at the base of these shoots the same year which will afford fruit the following season. All other things considered, I adhere to my former condemnation of the idea, and say emphatically, that this is not so, and the suggestion is misleading. I will go further and say, that in some cases these same growths which ultimately form spurs, never give aught but wood-buds. I know some fruit tree cultivators who cut away many of these growths clean to the base every year in June or July, instead of pinching in the orthodox manner, which they consider as being entirely unnecessary, either for the one purpose or the other; and I know that these same persons obtain good fruit crops in season that are favourable, and I am sure also that they entertain no doubts as to the utility of their practices. I hope "W. L. C." will not run away with the idea that all such shoots are removed, for only a few are removed so as to let in more light and air to the fruit-buds. We find good crops of fruit on orchard trees which do not receive any summer pinching, therefore it is not absolutely necessary that the shoots be cut during the summer to give a crop of fruit. If "W. L. C." will examine shoots at the end of the present season that are pinched during June and July, and probably in September, he will, in nine out of ten cases, fail to find fruit-buds at the base of shoots which have been so pinched. I do not think "W. L. C." has paid so much close attention to the matter as his note would lead us to believe, or he would have found that, as a rule, there is little connection between the real fruiting-buds and the wood-buds on any hardy fruit tree. The fruit-buds are quite distinct from the growths pure and simple, and it is for the advantage of the fruit-buds that I advocate the removal of the surplus shoots during the summer for the admission of light and air. More real fruit-buds will be formed in a natural way by allowing the leading shoot to extend, but keeping the side-growths in check for the express purpose noted, than by pinching the leading shoots so much as is done by some gardeners, which does little towards producing fruit-buds, but much in inducing a thicket of shoots. It is difficult to induce trees to form fruit-buds simply by pruning, either during winter or summer. Nature will assert itself, if given the opportunity, and perfect fruit-buds irrespective of the growth of shoots. *E. M.*

—— A writer, writing under the signature of "E. M.," endeavours to discredit the successful practice of a quarter of a century or more, with a series of negatives. But it will take a good deal more than "E. M.'s" scepticism or "emphatic no's" with big N's in front, to upset the practice of summer pruning, so deeply rooted in science, and successfully embodied in the practice of most of our best fruit growers. However, those of us who may have studied and practised summer pruning the most, will hardly accept "E. M." as an authority, either in its practice, its object, or results. Here is his own description of his practice (bottom of first column, p. 578): "Pinching the surplus shoots in June, July, and again in September; and now that the same trees have been winter pruned, I fail to see that the pinching or summer pruning has increased the production of flower-buds in the slightest." Of course not. But why? Only this, that while "E. M." has rushed forth to teach and condemn others in regard to summer pruning, he has not yet mastered its principles, nor the mere alphabet of its practice; and yet assuredly of cutting or pruning at various seasons his trees had a good deal more than enough. One pities the poor dumb thing pinched in June, July, September—why was August skipped?—and again in winter. But then it seems it was only the "surplus" shoots that were stopped. If the phrase surplus has any sense as used, it means that some shoots were not stopped. As the phrase surplus is repeated, it obviously means that some shoots are not to be stopped, and perhaps "E. M." may be surprised to hear that his summer pruning broke down between the two extremes of giving all but surplus shoots their heads, and all the others too much summer pruning for our climate. Too much of a good thing may lead to failure, as well as too little or none.

t it is somewhat amusing to see or hear writers o confess to have failed, either to have grasped the nciples or to have succeeded in the practice of root- ning, deliberately lecturing and instructing those o have done both. But it is hardly worth arguing e point further with "E. M.," who is evidently a vice in summer-pruning, and has failed through cess, and will have no more of it unless as a side- ght to smothered buds, a useful aid to the colour- g of fruits, and the extra sun, air, and wind mitted, may assist in the formation of future oom-buds. And yet the system of pinching to o or three eyes is undoubtedly wrong, with the

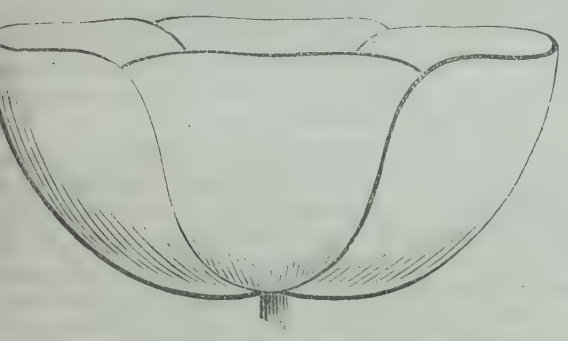

FIG. 98.—THE IDEAL FORM OF THE FLORIST'S TULIP.

bject of forming fruit-buds from the base eyes. And yet, according to "E. M.," even if it suc- ceeds, and as nothing succeeds like success, how can summer pruning be undoubtedly wrong, which lets in the sun, the air, and the wind, that plumps up the flower-buds? Cut away the "surplus branches by all means, to admit the sun to ripen the branches, and assist in the formation of future bloom-buds, and yet to pinch back to two or three eyes with the object of forming fruit-buds from the base is undoubtedly wrong!" Well, well, so long as summer pruning fills the fruit-basket as it does, it matters little to the practical grower whether the fruit is the result of his direct or indirect efforts.

FIG. 99.—PETAL OF TULIP, WITH SIMPLE FEATHER.

He summer-prunes wisely, the fruit follows, and that is enough for him. But not for "E. M." He assures us that it is a difficult thing indeed to induce fruit-buds from purely shoot-buds. No doubt—probably absolutely impossible under his system. He also gives the reason: "These latter—that is, the fruit-buds, are quite distinct from wood-growths purely." But are they so very widely different, after all, either in structure or in functions? Few of us have so learned the little we know of vegetable physiology at the feet of Lindley, or of evolu- tion in the school of Darwin, or of nature and life in garden, orchard and field. But the object of the summer pruner who has learned his art fairly well, is not to waste time and pile up difficulties by waiting till wood-buds are perfectly formed, and set himself to transform those wood-buds into fruit-buds, but rather to the conversion of buds in the making into fruit-buds. There was an enormous waste of time, space, and force about over old methods of pruning. The dual object of our dual innovations, summer pruning and root pruning, is to mould growths into usefulness, turn its issues into profitable channels in the making. When these two means of controlling the form, the size, the issues of growth are more perfectly understood, it is probable that winter pruning will be wholly dis- carded as a useless extravagance, and as a remnant of barbarism. Why, indeed, should the vital force and growing energy of our fruit trees and bushes be diverted from their legitimate dual purpose of maturing the current year's crop and well and truly laying the solid foundation for that of next year, into the wasteful and useless side issues of useless wood to furnish food for the knife through winter prunings? For every faggot thus furnished for fuel, it is not too much to affirm, bushels of fine fruit are sacrificed; and yet there are Daniels spring up to tell us that they have tried summer pruning, and found it lacking either to mould their fruit trees into form or crowd them with fruit. *D. T. Fish.*

ODONTOGLOSSUM POLYXANTHUM. — As an example of how well Odontoglossums thrive in the smallest of pots, I beg to forward in a separate box, for your inspection, the photograph of a flowering plant of Odontoglossum polyxanthum, which I have grown from an imported piece. I also add the cut spike, from which you will see that, although now faded, the flowers were fine in size, colour, and sub- stance. The top flower, I may add, was broken off by an accident previous to the photograph being taken. *C. Smith, Major-General.*

PEAS, WILLIAM HURST AND AMERICAN WONDER. —Having read several remarks in your paper con-

FIG. 100.—PETAL OF TULIP, WITH A SIMPLE FLAME IN CENTRE.

cerning the earliness of Peas, I may say that I made the first sowing outdoors in a south border on February 7, of the varieties American Wonder and William Hurst, and have been picking from them since April 22. I prefer William Hurst to American Wonder, for its superior flavour and better-cropping qualities. There was no difference between these varieties as regards earliness. *H. Squelch, Boxhurst Dorking.*

CYPRIPEDIUM CALCEOLUS.—We have some plants of Cypripedium calceolus, called pubescens in error, that are flowering splendidly. The plants were afforded all sorts of treatment in frames, &c., before being put out in the open ground, where they now are, and where they have done most satisfactorily. It is two years since they were planted in soil which is sandy and light, with just a small quantity of peat mixed with it. We afford them no protection in the winter. Some of these plants have more than a dozen flowers, and several with two on a flower-spike, which shows plainly they are in the right kind of soil and situation. Is this not rather uncommon for this species to have two flowers on a spike? *W. Barlas, Athole Hydropathia, Pittochy, N.B.* [Some very nice flowers were sent by our correspondent. Ed].

CHRYSANTHEMUMS ALL THE YEAR ROUND. —On my former visit to Trinity Cottage I saw that in a fortnight's time Mr. McMillan would have many more plants in bloom than he had then. The number exceeded my expectations, fully twenty being in flower. He has plants ranging from 2 feet to 7 feet in height. Those of 2 feet high are from cuttings struck last August. Madame Leroy, Madame Desgranges, and its sport, Mrs. Hawkins, a deeper yellow; Madame Baco, and Viviand Morel were bearing fully ex- panded flowers. The tall plants in bloom were Criterion, the tubular-petalled Etoile de Lyon, Annie Clibran, Mdme. Lecroix, Marie Hoste, W. H. Coles, and P. Wagstaff, a variety with broad white petals. The finest specimen of all was a Mrs. Irving Clarke, standing by it, it overtopped me by more than 1 foot, which will make it 7 feet. It was supporting seven enormous blooms. Mr. McMillan applied the rule to two of the flowers, holding a petal out on either side, one measured a foot, and the other a little over. For all their great size, the centre petals were massed together to form a perfect

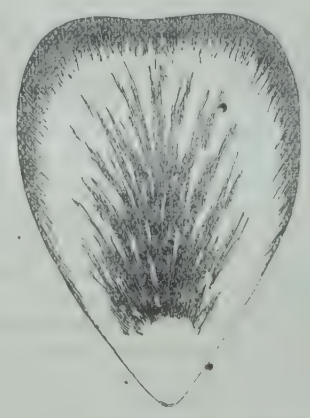

FIG. 101.—PETAL OF TULIP, WITH FLAME AND FEATHER COMBINED.

bloom, i.e., size and form conjoined. A flower like this on a stand would counterbalance the weak blooms. Mr. McMillan deserves success, for he leaves nothing to chance, and is a keen observer. *C. A. M. C.*

THE TULIP.

Greater attention is now being paid to the cultivation of the Tulip than for many years, and numerous are the inquiries which we receive from amateurs who are desirous of acquiring an accurate knowledge of the "points" of a good flower, and the

FIG. 102.—PETAL OF TULIP, IN WHICH FEATHER AND FLAME AMALGAMATE.

meaning of the terms feathered, flamed, byblœmen, bizarre, rose, and breeder, as applied to these flowers by the florist.

Strict attention has to be paid to "purity," and flowers which are stained in the petals should be discarded, and purity of the base considered as of primary importance. The blooms may be pleasing enough exteriorly, but if the base be not pure, they are, as florist's varieties, comparatively worthless.

The cup (fig. 98) should as nearly as possible approach the half of a hollow globe, a trifle more or less does not signify, only requiring that when at its prime the interior may be seen at a glance.

A well-formed flower should possess six petals of the same size, obtuse, without notch, fringe, or serrature, narrowing towards the base, but even there of sufficient breadth to prevent the interstices from being visible; they must also be of good sub-

stance, thick, and waxy in texture, which assists in retaining form. A cracked petal will also disqualify a bloom.

The disposition of the various markings should be harmonious, whether flame or feather. The woodcut (fig. 99) represents a petal having a simple feather; the pencilling is generally deeper at the apex, and gradually gets thinner on each side till it reaches nearly the bottom. Some varieties have much thicker feathers than others, but whether heavy or light, the colour must be laid on evenly and regularly, each petal, in this respect, being as nearly alike as possible. Flamed flowers, see figs. 100 and 101, are divided into two classes, the simple feather running right through the petal, as in fig. 100, and feathered as in fig. 101, but not amalgamated. The simple feather is extremely handsome, but it is not so much admired as the other, and it used to be in the North not considered worth a place in a collection—for judges would pass such flowers by. A good flamed flower, should show none of the original or breeder colour, all of which should be "broken out." At the lower part of the cup of each self or breeder Tulip is a circular ring which in roses or byblœmens ought to be pure white, and in bizarres unstained yellow or orange colour. From this point, when a flower (from seed) breaks, or becomes rectified, the flame begins to strike upwards, being broadest at the lower part, and rising nearly to the top of the petal, branching off regularly on each side without actually commingling with the feathering at the apex or the sides. This is shown in fig. 101. In fig. 102 we see a defective petal, that is, a commingling of flame and feather. The harmony of a Tulip will be seen in a fair proportion of the ground colour being apparent on each petal, and the nearer these correspond to each other the better.

CUCUMBER ROT.

A Bacterial Disease.—Two or three years ago we were puzzled with a disease which attacked the stems of Gourds and other cucurbitaceous plants, manifesting itself by the stems rotting off a little above the roots just before the ripening of the fruit, but the latter was little, if at all, affected. All effort at discovering mycelium or traces of fungoid-growth failed, and the cause was left undetermined. Since the details have been published of a similar disease, in a more virulent form, attacking Gourds in New Jersey, U.S., we have doubted whether our own experience might not have been associated with a mild form of that disease. It has not appeared since, and therefore further research has been denied us. Meanwhile, it may be useful to call attention to what has been published in reference to the American manifestations of the disease, recorded by Dr. Byron Halsted.*

The attacked bines vary somewhat, it is said, in their appearance, but generally there is a decay of the stem in proximity to the root, and then the whole plant "wilts" and fails to grow. Sometimes one or more leaves will fall to the ground and rot away before the balance of the plant is seemingly affected. This is particularly true of the Cantaloups, while in the case of Cucumbers, the fruit may be the first to show the trouble. Here the half-grown Cucumbers exhibit from one to a dozen or more specks, looking like "water cores," which increase in size, until the whole of the fruit becomes a rotten mass, the firm skin still holding the watery interior in shape. In our own case, the fruit did not, or only by small specks manifest any signs of decay, but the leaves "wilted" and fell. Having thus described the aspect of the disease, the reporter proceeds to detail his conclusions, that the microscope revealed in the decaying stems, leaves, and fruit, the decomposing tissues were teeming with bacteria, but it remained to be proved that they were the primary cause of the decay. Inoculations of healthy plants were therefore made, in the usual way, by means of sterilised platinum wire, taking the germs from the centre of freshly-decaying Cucumbers. It was found that with no other fungus present, these germs were able to introduce a rapid decay into Cucumbers, Melons, and Squashes. Cucumbers seemed to be the favourite, and in them the decay was most rapid. It would run from one end to the other, through the succulent centre of a 4-inch fruit, in a single day. From the placentas the rot spreads towards the surface, until all becomes a pulp enclosed by the skin, which latter may remain unbroken, if the inoculation has been made at the stem end.

In the next step the application of the germs had to be made to healthy plants in the field. By means of a flamed glass tube, the germs in liquid, after being drawn into the tube, could be introduced into any part of the plant. When the inoculation was made near the end of a bine, the latter rotted away in three or four days; but when nearer the base, a longer time was required—but in all cases an ulcer was formed, which spread more or less rapidly, depending upon the tissue infected. In old stems, the decay was almost entirely internal, and did not show much until the disease had spread through the pith to some distant soft parts. By means of a medicine dropper, a charge was placed in the middle of several petioles of large Squash leaves. Upon the next visit, within twenty-four hours, all such leaves had fallen to the ground, and the portion of the petioles below the point of inoculation, in some cases 6 or more inches, were thoroughly decayed. The inference, naturally enough, is that the bacterial disease first found in the Cucumber, and afterwards propagated from fruit to fruit in the laboratory, and also upon cut stems and petioles, may be readily transmitted to vigorous living bines of Cucumber and Squash in the field. A remarkable force is given to this inference by the exceedingly rapid effects of the inoculation, effects which could hardly be manifested without an efficient cause, apart from ordinary contingencies.

In order to strengthen the view which the reporter acquired as the result of his investigations, he proceeded to institute other experiments in a different direction. To this end sixteen seeds of "summer crooked Squash" were divided into two equal lots, each set of eight being planted in a flower-pot, covered with a bell-glass, and treated in every way alike, except that the soil of one pot was watered, at the beginning, with the juice of a Cucumber, which had decayed with the disease. The eight seeds which did not receive the bacterial liquid germinated quickly, producing large deep green plants; while in the other pot only two plants appeared above ground, and they were of a dwarfed, sickly, yellow colour, and did not continue to grow. These two plants, being quite close to the side of the pot, did not receive their full share of wetting with the diseased juice. The remaining six seeds, which did not germinate, when removed from the soil were decayed and stinking. Similar experiments were also made with other duplicate sets of seeds, which were placed on blotting-paper, and watered respectively with a solution of diseased juice, and pure water, with the result that the former failed to germinate, and soon decayed. No other experiments are recorded as having been made upon Cucurbits, but, in order to demonstrate whether the disease would communicate itself to other plants belonging to a different order, it was tried upon the Tomato and the Potato. The diseased juice was introduced into the growing stems and green fruits of the Tomato, and in both cases rapidly produced a decay which caused the stems to fall, and the fruit to become a watery mass enclosed by the skin.

Some boxes of young Tomato plants being at hand, a decaying Cucumber was placed in the centre of one of them. In six hours some of the stems of the Tomato plants, 6 inches in height, had rotted off close to the ground, where the liquid of the decaying Cucumber had come into contact with them. In ten hours all the plants in the vicinity of the decaying Cucumber were destroyed. The inoculation of the Potato hardly gave such favourable results when employed upon the plants, but when applied to the tubers induced speedy decay.

From the foregoing we may adduce: That this disease is accompanied profusely by bacteria. That the juice of diseased plants swarming with these organisms when transferred to healthy plants will inoculate them with the disease, which will make its appearance in three or four days. That seed watered with the juice of diseased fruits did not germinate, or only 25 per cent. germinated at all, and these soon decayed. That the diseased juice, when introduced into healthy stems and fruits of Tomato, rapidly produced decay. That young Tomato plants, in proximity with diseased Cucumbers, were all destroyed. Hence, it is concluded that the disease in question is caused by bacteria, and may be transmitted to other plants by inoculation, not only belonging to the same natural order of plants, but also to the Solanaceæ. Hence, that the Tomato and Potato are liable to be infected with the same disease if they come in contact with the vitiated juice.

It is to be regretted that as yet these experiments have not, to our knowledge, been repeated and confirmed, but the narrative is so circumstantial that it is very difficult to discredit it, especially in the face of the fact that in other plant diseases bacteria have been found in considerable numbers, and have been credited with the production of disease in plants, where no other form of fungoid disease can be detected. We cannot forget the many analogies which subsist between the diseases of animals and plants. Hence, we cannot presume to deny, that something akin to "anthrax" may as surely be developed in vegetable tissues, as in animal, and, at the same time prove equally infectious. We can only hope that this peculiar form of disease may not reappear amongst our Melons and Cucumbers, even in a modified form. If it should appear, there is no alternative but to "stamp it out," at any cost, by prompt and vigorous action, whatever its cause may be. *M. C. Cooke.*

[We regret to say there are some grounds for fearing that this disease has appeared here. We reserve further comment till more is known on the subject. Ed.]

* "Bacteria of the Melons," *Botanical Gazette*, November, 1891.

SOCIETY.

PANSY EXHIBITION AT TAMWORTH.

May 24.—This exhibition was a surprise to many, including old growers of the Pansy, a very fine display being got together. There were fifty-six classes, including bedding Violas. Several were set aside for midland amateurs, and in these Mr. Eggington, Wolverhampton, took the highest awards, with Mr. Christie, of Shifnal, and Mr. Eglington, of Birmingham, following.

In the trade classes for the home counties, Mr. W. Sydenham, Tamworth, was 1st, and Messrs. Pope & Sons, Birmingham, 2nd. In the open classes the northern growers keenly competed for forty-eight blooms of fancy Pansies; 1st, Mr. A. Bailey, Sunderland; 2nd, Mr. John Smellie, Glasgow. For twenty-four fancies, 1st, Mr. J. Bailey; 2nd, Mr. Lister.

In the other classes competition was strong. A large number of fine seedlings was staged. Messrs. Dobbie & Co., Rothesay, staged, not for competition, a good display of Violas, amongst them a bright striped variety named Lillie Langtry. Several fine seedling Violas were shown by Mr. J. D. Stuart, Malone, Belfast, viz., Mary Stuart, Mrs. J. Chamberlain, Con O'Neil, Lovelight, Ulster, May Morn, Emily Ruck, and Commodore.

Obituary.

Mr. Samuel Barlow, J.P. — There was a feeling of great regret among florists on hearing of the death, at the age of sixty-eight years, of Mr. Samuel Barlow, Stakehill House, Castleton, Manchester, on Sunday morning, the 28th ult. Mr. Barlow had the misfortune, a few weeks ago, to meet with a severe fall, in which his left arm was broken,

and a severe shock given to the system, from the effects of which he died. Had it not been for this accident, his life might have been spared for some years longer. For many years past Mr. Barlow was a conspicuous figure at most floricultural gatherings in Lancashire, and has deserved the title of "King of the Northern Florists." The National Tulip, the Auricula, the Carnation and Picotee, and other societies, found in him a liberal supporter. He was a vice-president of the Manchester Botanical and Horticultural, and also of the National Chrysanthemum societies, and his lamented death creates a great gap in the management of the former. For many years he was the active partner in the Stakehill bleach works, adjoining his residence. He was connected with companies at Oldham; a magistrate, and alderman of the County Council of Lancashire, and at the time of his death mayor of the borough of Middleton. He leaves a widow and an adopted daughter to mourn his loss in common with a wide circle of private friends.

Born at Medlock Vale in 1825, he was the son of a botanist of considerable ability, who was associated with Dewhurst and Hobson, Horsefield, Crowther, Buxton, &c., and had a large garden filled with valuable plants and novelties. Mr. Barlow was practically born in a garden, and took a great interest in gardening from his early years. When seven years of age, he walked 4 miles to purchase a plant of Lily of the Valley, paying a penny for it, the whole of his cash, and walked back again, finding in the cultivation of the plant a great enjoyment. I have heard him relate how, at this time, his father gave to him and his brother a shilling packet of seeds of annuals in variety, and of the gratification he derived from cultivating and flowering them. In 1837 he was growing a collection of Primroses, Polyanthus, Auriculas, and Pansies, and in the same year he commenced his career as a Gooseberry grower by planting twenty-four choice selected bushes of prize varieties of the Gooseberry. In 1839 his collection of Pansies was a source of great interest in the neighbourhood. In this year the family left Medlock Vale, and went to reside at Salford, through which he was deprived of the pleasures of a garden until he removed to Stakehill in 1847, and the following year he commenced to exhibit Gooseberries and other things.

Those who have enjoyed the privilege of visiting Stakehill have seen what has been done amid uncongenial surroundings. The house and gardens stand some 500 feet above the level of the sea, under the shadow of the huge chimney-shaft of the Stakehill works, and in a district where the atmosphere is so charged with elements injurious to vegetable life that the surrounding country is fast being denuded of trees, but the application of science and observation have clothed the ground with trees and shrubs best able to withstand the smoke and deleterious gases, and the wonder is that they do so well. Here is grown the finest collection of florists' Tulips in the world, also choice collections of Carnations, Auriculas, Chrysanthemums, Pinks, &c. Of show Auriculas, the superb green edge, Mrs. Henwood, and the violet self, Mrs. Potts, were raised at Stakehill, as well as that fine scarlet bizarre Carnation Robert Houlgrave. Mr. Barlow was a great admirer of herbaceous and alpine plants, his garden containing a choice selection of them, and during the spring and summer months many a company of local botanists and florists used to come to note what was cultivated at Stakehill. The gardens were always open to inspection. Anyone could walk about them, and it rarely happened Mr. Barlow was a loser by reason of according this privilege to his neighbours. It was those who knew him best who understood what a many-sided man Samuel Barlow was, possessing tastes refined by education, by art and study, yet distinctly Lancashire in their character, and with a keen appreciation of all that is quaint, picturesque, and humorous in Lancashire life. He was helpful in every direction, and hundreds will hold his name in remembrance with feelings of reverence and affection. *R. D.*

THE WEATHER.

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees — a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.

Districts.	Temperature.		Accumulated.				Rainfall.			Bright Sun.	
	Above (+) or below (—) the Mean for the week ending May 27.		Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1893.	Below 42°, difference from Mean since January 1, 1893.	More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1893.	Total Fall since Jan. 1, 1893.	Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1893.
			Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	3	+	67	0	+ 233	— 53	2	+ 92	16·9	17	25
1	5	+	87	0	+ 197	— 20	2	— 73	8·1	34	32
2	4	+	90	0	+ 234	— 62	4	— 59	6·4	36	37
3	4	+	93	0	+ 300	— 37	1	— 59	6·0	41	44
4	3	+	90	0	+ 373	— 46	5	— 59	6·7	42	42
5	3	+	101	0	+ 319	— 43	3	— 57	6·7	43	45
6	3	+	83	0	+ 265	— 62	2	— 77	13·7	37	34
7	3	+	85	0	+ 343	— 91	3	— 65	8·6	28	35
8	3	+	92	0	+ 375	— 70	4	— 61	10·6	46	46
9	3	+	88	0	+ 280	— 104	1	— 79	10·5	19	29
10	3	+	97	0	+ 319	— 99	2	— 68	11·5	20	34
*	3	+	104	0	+ 421	— 52	4	— 67	8·8	65	53

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; * Channel Islands.

THE PAST WEEK.

The following summary record of the weather for the week ending May 27, is furnished from the Meteorological Office:—

"The *weather* continued cloudy or dull in the extreme west and north, with occasional falls of rain, but in all other parts of the kingdom it was dry, with a fair amount of sunshine.

"The *temperature* was again above the mean, the excess ranging from 3° in most districts, to 5° in 'Scotland, E.' The highest of the maxima were recorded either on the 22nd or 25th, and varied from 74° in 'England, S.,' and 73° in 'England, E. and the Midland Counties,' to 67° in the 'Channel Islands,' 66° in 'Scotland, W.,' and to 65° in 'Scotland, N.' The lowest of the minima were registered on somewhat irregular dates, and ranged from 36° in the 'Midland Counties,' to 44° in 'Ireland, N.,' and to 49° in the 'Channel Islands.'

"The *rainfall* was rather more than the mean in 'Scotland, N.,' but less in all other districts. Over England as a whole the fall was very slight, but a considerable fall was experienced at some of the south-eastern stations on the first day of the period.

"The *bright sunshine* was more prevalent over England and the greater part of Scotland than during the preceding week, but less so in Ireland and the north of Scotland. The percentage of the possible duration ranged from 65 in the Channel Islands, to between 41 and 46 in most parts of England, to 19 or 20 in Ireland, and to 17 in 'Scotland, N.'"

MARKETS.

COVENT GARDEN, June 1.

Trade brighter, with heavy supplies, and prices lower. *James Webber, Wholesale Apple Market.*

Fruit.—Average Wholesale Prices.

	s. d.	s. d.
Apples, Nova Scotia, per barrel	10 0-	17 6
— Tasmanian, case	2 6-	8 6
Cherries, half-sieve,	4 6-	9 0
Cobs, per 100 lb.		
Gooseberries, half-sve.	1 6	2 0
Grapes, per lb. ...	1 6-	3 0
Lemons, per case ...	12 0-	20 0
Peaches, per doz. ...	3 0-	12 0
Pine-apples, St. Michael	2 0-	5 0
Oranges, per case ...	20 0-	30 0
Strawberries, per lb.	0 9-	1 6

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.
Arums, dozen pots ...	8 0-	12 0
Adiantum, per doz.	6 0-	12 0
Aspidistra, per doz.	15 0-	30 0
— specimen, each	7 6-	21 0
Calceolaria, per doz.	6 0-	8 0
Cyperus, per dozen	4 0-	10 0
Dracæna, each ...	1 0-	5 0
Erica, various, doz.	9 0-	21 0
Ferns, various, doz.	4 0-	9 0
Ferns, small, per 100	5 0-	8 0
Ficus elastica, each	1 6-	7 6
Foliage plants, doz.	12 0-	42 0
Fuchsias, per doz. ...	6 0-	9 0
Genista, per doz. ...	6 0-	9 0
Ivy Geraniums, doz.	6 0-	9 0
Lilium Harrisii ...	18 0-	30 0
Lobelia, per doz. ...	5 0-	8 0
Marguerite, per doz.	6 0-	12 0
Mignonette, per doz. pots	4 0-	6 0
Musk, per doz.... ...	2 0-	4 0
Nasturtiums, p. doz.	4 0-	8 0
Palms, various, each	2 0-	10 0
— specimens, each	10 6-	84 0
Pelargoniums, p. doz.	8 0-	15 0
— scarlets, p. doz.	4 0-	9 0
Primula sinensis, doz.	4 0-	6 0
Saxifrage, per doz.	12 0-	18 0
Spiræas, per dozen...	8 0-	12 0

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.
Arum, per doz. bl. ...	1 0-	3 0
Bouvardias, per bun.	0 6-	1 0
Calceolaria, doz. bun.	4 0-	6 0
Carnations, doz. bun.	4 0-	9 0
Cornflower, 12 bun.	2 0-	4 0
Eucharis, per dozen	3 0-	4 0
Gardenias, per dozen	1 0-	3 0
Heliotropes, per doz. sprays	0 4	0 6
Iris, doz. bnnches ...	6 0-	12 0
Lilac, French, p. bun.	4 0-	6 0
Lilium Harrisii, doz.	2 0-	4 0
Lily of the Valley, doz. bunches	3 0-	6 0
Maiden Hair Fern, 12 bunches ...	4 0-	6 0
Marguerites, p. doz. bunches	1 6-	3 0
Mignonette, 12 bun.	3 0-	6 0
Narcissus, various, French, doz. bun.	2 0-	6 0
Myosotis, 12 bunches	2 0-	3 0
Pæony, per doz bun.	9 0-	18 0
Pansies, per doz. bun.	1 0-	2 0
Orchids:—		
Cattleya, 12 blms.	6 0-	12 0
Odontoglossum crispum, 12 blms.	2 0-	6 0
Pelargoniums, scarlet, p. 12 bun.	4 0-	6 0
— 12 sprays ...	0 6-	0 9
Pink, various, 12 bun.	2 0-	6 0
Poppies, doz. bunch.	1 6-	6 0
Primulas, dble. p. bun.	0 6-	1 0
Pyrethrum, 12 bun.	2 0-	6 0
— large bun., each	0 9-	1 6
Roses, doz. bunches	3 0-	8 0
— Tea, per dozen	0 6-	2 0
— coloured, dozen	2 0-	4 0
— yellow (Maréchals), per doz.	1 6-	6 0
— red, per dozen...	1 6-	3 0
— (French) p. doz.	0 9-	1 6
Spiræa, 12 bunches...	3 0-	6 0
Sweet Sultan, 12 bun.	4 0-	6 0
Tuberoses, 12 blms.	0 6-	1 0
Violets, small English, p. doz. bunches	1 0-	1 6

Orchid-bloom in variety.

Vegetables. — Average Retail Prices.

	s. d.	s. d.
Beans, French, lb. ...	1 6-	2 0
Beet, red, per dozen	2 0-	3 0
Carrots, per bunch...	0 4-	0 6
Cauliflowers, each ...	0 3-	0 6
Cucumbers, each ...	0 4-	0 8
Endive, per dozen ...	2 0-	3 0
Herbs, per bunch ...	0 9-	1 0
Lettuces, per doz. ...	1 6-	2 0
Mushrooms, punnet	2 0-	
Mustard and Cress, punnet	0 4-	...
Parsley per bunch...	0 3-	0 6
Shallots, per lb. ...	0 6-	...
Tomatos, per lb. ...	0 6-	1 3
Turnips, per bunch...	0 4-	0 6

Potatos.

Trade for old Potatos is at a standstill, only a few inquiries for best samples.

New Potatos from Jersey are arriving freely, rather small, making 8*s.* to 10*s.*; Canary's, a large quantity on the market, selling at 6*s.* to 9*s.* *J. B. Thomas.*

SEEDS.

London: *May* 31.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that, late as it is, numerous sowing orders for Clover and other Seeds are still coming to hand. The present remarkable season will evidently finish up with less seed carried over than has probably ever before been the case. The supplies of spring Tares are as nearly as possible exhausted. Mustard and Rapeseed keep firm. In Canary seed a large business has been doing at substantially advanced rates. Stocks in Liverpool prove on enquiry surprisingly small, and the quantity held in London is also comparatively unimportant. Peas and Haricots realise full prices.

FRUITS AND VEGETABLES.

Spitalfields: *May* 30.—Quotations:—Peas, 3*s.* to 4*s.* per bushel; do., 8*s.* to 10*s.* per sack; Asparagus, 1*s.* 3*d.* to 1*s.* 9*d.* per bundle; Cauliflowers, 7*s.* to 10*s.*; Cabbages, 4*s.* to 6*s.*; Radishes, 5*s.* to 6*s.* per tally; Greens, 2*s.* 6*d.* to 4*s.*; Parsley, 3*s.* to 4*s.* per dozen bunches; Endive, 2*s.* to 2*s.* 6*d.*; Lettuces, 8*d.* to 1*s.* per dozen; frame Cucumbers, 3*s.* to 5*s.* per dozen; Mustard and Cress, 2*s.* per dozen baskets; Mint, 4*s.* to 5*s.* per dozen bundles; Spring Onions, 3*s.* to 6*s.* do.; Horseradish, 2*s.* 6*d.* per bundle; Egyptian Onions, 5*s.* to 5*s.* 6*d.* per cwt; Gooseberries, 2*s.* 6*d.* to 3*s.* 6*d.* per half-sieve; English Tomatos, 6*s.* to 7*s.* per peck; foreign do., 1*s.* 6*d.* to 3*s.* per box; Tasmanian Apples, 7*s.* to 10*s.* per box; American do., 17*s.* to 20*s.* per barrel.

Borough: *May* 30.—Quotations:—Spinach, 1*s.* 3*d.* to 2*s.*; Peas, 3*s.* to 4*s.* per bushel; Cauliflowers, 1*s.* 6*d.* to 2*s.* 6*d.* per dozen; Cabbages, 3*s.* to 5*s.* per tally; Greens, 2*s.* to 4*s.*; Parsley, 2*s.* 6*d.* to 3*s.* per dozen bunches; Carrots, 3*s.* to 3*s.* 6*d.*; Egyptian Onions, 5*s.* to 6*s.* per cwt.; Horseradish, 2*s.* 6*d.* to 2*s.* 9*d.* per bundle; Apples, 7*s.* to 12*s.* per case.

Stratford: *May* 31.—There has been an excellent supply of all kinds of produce at this market during the past week, and a brisk trade has been done at the undermentioned prices:—Quotations: Cabbages, 3*s.* to 7*s.* per tally; Greens, 3*s.* 6*d.* to 4*s.* 6*d* per dozen; Carrots, household, 60*s.* to 70*s.* per ton; Mangels, 19*s.* to 25*s.* do.; Onions, Egyptian, 100*s.* to 110*s.* do.; Apples, 9*s.* 6*d.* per case; Cucumbers, French, 2*s.* to 3*s.* per dozen; do., Dutch, 1*s.* to 1*s.* 9*d.* do.; Cherries, 2*s.* 6*d.* per basket; Strawberries, 6*s.* to 8*s.* per peck; do., 4*d.* to 6*d.* per punnet; Gooseberries, 2*s.* 6*d.* to 3*s.* per half-sieve; do., 4*s.* to 4*s.* 6*d.* per flat; Peas, Green, 4*s.* 6*d.* per sieve; do., 7*s.* 6*d.* to 9*s.* per bag.

Farringdon: *June* 1.—Quotations:—Cucumbers, 1*s.* 6*d.* to 2*s.* per dozen; Carrots, 1*s.* 6*d.* per dozen bunches; Spring Onions, 3*s.* do.; Peas, 2*s.* 6*d.* to 3*s.* per bushel; Gooseberries, 2*s.* to 2*s.* 6*d.* per half-bushel; Currants, Red, 1*s.* 9*d.*

Answers to Correspondents

BLOOM ON PEARS: *T. C.* The shoots sent are the so-called Midsummer shoots, very common, but earlier this season than usual. They should be removed forthwith.

BOOKS: *A. J. W.* *Vines and Vine Culture*, by A. F. Barron. (Published at 171, Fleet Street, E.C.) *Grape Growing for Amateurs*, by E. Molyneux. (Published by L. Upcott Gill, 170, Strand, W.C.)

BORDEAUX MIXTURE AND TOMATO FUNGUS DISEASE: *E. J. P.* It is safe enough to use if the precaution be taken to use it before the fruit is ripe, to well syringe the fruits whilst they hang on the plants, and to wash them before using them as food. Diseased fruits should not be consumed. The wash does not penetrate the skin of the fruits.

CUCUMBER ROOTS: *J. S.* The too well-known eel-worm at the root, very often figured and described in these columns. Burn all the plants, turn out the soil, and grow some other crop. Melons they will serve the same. We know of no cure.

GOLDEN YEW TREES: *J. M.* If the cutting of the trees into shape will involve much cutting into the old wood, it should be carried out in October or November; otherwise the end of July will answer well enough, as by so doing the new growth will in a measure hide the mutilations.

INSECTS: *W. R.* Maggots of the Onion-fly. The maggot in Onions is difficult of eradication. To begin at the beginning, the land should be trenched. Take care to shovel the upper crust, say 3 inches thick, into the bottom of the trench; on the top of this should come a thick layer of a strawy kind of stable manure if the land be heavy; and over this throw the next two spits, working

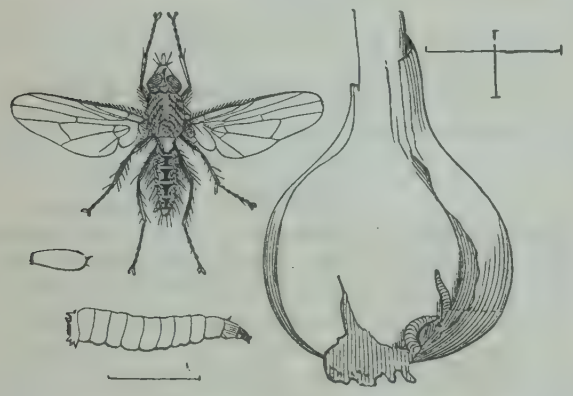

FIG. 103.— THE ONION FLY: ANTHOMYIA CEPARUM. (Maggot and Pupa, magnified.)

in some gas lime as the work goes on. Especially is this kind of work necessary if the land has carried a crop of Onions that has previous suffered from attacks of the fly. The trenching ought to be done early in the autumn, and the surface should be stirred with a digging fork repeatedly during mild weather—in the winter. It is very essential that the land after it is levelled previously to sowing it, should be evenly trodden all over, and again after the seed is sown, it should be well rolled, and receive a dressing of wood ashes and soot. The first maggots appear in April and May. The maggot feeds on the bulbs, and after some fourteen days or so, buries itself in the soil, changes into a brown pupa, from which in twenty days more, emerges the perfect fly, which almost immediately begins to lay her eggs, and start a fresh generation of mischief-working maggots. Much may be done at this season by carefully spudding up the sickly-looking roots with their batch of grubs intact. It does not do to pull the plants up, as then the worst affected part is often left in the soil. These should be at once placed in a vessel and burned; not thrown to the rubbish heap. By carrying out this practice of lifting and destroying the affected plants, the attack will in time entirely cease. The seed for a crop of Onions on land liable to be infested with this fly, should be sown rather thinly, and not thinned—thinning appearing to favour an attack; and the plants should be watered occasionally with soap-suds, or with petroleum and soapy water, at the rate of 1 pint to 2 gallons of water, this being applied with a syringe, the mixture being agitated during application by forcing each alternate syringeful into the vessel containing it.

MADRESFIELD COURT AND BLACK HAMBURGH GRAPES IN ONE HOUSE: *A Correspondent.* Provided fire-heat is applied, and sufficient ventilation afforded in dull or moist weather, no harm should accrue to the first-named, now that the fruit is approaching ripeness. Do not denude the Vines of foliage overmuch, and remember to keep the first-formed foliage quite healthy.

MELON DISEASED: *J. L.* Next week.

NAMES OF PLANTS: *T. C. Hincks.* Mespilus Smithii (=M. grandiflora).—*I. W.* Phyteuma comosum.—*A. H.* Arum maculatum.—*E. C. Lowndes.* Habenaria bifolia; small butterfly Orchis.—*F. C. Lewes.* 1, Spiræa Filipendula, double-flowered; 2, Saxifraga umbrosa; 3, Geranium pratense; 4, Escallonia macrantha; 5, Philadelphus coronarius; 6, apparently Cedrus deodara.—*T. W.* 1, Campanula persicifolia, double white variety; 2, Spiræa Filipendula, double var.; 3, Erigeron philadelphicum; 4, Geranium pratense; 5, Iris germanica var.; 6, Nerium Oleander.—*J. W.* Centaurea odorata.—*F. K.* So far as it is possible to identify such little pieces, your plants are:—1, Thuia occidentalis; 2, Aucuba japonica; 3, Pinus excelsa; 4, Juniperus recurva; 5, Cupressus Goveniana; 6, Cryptomeria japonica.—*D.* sends two plants—Sherardia arvensis, rough to the touch, linear leaves in whorls; and the other is Alchemilla arvensis, with soft palmate leaves. Both grow on poor, dry soils, generally.—*U. C. B.* 1, Geranium pratense; 2, G. pratense; 3, Heracleum Sphondylium; 4, Apium graveolens. Fine specimens. Where were they grown? Are they all British?—*F. G.* Broussonetia papyrifera.—*J. B., Mullingar.* 1, Gesnera tubiflora; 2, Eucharis subedentata; 3, 3, Dianella.—*W. K.* 1, Asclepias curassavica; 2, Weigela rosea.—*J. W.* 1, Helianthemum coccineum; 2, Rhododendron—send it to some nurseryman who makes a specialty of such plants. We cannot name varieties. Next time, address the Editor not the publisher.—*R. G.* Your Grapes are "scalded," a condition associated with the presence of a fungus, Gleosporium. You must be careful about the ventilation, especially on bright mornings.—*J. E.* 1, Picea excelsa; 2, Fern (next week); 3, Lonicera Ledebourii; 4, Cotoneaster affinis; 5, Geum triflorum; 6, Staphylea pinnata. *A. L. L.* Next week.

ONIONS DECAYING: *G. S. G.* See our reply to *W. R.*

PLUM TREE WITH SWOLLEN BRANCHES: *F. S.* It is a very curious affection of the fruit, but I can see no trace of fungus disease. Certainly not Plum pockets. *M. C. Cooke.*

ROSES: *Sinclair.* The plants are affected with mildew. Dust the shoots with flowers-of-sulphur, or use one of the remedies sold by florists for the purpose.

SPINACH, VARIETIES OF: *W. G.* There are two distinct forms of true Spinach—1, Spinacia spinosa, having the seeds prickly, and 2, Spinacia glabra, having the seeds round, and of these there are several varieties, varying slightly in the size and thickness of the leaves, &c. The leaves of the prickly Spinach are arrow-shaped, and come nearer to the wild forms, whilst those of the round-seeded have the leaves roundish. Vilmorin, in *Les Plantes Potagères*, mentions a prickly-seeded variety with round leaves. Both species are equally hardy, the so-called round summer and prickly winter being mere names, and there are not many who care to grow the prickly when the round meets all their requirements. It is remarkable, however, the little that is known on this simple point. Of varieties bearing distinct names, we have what is termed the Dutch, the Flanders, the Lettuce-leaved, the Viroflay Giant, the Victoria, all much alike; and the Late-seeding or Long-standing, which is distinct, being much later. All are round-seeded, besides the Prickly Flanders.

VEGETABLE IMPORTS, 1892: *G. S.* These appeared in our columns under the heading "Stock Taking" twelve times last year; and if you will remit the price, together with postage for twelve numbers, these will be sent to you. Kindly address Publisher.

COMMUNICATIONS RECEIVED.—F. W. B.—J. R. H.—M. Viviand Morel.—C. B.—A. King, Helston.—Secretary, Horticultural College, Swanley, too late.—M. Cuthbertson.—R. A. R.—W. D.—J. D.—J. G. B.—J. T. N.—H. W. W.—C. A. M. C.—A. S. L.—H. C. P.—J. O'B.—W. Crump.—R. D.—J. R. J.—Wild Rose.—M. T.—T. Smith, N.Z.

SPECIMENS RECEIVED.—Dr. F., Los Angeles.

PHOTOGRAPHS RECEIVED WITH THANKS.—A. King, Helston.—R. F., Loughboro'.—T. H. Storey, Oodeypur.

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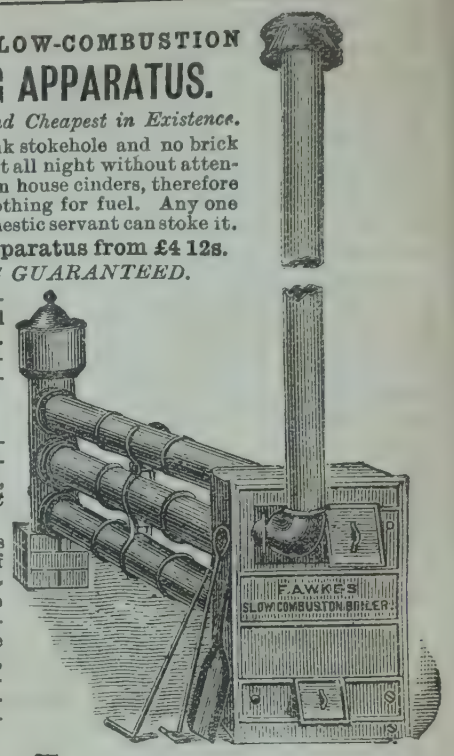

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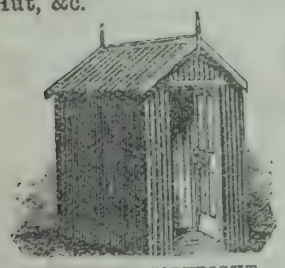

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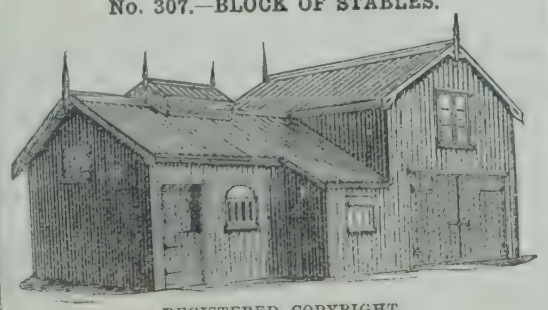

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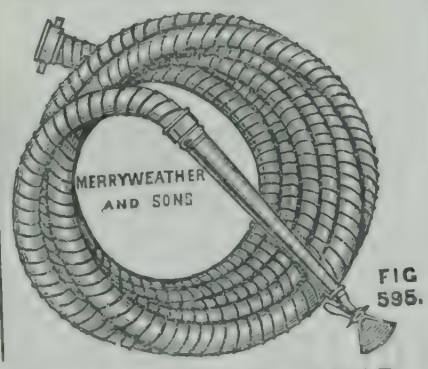

FIG 595.

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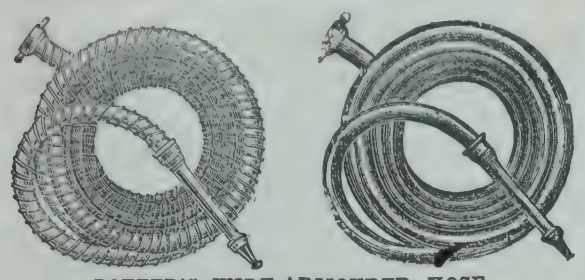

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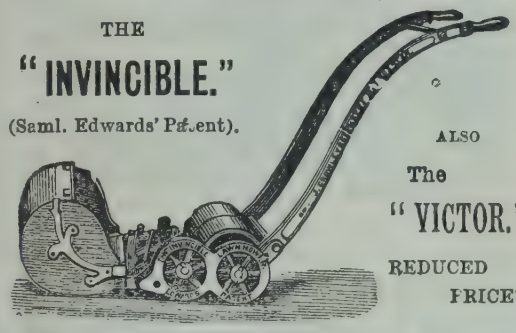

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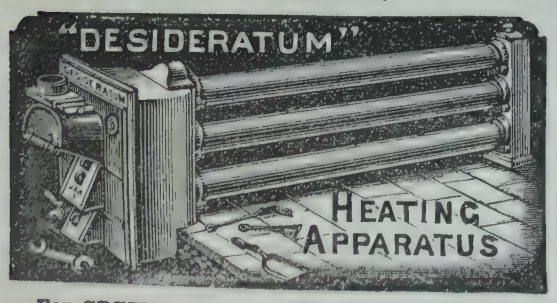

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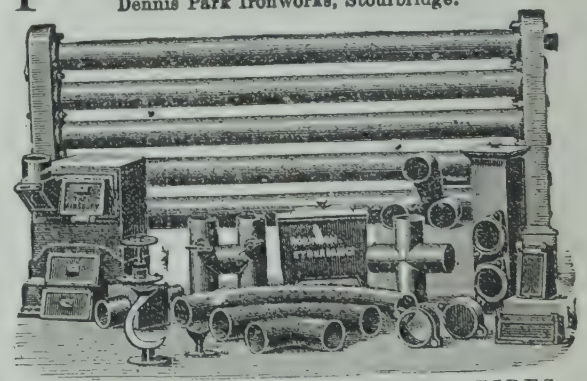

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The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. *on Wednesday will, in all probability, be held over to the next week.*

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PAINTER, GLAZIER.—Used to Repairs, Old and New Greenhouses, Conservatories, and Show-houses. Quick workman. Hour or Estimate. Any District.—G., 36, Cornwall Street, Moore Park Road, Fulham.

Seed Trade.

SHOPMAN, or TRAVELLER.—Age 25. Engagement wanted as above. Nine years' experience, Wholesale and retail.—SEEDSMAN, Mr. Paice, Corn Merchant, Walthamstow, London.

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Send for ILLUSTRATED LIST of

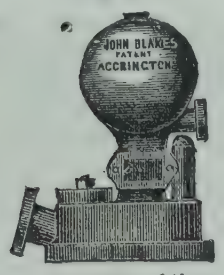
JOHN BLAKE'S PATENT SELF-ACTING HYDRAULIC RAMS,

For Raising Water for the Supply of Towns, Villages, Irrigation, Railway Stations, Mansions, Fountains, Farms, &c.

No cost for Motive Power, which is obtained from a Stream of Water passing through the Ram. No Oiling or Packing required. Made in sizes to raise from **300 to 200,000 gallons per day.** Will force to a height of 1500 feet.

SPECIAL RAMS for HIGH FALLS to send up One-third of the Water passing through them.

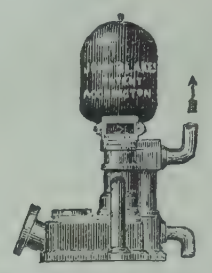
Fig. A.



This Ram raises a portion of the same water that works it.

View of Ram worked by water from a spring, and supplying the house and garden on the hill.

Fig. B



This Ram, whilst worked by a stream of impure water, will pump clean water from a well or spring.

TESTIMONIALS FOR JOHN BLAKE'S PATENT SELF-ACTING HYDRAULIC RAMS:—

From T. DYNE STEEL, Esq., M.I.C.E., Past Pres. South Wales Inst. of Engineers, *Bank Chamb., Newport, Mon., April* 24, 1991. *Usk Waterworks.*

"DEAR SIR,—In September of last year I applied to you for a Hydraulic Ram for the purposes of the Usk Waterworks, to be capable of raising 27,000 gallons per day a height of 127 feet, with a working fall of driving water of 27 feet, and on your guaranteeing that performance, I gave you an order for the Ram. The Machine you supplied has now been put to work, and I have much satisfaction in saying that it far and away exceeds in its performance my most sanguine expectations, and possibly yours also. I have just completed a series of exhaustive tests with the following results:—

"Working fall of driving water, 30 feet; vertical height raised, 127 feet; length of rising main, 850 feet from Ram to outflow; length of supply pipe, 200 feet; gallons per hour raised 1312; driving water used per hour, 8185 gallons, showing the remarkable and gratifying result of **83 per cent. of efficiency.**

"The tests were carefully made and repeated, the water measured, and levels properly taken. Several trials were made, and I shall be glad to give any Engineer interested in the subject facilities for repeating the tests at the spot.

"I may here state that for the rising main I used a large diameter of pipe in order to reduce friction, with excellent effect. "Yours faithfully, T. DYNE STEEL."

From C. PAGE WOOD, Esq., *Wakes Hall, Wakes Colne, Essex, January* 11, 1889.

"SIR,—In reply to your inquiry, the Hydraulic Ram you put down for me in 1884 has cost me only 6*d.* in repairs (for a new stud my blacksmith made); the second Ram you put down to Supply an off-hand farm has been running three years, and has cost not a penny in repairs; the third and largest Ram you put down two months ago, which is for the supply of water to my neighbours, is running satisfactorily. All three Rams throw up more water than you guaranteed. From enquiries I have made from friends who have Rams of other makers, I am convinced of the superiority of yours, and my third order is a proof of my good opinion. My abundant water supply is the greatest possible comfort to me. Yours faithfully, C. PAGE WOOD."

From Mr. THOMAS VARLEY, Agent to the Trustees of the late WILLIAM ROUNDELL, Esq., *Gledstone Estate, West Marton, Skipton, August* 11, 1887.

"DEAR SIR,—The Patent Hydraulic Ram you fixed five years ago on this estate is still working as well as it did on the day it started. It is driven by spring water carried along the hillside in 950 yards of iron pipe, and forces up an abundant supply to an underground tank on the hill at a distance of two miles from and at an elevation of 280 feet above the Ram. The water is then gravitated through several pipes and branches, having a total length of about four miles, for the supply of the mansion, garden, stables, estate workshop, and steam boiler, the village of West Marton, and several farms There are five fire-plugs inside the mansion and seven outside; and as the underground reservoir is 70 feet above the mansion, seven jets of water can be thrown over the house in case of fire. As there is still a considerable overflow from the underground reservoir running to waste, I intend to form a second reservoir at a lower level, and utilize the water for other farms. I have much pleasure in being able to report as above."

Blake's Hydraulic Rams have been supplied to the following amongst others:—

His Royal Highness the Duke of Connaught
His Highness the Maharajah of Kashmir
His Grace The Duke of Devonshire
His Grace The Duke of Westminster
His Grace The Duke of Cleveland
His Grace The Duke of Portland
His Grace The Duke of Sutherland
His Grace The Duke of Leeds
His Grace The Duke of Marlborough
His Grace The Duke of Grafton
The Most Hon. The Marquess of Ripon
The Most Hon. The Marquess of Downshire
The Most Hon. The Marquess of Abergavenny
The Most Hon. The Marquess of Londonderry
The Most Hon. The Marquess of Cholmondeley
The Right Hon. The Earl of Derby
The Right Hon. The Earl of Devon
The Right Hon. The Earl of Gainsborough
The Right Hon. The Earl of Romney
The Right Hon. The Earl of Granard
The Right Hon. The Earl Beauchamp
The Right Hon. The Earl of Caledon
The Right Hon. The Earl of Lichfield
The Right Hon. Earl Ferrers
The Right Hon. The Earl of Feversham
The Right Hon. The Earl of Harewood
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The Right Hon. The Earl of Ancaster
The Right Hon. The Countess of Shaftesbury
The Countess de Morella
The Dowager Lady Williams Wynn
Lady Henry Cholmondeley, East Burnham Lodge
Lady Frankland, Thirkleby Park
The Right Hon. Lord Londesborough
The Right Hon. Lord Hothfield
The Right Hon. Lord Viscount Galway
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The Right Hon. Lord Ribblesdale
The Right Hon. Lord Hatherton
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The Right Hon. and Rev. Lord Scarsdale
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CONTENTS.

Australian fruit packing	692	Peas, early	691
Bedford fruit cards ...	692	Potatoe, early, in Scotland	692
Birthday honours ...	691	Room decoration... ...	692
Cattleya labiata Mendelii Clark's variety ...	688	Rose, insect enemies of the	682
"Dragon's blood" ...	687	Rose prospects	681
Echium arborescens ...	690	Rose show fixtures ...	691
Edgbaston Botanical Gardens, Birmingham	683	Societies—	
France, Italy &c., journey through	686	Dutch Horticultural and Botanical ...	692
Fruit prospects	686	London Pansy and Viola	696
Fruit trees, summer pinching of	694	National Carnation (Southern Section)	691
Gardeners' Royal Benevolent Institution ...	693	National Chrysanthemum	691
Ghent, around	688	National Rose	691
Iris stylosa, for winter ...	694	Royal Horticultural...	695
Kew eyot, the	691	Technical education in horticulture	694
Kew guild, the	690	Thyrsos of Dionysos ...	692
Nursery notes—		Trees and shrubs—	
Pitcher & Manda, New Jersey...	684	Robinia hispida ...	688
Orchids, list of garden ...	684	Tresco Abbey gardens ...	694
Pæonies at Chiswick ...	693	Week's work, the—	
Plants, new or noteworthy—		Flower garden, the ...	689
Cymbidium Lowianum var. aureum... ...	682	Fruits under glass ...	688
Cypripedium × Sylvia	682	Hardy fruit garden ...	689
Kniphofia longicollis	682	Kitchen garden, the ...	689
Lælia × Oweniana ...	682	Orchid-houses, the ...	688
Saintpaulia ionantha	682	Plants under glass ...	689
Peach buds, dropping of	693		

ILLUSTRATIONS.

"Dragon's blood" fruits	687
Echium arborescens	691
Saintpaulia ionantha	685

"GARDENERS' CHRONICLE."

LARGELY INCREASED CIRCULATION.

IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

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By order of Messrs. Seeger & Tropp (Ltd.), 112, Lordship Lane, East Dulwich, S.E.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, the Orchid Nurseries, East Dulwich, S.E., on WEDNESDAY and THURSDAY NEXT, June 14 and 15, at half-past 12 o'Clock each day,

ESTABLISHED and IMPORTED ORCHIDS,

consisting of—

DENDROBIUM PHALÆNOPSIS SCHRODERIANUM
" BRYMERIANUM
200 " NOBILE, extra fine
VANDA GOWERÆ, some fine plants
500 " CATHCARTII
" SPECIES
" " NOVA
" PARISHI MARRIOTTIANA
100 VANDAS, type of V. tricolor and V. suavis (S. & T.'s special), well-established unflowered
30 CYMBIDIUM DEVONIANUM (rare)
500 " MASTERSII
300 " EBURNEUM, in splendid condition
50 CYPRIPEDIUM TORTILE, well-established
CATTLEYA WALLISII (Eldorado alba), very fine plant
" INTERMEDIA ALBA, grand plants
LÆLIA SPECIES, hybrid
" GRANDIS TENEBROSA, extra fine plants
PHAIUS, New Species, see description in Catalogue
ORCHID SPECIES, quite new
PLEIONE, New species, see dried flowers
SARCOCHILUS SPECIES, very rare
SACCOLABIUM SPECIES
50 " HARRISONIANUM, pure white variety
VANDA CŒRULEA, in grand condition

And many other rare and beautiful ORCHIDS.

The plants may be viewed on morning of Sale. Catalogues may be obtained on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Friday Next.

ODONTOGLOSSUM PULCHELLUM GRANDIFLORUM.

MESSRS. PROTHEROE AND MORRIS will include in their SALE of ORCHIDS on FRIDAY NEXT, a select lot of grand semi-established masses of the largest form of the pure white fragrant-flowered ODONTOGLOSSUM PULCHELLUM GRANDIFLORUM ever imported. The favourite O. pulchellum majus, which is the nearest to the one now offered, is still uncommon, nearly all the importations of recent times being mere varieties of the almost worthless form known as O. Egertonianum. The present is a good opportunity for those who desire fine white flowers for cutting, as the masses offered are semi-established imported plants to flower in their season.

Also BRASSIA SP. (B. Gircondiana), with magnificent spikes of flowers; SCHOMBURGKIA LYONSII, one of the most beautiful of Orchids. Flowers in large heads, violet and white; ARPOPHYLLUM SP., &c., fresh imported plants in fine condition.

On view morning of Sale, and Catalogues had.

Friday Next.

ODONTOGLOSSUM VEXILLARIUM ALBUM.

MESSRS. PROTHEROE AND MORRIS will include in their SALE of ORCHIDS on FRIDAY NEXT, four Plants, in Flower or Bud, of a magnificent, large-flowered, pure white form of ODONTOGLOSSUM VEXILLARIUM. The four plants offered form the entire stock of variety, and were propagated from the one originally imported.

On view morning of Sale, and Catalogues had.

Tuesday, June 20.

The collection of Orchids formed by W. Houghton, Esq., of Hoe Street, Walthamstow, who has sold his Estate, and is removing from the neighbourhood.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Rooms, on TUESDAY, June 20, the collection of well-grown ESTABLISHED ORCHIDS, comprising about 1100 plants, and including several fine pieces and varieties, particulars of which will appear in future announcements.

On view morning of Sale, and Catalogues had.

Friday Next, June 16.

The COLLECTION OF ORCHIDS, formed by J. Batten, Esq., of Highfield, Bickley, Kent, who is giving up their cultivation.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, June 16, at half-past 12 o'Clock, the above Collection of well-grown ESTABLISHED ORCHIDS, including amongst others :—

Cattleya Trianæ
" gigas
" Gaskelliana
" labiata
" Mendelii
Cœlogyne cristata
Cypripedium insigne Maulei
Odontoglossum Alexandræ
" " roseum
" " guttatum
Odontoglossum Halli
" Andersonianum lobatum
" grande
Two Odontoglossum Wilckeanum, exceptionally fine varieties, same as figured in Mr. Pollett's Catalogue, Plate No. 25.

And numerous other cool-house ORCHIDS.

On view morning of Sale, and Catalogues had.

Ashford, Middlesex.—By order of the Executors.

ABSOLUTE CLEARANCE SALE of the whole of the GREENHOUSE PLANTS, also the LEASE of the NURSERY.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, the Nurseries, Ashford, Middlesex, on WEDNESDAY, June 21, at 12 o'Clock, the whole of the Stock of GREENHOUSE PLANTS, also the LEASE of the NURSERY, with several GREENHOUSES. Full particulars will appear next week.

May be viewed. Catalogues had on the Premises, of F. Hand, Esq., 5, New Inn, Strand, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Preliminary Notice.

EXTENSIVE CONSIGNMENT OF PALM SEEDS.

125,000 KENTIA BELMOREANA.
130,000 " FOSTERIANA.
8000 " CANTERBURYANA.
280,000 ARAUCARIA EXCELSA.
280 TODEA MOOREANA.

MESSRS. PROTHEROE AND MORRIS beg to notify that they have every reason to believe the above will arrive in good time for SALE by AUCTION in the FIRST WEEK in JULY. The Date of Sale will appear in future announcements.

By order of the Executors of the late Edwin Covell, Esq., Beckenham Place Park, Beckenham.

VERY CHOICE COLLECTION of STOVE and GREENHOUSE PLANTS, PALMS, and FERNS, grown for exhibition by Mr. Boatright, many being prize-winners; 60 good varieties of AZALEAS, including large plants of indica, alba, and Fielder's White; 40 fine CAMELLIAS, including alba plena, 3 to 14 feet high, well furnished; fine specimen CYCAS and other PALMS, specimen FERNS, about 120 very choice ORCHIDS, 60 pots EUCHARIS, LILIUM, GLADIOLI, CARNATIONS, about 1200 show CHRYSANTHEMUMS, &c.; also Four excellent divisional GLASSHOUSES by Gray, of Chelsea, with iron and slate staging, two Boilers, 1400 feet of 4-inch Piping, &c.; Spring Van and Carts, Horse and Hand Rollers, Lawn Mowers, Cob for garden work, two Manual Hydraulic Engines, Garden Lights and Implements, and some stocks of Bees—in all, about 800 Lots.

MR. W. LEVENS will SELL the above by AUCTION, in the Gardens, on TUESDAY and WEDNESDAY, June 13 and 14, at 10 for 11 o'Clock.

May be viewed day prior. Catalogues may be obtained of the Auctioneer, Railway Bridge, Beckenham, Kent.

By Order of Administratrix.

CHELSEA—"THE PHEASANTRIES," BEAUFORT STREET.

MR. THOS. MITCHINSON will SELL by AUCTION, as above, on MONDAY and TUESDAY NEXT, June 12 and 13, 1893, at 1 o'Clock, the Stock-in-Trade of the late Richard Holliday, Rustic Wrought-Iron Work and Garden Furniture Manufacturer, consisting of Garden Seats, Chairs, Suspending Baskets, Aviaries, Fencings, Hurdles, Drilling, Crimping, Punching, and other Machines; Benches, Tools, Electrotype and Wood Blocks; Portable Greenhouse, 25 ft. 4 in. × 10 ft. 6 in. × 12 ft.; also Household and Office Furniture, Cottage Pianoforte, Type-Writer, Invalid combined Wheel and Carrying Chair, Staircase Tramway, with Travelling Chairs; and usual effects.

On View, Saturday, June 10. Catalogues of the Auctioneer, 18, Richmond Road, Westbourne Grove, W.

WANTED to RENT or PURCHASE, at a moderate price, a SMALL NURSERY, or NURSERY and JOBBING BUSINESS, near London.—Send full particulars to E. W., Grove House, Cottenham Park, Wimbledon.

FOR DISPOSAL, or open to PARTNERSHIP.—Old-established NURSERY and SEED BUSINESS, within easy distance of London. Full particulars on application to F. A., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

To Nurserymen, Florists, and Growers.

OLD ESTABLISHED READY-MONEY BUSINESS, with profitable and wide connection. Good House and extensive Glasshouses. Low Rent. Lease 50 years. WILES, 153, Stanstead Road, Forest Hill.

TO BE SOLD, a small NURSERY, FLORIST, and JOBBING BUSINESS.—Full particulars of E., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

MUST AT ONCE BE SOLD.—LEASE (18½ years) and Seven HOUSES, 700 feet run, in thorough repair, capitally heated, and heavily cropped with Tomatos, Peaches, &c. Low ground rent, two-thirds of which is let off by stable, &c. Five minutes from station, and 15 miles from London. A decided bargain to the firstcomer, whose incoming would have to be £250. Genuine reasons for disposal.

Full particulars of Messrs. PROTHEROE AND MORRIS, 67 and 68, Cheapside, London, E.C.

BY ORDER OF THE LIQUIDATOR.

GREAT SALE

OF THE ENTIRE STOCK OF

ORCHIDS, TEA ROSES, FERNS, PALMS,

And General Stock of

STOVE and GREENHOUSE PLANTS, GRAPE VINES, &c.,

THE PROPERTY OF THE

LIVERPOOL HORTICULTURAL COMPANY (JOHN COWAN, Limited).

The Company are now selling their entire Stock as above, at extremely low prices, and in addition to the low prices quoted in the Catalogues, very large discounts are allowed.

Inspection is earnestly invited.

The Company are also offering, for the first time, their splendid NEW GRAPE VINE, HAMBRO-COLMAR.

Descriptive and Priced CATALOGUE of the entire Stock will be sent, post-free, on application to the Company.

THE VINEYARD and NURSERIES, GARSTON, near LIVERPOOL.

FLORIST'S BUSINESS and NURSERY for IMMEDIATE SALE: well stocked with choice saleable HARDY and other Plants, situated in a first-class locality. Estimated value £1500, and now offered for the low sum of £375 cash, the owner retiring in consequence of serious accident. Bonâ fide applicants only will meet with attention.

QUERCUS, 41, Wellington Street, Strand, W.C.

The Watersend Nursery, Ewell, near Dover.

To NURSERYMEN, MARKET GARDENERS, and OTHERS.

FOR SALE, with Immediate Possession, PREEHOLD PROPERTY, comprising 4½ Acres of fertile land, in good cultivation, with capital Residence, Coachhouse, Stabling, 5 Large Greenhouses, &c., within 5 minutes' walk of Kearsney Junction Station on the London, Chatham & Dover Railway.—Apply to Messrs. WORSFOLD AND HAYWARD, Estate Agents, Dover.

FOR SALE, a small NURSERY (chiefly glass) and JOBBING BUSINESS, in good neighbourhood, with good connection; would suit beginner. For full particulars, apply in first place, to—

H., Mr. G. Tuxford, 8, The Green, Mortlake, Surrey.

NURSERY for SALE, or to be LET, near Blackheath, S.E., in working order. Land, 442 feet by 150 feet (more or less), at low ground rent. Contains seven Glass Houses, about 100 feet to 123 feet long, heated by three Boilers; three Cold Frames, about 100 feet long; Planting Ground, &c. Stock at valuation, if desired.—Apply to THOMAS PEACOCK, Warwick Square, London, E.C.

FLORIST'S BUSINESS for SALE, a bargain, Wandsworth Common, near Station, with almost new front Show House, Greenhouse, &c. Six-roomed House. Rent £35. Price for Lease, Goodwill, Fixtures, Plant and Utensils, £160.—14, Wiseton Road.

City of Peterborough.

To NURSERYMEN, FLORISTS, SEEDSMEN, and OTHERS.

TO BE LET, with Immediate or Michaelmas Possession, the well-known, old-established Peterborough BUSINESS, comprising a well-stocked NURSERY FARM of 25 acres, with good House and Premises, Gardens, Hot-houses, &c., adjoining the Town. Also, a Valuable SEED SHOP and STORE, in a first-class central position; and a FLOWER-STAND on the Great Northern Railway Station. The whole Business has for many years been carried on by Mr. John House, who is retiring on account of declining health, and leaving a fine opportunity for an enterprising tradesman.

Apply, FOX AND VERGETTE, Estate Agents, Peterborough.

TO BE LET, within 4 miles of Bournemouth, in consequence of sudden death of Tenant, REMAINDER of LEASE of HORTICULTURAL ESTABLISHMENT, consisting of twenty trade houses (majority nearly 100 feet long), with Cottage. Very small incoming. Rent £180. New Lease obtainable. Apply—

WATTON, Agent, Southbourne-on-Sea.

TO BE LET, a High-class FLORIST'S BUSINESS in fashionable Town. Unexceptionable terms. Stock, &c., about £200.—Apply, ADIANTUM, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

To Lovers of Forestry and Gardening.

THE LEASE of a charmingly-placed HIGH CLASS RESIDENCE, in 40 acres of luxuriantly-timbered Grounds, for SALE, eight or nine miles from the City and West-End. A Gentleman's Residence in every respect.

Apply to Messrs. HARMAN BROS., Auctioneers, 75, Aldermanbury, E.C.

MARKET GARDENS, with FLY PROPRIETOR'S BUSINESS. Profitable concern; present hands 22 years. Owner retiring. Nice modern House. Excellent Stabling, Hothouses, choice productive Gardens. Rent only £35. Lease, Horses, Carriages, Crops, &c., all at £350.—Apply (personally preferred) to Messrs. WICKENDEN, 20, High Street, Tunbridge Wells.

SACCOLABIUM BELLINUM, truly magnificent.
VANDA CŒRULEA, the dark blue type.
CYPRIPEDIUM BELATULUM, with gigantic leaves.
CATTLEYA SCHOFFIELDIANA, in beautiful condition.
LÆLIA HARPOPHYLLA. **CATTLEYA VELUTINA.**
ODONTOGLOSSUM CRISPUM, best Pacho type. *VANDA AMESIANA, VANDA KIMBALLIANA.*
MILTONIA MORELLIANA, M. CANDIDA GRANDIFLORA.

MESSRS. CHARLESWORTH, SHUTTLEWORTH & CO., HEATON, BRADFORD,

Have received the above Orchids, which they can recommend with every confidence.

PRICE ON APPLICATION. INSPECTION INVITED.

EARL'S COURT EXHIBITION.—THE GARDEN OF LONDON.
EXHIBITION OF GARDENING AND FORESTRY.
SPECIAL SHOW of CUT ROSES.—JUNE 14 and 15.

Owing to the exceptionally early season a SUPPLEMENTARY SHOW of CUT ROSES will be held on June 14 and 15. A SPECIAL SCHEDULE is NOW READY, and may be had on APPLICATION to Mr. H. E. MILNER, the Chairman.

CUT BLOOMS—Open Classes.	1st Prize	2nd Prize	3rd Prize
Class *1.—36 Roses, distinct, single trusses ...	60/-	40/-	20/-
,, *2.—24 ,, ,, ,, ,, ...	40/-	30/-	20/-
,, 3.—24 ,, ,, three trusses of each	80/-	60/-	40/-
,, 4.—18 Roses, Teas and Noisettes, distinct, three trusses of each ...	60/-	40/-	20/-
,, 5.—18 Roses, Teas and Noisettes, distinct, single trusses	40/-	30/-	20/-
,, 6.—12 Bunches Garden Roses, distinct, not less than 3 trusses to a bunch	40/-	30/-	20/-
Class 7.—12 Trusses, any dark H.P. ...	20/-	15/-	10/-
,, 8.—12 ,, any light H.P. ...	20/-	15/-	10/-
,, 9.—12 ,, any Tea and Noisette	20/-	15/-	10/-
AMATEURS.			
,, *10.—24 Roses, distinct, single trusses	40/-	30/-	20/-
,, *11.—12 ,, ,, ,,	30/-	20/-	15/-
,, 12.—12 ,, ,, 3 trusses of each	40/-	30/-	20/-
,, 13.—12 ,, Teas and Noisettes, distinct, single trusses ,, ...	20/-	15/-	10/-
Class 14.—12 Trusses, any H.P.	20/-	15/-	10/-
,, 15.—12 ,, any Tea and Noisette	20/-	15/-	10/-
,, 16.—12 Bunches Garden Roses, distinct, not less than 3 trusses to a bunch	40/-	30/-	20/-
PLANTS—Open.			
,, 17.—36 Roses in 7-inch pots	80/-	60/-	40/-

* *Exhibitors may only Show in one of these Classes.*

Meritorious Exhibits not named in the Schedule will be recognised. Prizes, Medals, and Certificates awarded for every Show.

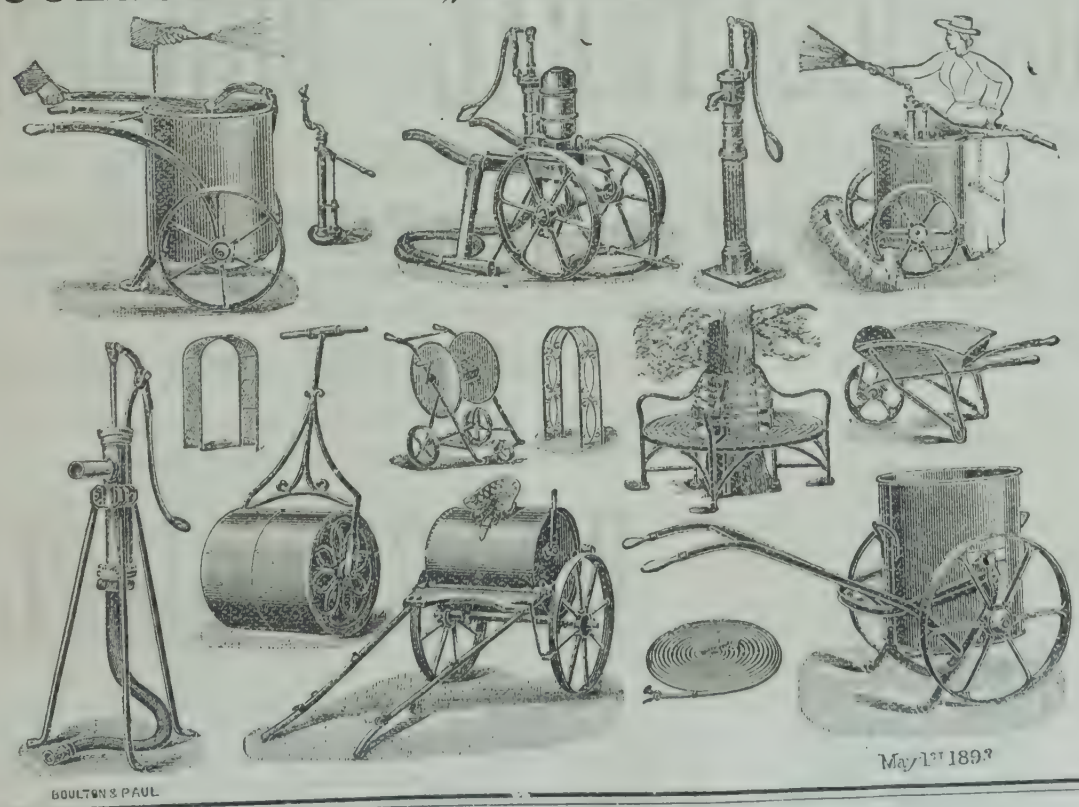
All applications for entries, schedules, regulations, and further information should be addressed to Mr. H. E. MILNER, the Chairman, at the Offices of the Exhibition, Earl's Court, S.W.

H. E. MILNER, Esq., F.L.S., C.E., *Chairman.* | GEORGE CADELL, Esq., (late) Indian Forest Department, *Vice-Chairman of Committee*, Forestry Section. | HARRY TURNER, Esq., F.R.H.S., *Vice-Chairman of Committee*, Horticultural Section. | G. A. LOVEDAY, B.A., *Secretary.*

ADMISSION to the Exhibition Building, Flower Show, and the Central and Western Gardens, **ONE SHILLING.**
OPEN DAILY, from 11 A.M. to 11 P.M. SEASON TICKETS £1 1*s.*, to be obtained from the usual Agents and the Secretary.

BOULTON & PAUL, Manufacturers, NORWICH.

Send for Illustrated Catalogue, free on application.



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BOULTON & PAUL

May 1st 1893

DROVER'S BOOK on the CHRYSANTHEMUM should be read, being a critical season for Bud Formation. Post-free, 1*s.* 2*d.*—Nurseries, Fareham.

FERNS! FERNS!!—Trade.—Greenhouse and Stove, 25 saleable sorts, in 2½-in. pots, 12*s.* per 100; 10 best market sorts, in 48's, 6*s.* per doz.; stores, 6*s.* per 100. Large Adiantum cuneatum, value in fronds, 6*s.* and 8*s.* per dozen. Cyperus, Aralias, Rhodanthe, Grevilleas, in 48's, good value, 6*s.* per doz. Palms, Ficus, Hydrangeas, Pelargoniums, Marguerites, Dracænas, in 48's, 1*s.* each. P. tremula and A. cuneatum, for making large plants quickly, 16*s.* and 20*s.* per 100, well packed, put on rail free for cash with order.—J. SMITH, London Fern Nurseries, Loughboro' Junction, London, S.W.

SHOWY GERANIUMS, of most effective kinds, for Bedding-out.
Exceptionally low prices for Plants of quality unsurpassed.
DICKSONS, Nurseries, CHESTER.

Plants Shipped to all Parts.

WATSON AND SCULL, 90, Lower Thames Street, London, E.C., give special attention to the reception and forwarding of Plants and Botanical Specimens to and from all parts of the World. Be particular, and have them consigned to our Care, and save Expense and Delay.
Dealers in Virgin Cork, Raffia, Bamboo Canes, Garden Sticks, Palm Seeds, &c.

EXHIBITIONS.

ISLE OF WIGHT ROSE SOCIETY
GRAND EXHIBITION,
In the Vicarage Grounds, Newport, June 15.
For Schedules and Entry Forms apply to the
Rev. G. E. JEANS, Shorwell Vicarage, I.W.
Train from Waterloo or London Bridge, 6.45, arrive 11.7.

SHROPSHIRE HORTICULTURAL SOCIETY.
Schedules for the FLORAL FÊTE, SHREWSBURY August 23 and 24, 1893, are Now Ready.
CASH PRIZES are offered in the Society's Schedule for 1893, amounting to nearly SEVEN HUNDRED and TWENTY POUNDS. Schedules sent post-free on application to—
Messrs. ADNITT AND NAUNTON, Hon. Secs., Shrewsbury.

FOR ORCHIDS and GARDENERS to Grow Them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

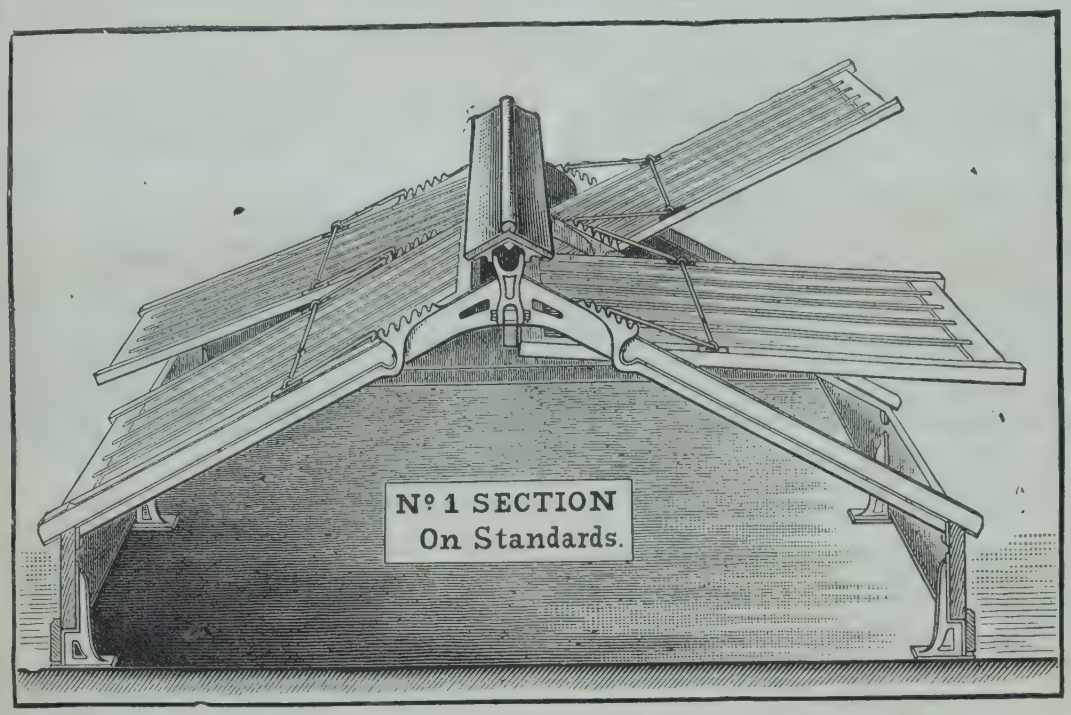
CLEARANCE SALE of BULBS for Summer and Autumn Flowering. PRICE LIST on application.
Finest named Gladioli, 3*s.* 6*d.*, 5*s.* 6*d.*, 7*s.* 6*d.* and 10*s.* 6*d.* per dozen. Finest Mixed Gladioli, per 100, 15*s.*; per dozen, 2*s.* 3*d.* Lemoine's Beautiful Butterfly Gladioli, mixed, per dozen, 4*s.* 6*d.* Lilium auratum, 7*s.* 6*d.* and 10*s.* 6*d.* per dozen. Anemone fulgens, per 100, 5*s.* 6*d.*; per dozen, 1*s.* Red Tiger Spotted Flower (Tigridia), White Tiger Spotted Flower, Yellow Tiger Spotted Flower, all at 15*s.* per 100; per dozen, 2*s.* 3*d.* Single Begonias, mixed, 3*s.* 6*d.* per dozen, &c.
BARR AND SON, 12, King Street, Covent Garden, W.C.

SPECIAL CHEAP OFFER of LARGE FLOWERING BULBS.
FREESIA REFRACTA ALBA, 20*s.* to 30*s.* per 1000; 3*s.* 6*d.* per 100. This pure white, sweet-scented, easily-grown flower should have a place in every garden.—J. JAMES.
Please note price of undermentioned, all first-class goods:—Amaryllis, in sorts, large bulbs, sure to please, 30*s.* per 100; 5*s.* per dozen. Callas, in sorts, grand bulbs, 18*s.* to 25*s.* per 100; 3*s.* per dozen. Nerine corusca and sarniensis, Spider Lilies, 35*s.* per 100; 5*s.* per dozen. Ixias, in sorts, 12*s.* per 100. Babianas, in sorts, 15*s.* per 100; 2*s.* per dozen. Pancratium caribæum, 8 to 10-inch bulbs, 50*s.* per 100; 8*s.* per dozen. P. amœnum, large bulbs, 35*s.* per 100; 6*s.* per dozen. Water Lilies, 6*s.* per dozen. Crinum Kirkii, very large bulbs, 18*s.* per dozen; 2*s.* each. C. asiaticum and C. zeylanicum, same price. Hæmanthus in sorts, large bulbs, 2*s.* each. Ammocharis, very large, 2*s.* 6*d.* each. Zamias in sorts, 2*s.* each. Orchids, from 6*s.* per doz. New Seed of Tea, Coffee, Silver Cape Tree, 1*s.* per packet. Cash with order. New LIST free. All other Bulbs at low rates. Trade supplied.
J. JAMES, Importer of New and Rare Bulbs, Plants, and Seeds, New Malden, Surrey.

FOSTER & PEARSON, Lmtd., 22 FIRST PRIZES.

Established 1841.

BEESTON, NOTTS.



THESE FRAMES SHOULD BE IN EVERY GARDEN.

HUNDREDS SOLD.

ESTIMATES FOR

Vineries, Orchid Houses, Peach Cases, Plant Houses, Frames, &c.,

ON APPLICATION.

IMPROVED SPAN FRAMES.

The Lights are held open for Ventilation or Watering without props, and can readily be removed if necessary. Top Ventilation by Lantern.

PLEASE SEND FOR PRICE LISTS.

ONLY THOROUGHLY SEASONED TIMBER AND BEST WORKMANSHIP EMPLOYED, THUS ENSURING DURABILITY & REAL ECONOMY.

NEW BEDDING FUCHSIA,

"DUNROBIN BEDDER."

MESSRS. JAMES VEITCH & SONS

Offer this very useful and distinct Bedding FUCHSIA, which was raised by Mr. MELVILLE, of Dunrobin Castle Gardens.

The plant is dwarf and compact, scarcely exceeding a foot in height, and remarkably floriferous, its bright coral-red flowers being produced in great profusion. This Fuchsia is well adapted for small beds, edgings, carpeting below taller plants, out-of-door vases, window-boxes, &c.

It has received an Award of Merit from the Royal Horticultural Society.

"The very remarkable appearance presented by that charming dwarf Fuchsia Dunrobin Bedder, as seen recently at Chiswick, very naturally attracted the attention of several members of one of the Committees, because so compact and wondrously full of bloom. If Fuchsias merit the appellation of bedders, this one certainly possesses the properties of a bedder in a high degree."—*Gardening World.*

Mr. Barron, Superintendent of the Royal Horticultural Society's Garden at Chiswick, writes:—"This Fuchsia is a real good thing, dwarf, very floriferous, and much admired by everybody."

Mr. Dunn, of Dalkeith Palace Gardens, writes:—"This little Fuchsia has done very well here for the past two seasons. It flowers profusely, and is noticed by everybody as a bright, distinct and attractive plant among the host of other 'bedding' subjects"

Price 12*s. per dozen.*

ROYAL EXOTIC NURSERY,
CHELSEA, S.W.

BRIGHT FLOWERS for BEDS & BORDERS.

CALCEOLARIAS, GERANIUMS, PETUNIAS, and other gay Flowering Plants, with IRESINE, COLEUS, PERILLA, and other Plants of Decorative Foliage.

Large Stocks of BEDDING-OUT PLANTS, at most moderate prices.

DICKSONS, NURSERIES, CHESTER.

To the Trade.

RAPESEED and AGRICULTURAL WHITE MUSTARD.

H. AND F. SHARPE have to offer fine samples of RAPESEED and WHITE MUSTARD, suitable for Field Culture. Special quotations and samples on application.

SEED GROWING ESTABLISHMENT, WISBECH.

HORTICULTURAL BUILDER.

Every description of **GREENHOUSES, LIGHTS, &c.**

PIT LIGHTS.

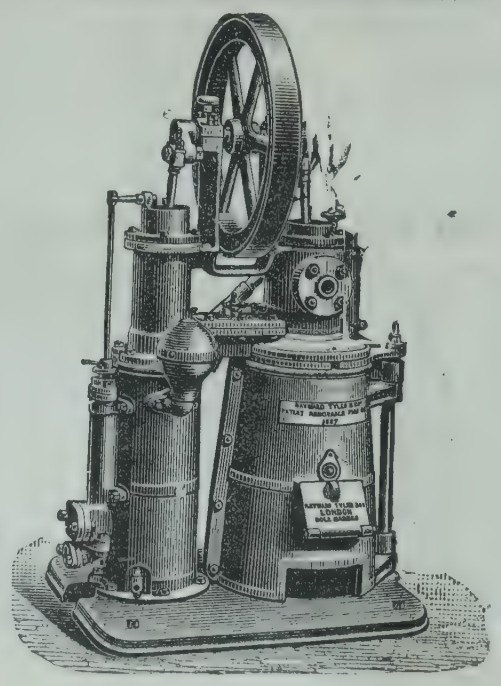
Best quality and workmanship, 2 inches thick, 6 ft. by 4 ft., iron bar across, and very strong, 4*s.* 6*d.* each, 50*s.* doz., £10 for 50 lights, free on rail in London. Cash or reference with order.

CUCUMBER HOUSES.

Timber sufficient to build 100 feet by 12 feet house, Roof Ventilators, Door, &c. Put on rail in London. Price, **£9 10*s.*** Send for detailed specification, to

W. DUNCAN TUCKER, HORTICULTURAL WORKS, TOTTENHAM.

Send for Illustrated Catalogue, just issued.



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Gardens and Greenhouses.

NO SKILLED SUPERINTENDENCE, OR DANGER.

THE "RIDER" HOT-AIR ENGINE

Raises 1000 gallons 80 feet high for an expenditure of ONE PENNYWORTH of Fuel.

CRANSTON'S NURSERIES say:—"We should be very sorry to be without it now."

SOLE MAKERS:—

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Address: 39, QUEEN VICTORIA STREET, E.C.

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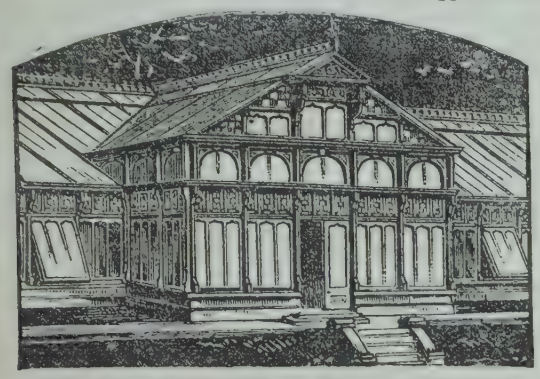
HORTICULTURAL BUILDERS, NORWICH.

WINTER GARDENS, CONSERVATORIES.

Surveys made in any part of the Country.
Ladies and Gent'emen waited upon by Special Appointment.



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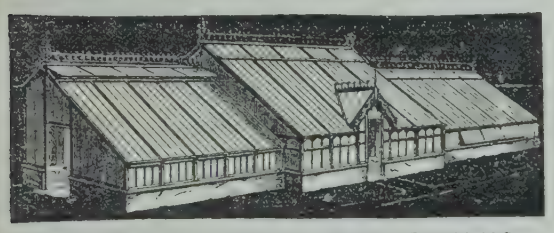

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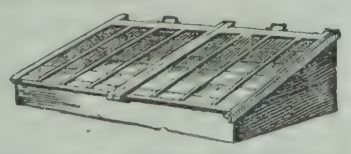

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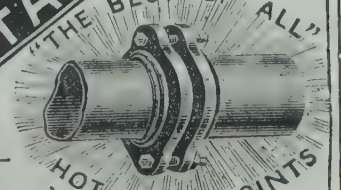

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THE

Gardeners' Chronicle.

SATURDAY, JUNE 10, 1893.

ROSE PROSPECTS.

THE suggestive remarks of my friend Mr. Ewbank (see p. 602) have probably in one form or another presented themselves to most lovers of their garden as they see with dismay plant after plant hurrying into bloom long before—with us quite a month before—the time, and as with the garden, so with the hedgerow and the woodland. The Dog Rose I noticed in flower on May 7, while now (the 22nd) the hedges are draped with its beautiful and simple flowers, and I am thereby led to think about the position that the classes of garden Roses will hold at our forthcoming exhibition at the Crystal Palace.

It may perhaps be said it does not much matter when we get the bloom in our gardens, so that we get it. In one sense this may be true, but as I feel with all our spring flowers, they cheer us when they appear, but when they go out of flower, we feel another season is past, and that we must wait on; so although I am really now in a wealth of flowers, which ought to be out in June, yet I cannot but regret their loss, and grieve that my pleasure in them is so soon to be over. On all sides the welcome rain has at last come, although here we have only had half-an-inch; but at the same time comes the evil, my Roses are all rushing into flower, and my garden is a blaze of beauty, and not only is this the case with Tea and Summer Roses, but the early H.P.'s are following suit. I saw in a cottage garden yesterday a plant of General Jacqueminot in full bloom, and if so with us, what must it be in the west and south-west of our island, districts which are always considerably in advance.

Garden Roses may be conveniently divided, so far as the rules and regulations of the National Rose Society are concerned, into two classes—the single or the double Briars, and the old summer Roses of the Provence Hybrid, Bourbon and Hybrid China together. It is not contended, as a reference to the Society's catalogue will prove, that these are the only garden Roses worth cultivating; but it is found that, of the class Roses not confined to these, a quantity of Teas, Noisettes, and Hybrid Teas, would pretty nearly fill the box, with just a few of the classes most wanting thrust in for appearance-sake. This year the rules are much more strict. Lord Penzance, who has generously offered a five-guinea cup, wishing it to be restricted, so as to exclude all Hybrid Perpetuals, Teas, &c.; and I fear that the entries of this season will lead to some considerable disappointment. Let me take a look round my small garden, and what do I see? The Austrian

Copper, as it is most generally called, has been a blaze of fiery beauty, rich beyond description in its colouring, but now (May 23) past its best, and perhaps in another week there will not be a bloom of it left. There is surely nothing in all the whole family of Roses so brilliant as this.

Austrian Yellow.—This most lovely single yellow Rose is now in full beauty, and it surprises me that it is not oftener seen; we often see the Copper, but not this, and when I saw some years ago a grand tree of it in a cottage garden in this parish, it was a revelation to me. I had some difficulty in obtaining it, the Copper having been several times sent for it, but I succeeded in getting a sucker of it from my neighbour's tree, and it has given me much pleasure since then, always blooming well, and its beautiful soft yellow flowers are sure to catch the eye of any visitor.

Rosa rugosa and R. r. alba.—I am not quite so enamoured of these Japanese Roses as some seem to be, the type has such a manifest dash of that horrid magenta in it; and it is, moreover, unshapely, that I do not care for it—in fact, I think that the best part of it is their fine crop of splendid hips which it produces. R. r. alba is prettier, but I do not think to be compared to macrantha—these are now also in flower, and as they seem to bloom more in summer than many single Roses, some may be in evidence on July 1, although I very much doubt it.

Polyantha simplex.—This enormously floriferous single Polyantha, of which the finest plants I have ever seen were at Mr. T. W. Girdlestone's, is now also in full flower—a perfect sheet of snow-white flowers. Where it is required to cover a fence or any outbuilding with a rapidly-growing and free-flowering plant, there is no better than this for the purpose. I cannot, while writing of Polyantha Roses, omit referring to that most desirable semi-double crimson variety exhibited by Mr. Charles Turner, of Slough, at the Drill Hall and Royal Botanic Society. I am informed by the firm that they received it from Tokio, and it is certainly the first novelty in that class of Roses we have received for some years; it is rampant in growth, like simplex, and not like the hybrid Polyanthas raised in England and France, which are crossed with Teas. Of its history, at present, nothing is known; but I am quite sure that there will be a rush to obtain so grand an acquisition—a climbing Rose, with immense trusses of light crimson flowers.

Rosa pulverulenta.—This pretty white-flowered single Rose is now nearly past, but is still, with its white petals and yellow stamens, pretty enough to be noticeable.

Rosa macrantha.—This, which I think to be the finest of all the single Roses, is now in full beauty as a pillar Rose, and its large white petals, with yellow stamens, make it very attractive.

Paul's Single White.—In many respects similar to the preceding, although the dark-coloured stamens detract somewhat from its beauty.

Janet's Pride.—This striped Sweet Briar, which I found some years ago in the garden of my friend Mr. Whitwell, near Darlington, and the origin of which he knew nothing, obtained a First-class Certificate from the Royal Horticultural Society, and since then has increased much in the estimation of lovers of garden Roses. Two very fine bunches of it, exhibited by Messrs. Cooling in their box of garden Roses at the Temple Show, were very much admired. The flower can hardly be called semi-double, as it only has two rows of petals. The striping is very bright, and its foliage retains the delicious perfume of the Sweet Briar. This also is now in flower.

The mention of Sweet Briar leads one to those delightful seedlings of Lord Penzance's, two of which are now in flower in my garden, while boxes of them exhibited at the Temple Show by the raiser, and by Messrs. Keynes, Williams & Co., into whose hands they have passed for distribution, were enthusiastically welcomed by numbers of rosarians, and, indeed, by the general public also. In reference to these, his lordship writes to me: "As to my Roses, to begin with the hybrid Sweet Briars, they have begun to open their blooms for several days, and are fast passing into a condition of full bloom. I do not see the least prospect of their being available at the Crystal Palace on July 1, unless some of them which are perpetuals should give a second bloom by that time, which is to the last degree unlikely. I am sending some of them to the show in the Temple Gardens which is to take place to-morrow. As regards other garden Roses, I cannot see that they have any better chance of being fit for exhibition on July 1. The bloom buds are well formed, and nearly as big as Acorns, and some among the Gallicas are even showing colour. As I do not grow any for exhibition, I have done nothing by way of cutting back late, or by any other means to retard the flowering. On the whole, I think it is pretty clear that there will be no show worth looking at, at the Crystal Palace, unless the flowers are forthcoming from those of your members who reside in the north."

I have in these notes only alluded to those flowers which I have in my own garden amongst the single-flowering species and varieties, but from conversations I had with many rosarians, amateur and professional, I find the same condition of things prevails in most of our southern and midland districts, and if any garden Roses do appear at the Crystal Palace Show, I fancy they must come from the far north. I can but think that the summer-flowering Roses of the Gallica, Hybrid China, Hybrid Bourbon, and Provence types will have all passed away before July begins. They are generally considered June Roses, and in this exceptional season they are more likely to come into flower in the early part of June than in the latter. Altogether, the prospect is not a very bright one from the exhibitor's point of view, although for one's own enjoyment of the flower, the season is simply magnificent. *Wild Rose.*

NEW OR NOTEWORTHY PLANTS.

KNIPHOFIA LONGICOLLIS, *Hort. Leichtlin.**

This new Kniphofia is a native of Natal, and has been introduced lately into cultivation by Herr Max Leichtlin, who has worked so industriously at the genus for many years. It is flowering freely at Baden-Baden at the present time (the end of May), and if it maintains this character, this alone will be a good distinction from the other species. It is much dwarfer than K. aloides (Uvaria), with bright green leaves, much shorter racemes, and very large bright yellow flowers, without any tinge of red. It is sure to be a favourite with cultivators.

Leaves ensiform, bright green, acutely keeled, about 2 feet long, an inch broad at the base, tapering gradually to a long point, quite smooth on the edges. Scape comparatively slender, terete, 1½ foot long. Raceme dense, short, oblong, 2 to 3 inches long, 3 inches broad; pedicels very short; bracts ovate, scariose, ⅓ inch long. Perianth subcylindrical, 1¼ to 1½ inch long, ⅛ inch diameter at the throat, constricted and much narrowed above the ovary, lemon-yellow when mature, tinged orange-yellow when young, without any shade of red; lobes small, ovate. Stamens and style shortly exserted beyond the tip of the perianth-lobes when the flower is mature. *J. G. Baker.*

CYPRIPEDIUM × SYLVIA (CURTISII × LAWRENCEANUM), *new gard. hyb.*

A very small plant of this cross has been flowered by the raiser, Charles Winn, Esq., The Uplands, Selly Hill, Birmingham, who kindly sends it for inspection. The flower is just intermediate between those of the parents named, and doubtless when it gets strong it will prove a very distinct hybrid. The downward-curved, thickly-spotted petals, and the closely-lined dorsal sepal, are very characteristic. The foliage is much like that of some of the forms of C. Lawrenceanum. The reverse cross is known as C. × Gowerianum.

* *Kniphofia longicollis*, Hort. Leichtlin.—Foliis ensiformibus viridibus bipedalibus acute carinatis margine lævibus; scapo gracili foliis breviori; racemo denso oblongo; pedicellis brevissimis; bracteis magnis ovatis; perianthio citrino sesqui-pollicari, tubo subcylindrico deorsum angustato lobis parvis ovatis; genitalibus breviter exsertis.

CYMBIDIUM LOWIANUM AUREUM, *new var.*

In the large size and form of its flowers, this is one of the best of the species, but its chief peculiarity lies in its flowers being almost entirely of a bright clear yellow. In it there is but the faintest trace in the sepals of the green colour seen in the ordinary forms, and that trace being confined to the few most prominent veins, it is scarcely visible. In the same manner, the red or brown colouring on the front of the lip, seen in all but one or two other forms, gives place to a light orange colour. The base of the labellum is pure white, the column, side-lobes, and margin of the lip light yellow. It is a very striking and certainly beautiful form of one of the showiest and most graceful of Cymbidiums.

LÆLIA × OWENIANA, *new gard. hyb.* (PUMILA DAYANA ♀, XANTHINA ♂).

This pretty hybrid was given an Award of Merit when exhibited for the first time at the Royal Horticultural Society on August 9, 1892, by Messrs. F. Sander & Co., and it is now again in bloom at the St. Albans Nurseries, its flowers showing marked improvement over those produced last year, although the plant is still small. One advantage of these Lælia pumila crosses is their freeness to flower, and L. × Oweniana shows this in the highest degree. The sepals and petals are white, changing to cream colour; the base of the lip chrome-yellow, the remainder purplish-crimson, with an effective lilac blotch at the tip. *J. O'B.*

SAINTPAULIA IONANTHA, *Herm. Wendland, in Gartenflora, June* 1, *t.* 1391.

We owe to the courtesy of Herr Möller, of Erfurt, the opportunity of giving an illustration (fig. 104, p. 685) of this remarkable Gesneraceous plant. It was exhibited by our friend, Dr. Wendland, at the recent exhibition at Ghent, and shared with the Eulophiella exhibited by Messrs. Linden the honour of being the two most botanically interesting plants in the exhibition. In the *Gartenflora*, above cited, Dr. Wendland gives a full technical description of this new genus, a circumstance which relieves us of the necessity of giving technical details. It is a remarkable plant, having almost exactly the general habit and appearance of Ramondia. Like the Ramondia, it is a mountain plant, but it is not the least interesting circumstance connected with it, that it inhabits the Usambara mountains in Central Africa. Here it was discovered by the son of Hofmarschall St. Paul-Illaire, of Fischbach, in Silesia, the President of the German Dendrological Society. The name of the new genus, despite its uncouth appearance, is therefore amply justified. The younger Saint Paul, the "Bezirkshauptmann" (district Governor) of Usambara, collected the plant growing in the fissures of rocks, and sent specimens to his father, the Hofmarschall, by whom some were sent for botanical scrutiny and cultivation to Herr Oberhofgärtner Wendland, of Herrenhausen. It is a dwarf-growing plant, with crowded radical, long-stalked leaves, like those of a Gloxinia, of somewhat fleshy texture, hairy surface, and cordate ovate oblong outline. The flowers measure about 3 cm. across, and are of a deep violet colour. Their structure indicates close affinity with Cyrtandra and Monophyllæa. Dr. Wendland grows it as a stove-plant, and proposes as a popular name for it the Usambara Violet, "Usambara-Veilchen"—to which we should not be disposed to object, except that it has nothing in common with Violets but the colour of the flower.

INSECT-ENEMIES OF THE ROSE.

I DO not think there are many other plants in our gardens which are more infested with insects than Roses. The instant when growth begins, insects of some kind or other appear on it, and unless these

are destroyed at the outset, the plants get more or less injured, and are infested the whole year. It is very necessary that the Rose be grown clear of insects, and healthy from the first, if satisfactory results are to be realised, and few persons can secure them unless due precautions are taken.

Greenfly:—The few hints I purpose affording are applicable to Roses either indoors or in the open air, and I will start with the greenfly, or Aphis rosæ. It is astonishing how quickly these increase; in fact, the figures given us by entomologists are so large as to seem scarcely credible. However, all gardeners are aware how rapid is their increase whilst an easterly wind is blowing with a sultry atmosphere. It is interesting, as well as instructive, to the rosarian, to read up that which entomologists declare is the marvellous fecundity of these pests, and I am convinced were they so to do, they would realise the importance of killing the first insects that appear, whether it be indoors or out. The Rose aphis invariably clusters around the youngest, and consequently the tenderest shoots, oftentimes excluding the light and air; in addition to this, they suck the juices of the plant, and eat out the points of these shoots. If their destruction be neglected, the old leaves beneath get quickly covered with cast-off skins, dead insects, and excrement. This forms the sticky deposit known as "honey-dew." Of course, dust and other impurities stick to this, and the pores of the leaves become sealed. Amateurs do not, as a general rule, realize how important it is that the plants should be able to breathe, as it were, through, and by means of the foliage. Roses, and many other plants, derive very material benefit from atmospheric feeding. In proof of this, note how soon they put on a richer and more luxuriant appearance when kept clean, and nourished with the ammonia arising from a slight daily damping down with manure water. Very little reasoning will show how injurious it is to let the young growth be infested with such enemies, for not only are the tender tips of the shoots injured, but the more mature foliage is unable to carry out its functions, with the consequence that the plant soon becomes unhealthy. Fortunately, the earliest aphis are not very plentiful, and each one killed at this stage means the destruction of thousands if left for two or three days.

My experience points to the following, as being a simple and safe method of killing the green-fly. I will suppose that the young growths upon your plants are some 1½ to 3 inches long, and that only a few of these insects have made their appearance. In this case I would only forcibly syringe with a weak solution of soft-soap and warm water; or the amateur might employ some trusty insecticide sold for the purpose, but at about three-fourths the strength advised by the makers. If they apply this solution in a fine spray, and with considerable force, it will have the desired effect. Even if the first syringing be not sufficient to clear the plants, a second one will be certain to do so, and it is much safer to proceed in this way than to use an insecticide of too great a strength. Another material advantage in using a weak solution, lies in being able to give enough to thoroughly cleanse the plants without fear of injury.

Fumigation is another method of killing the green-fly, but I do not prefer it to a judicious and early use of the syringe and liquid insecticide; still, when growth has much advanced, it is difficult, and sometimes impossible, to reach all of the insects in this way, whereas the fumes of tobacco effect the purpose completely. But here, too, there is need of caution; over-fumigation is injurious. I do not like advertising a firm's productions in the course of a general article like the present, but I must say that I find McDougall's Fumigating-sheets are the most trustworthy for amateurs to use. In this case also I use it a little weaker than advised by the manufacturers; and, instead of one fumigation of full strength, I give my plants two applications of little more than half power. One of these early in the evening, or late in the afternoon, and the other as late as possible, and when the fumes of the first application are dying away. A steady and prolonged fumigation will kill aphis without the risk of injury to such tender growth as that of forced Roses. I would never fumigate all the while—syringing keeps them down; but it is a fine remedy to work the two together, by fumigating the last thing at night, and syringing early in the morning, before the older and stronger flies recover. In this case, a little over half-strength is quite sufficient. The syringing cleanses the plants, and the combination of the two remedies is most effectual. I always syringe my plants with clear soft water of a temperature from 65° to 80°, and find much benefit accrues; but I prefer it to have a small quantity of some kind of insecticide mixed with it, being more efficient as a plant cleanser.

Red-spider, etc.—Red-spider and thrips can be destroyed in the same manner as aphides. The former of these usually attacks the lower part of the leaf, affecting old foliage equally with the young. A moist atmosphere, it should be remembered, does not encourage the increase of these pests so much as a dry one, and the early and persistent use of the syringe will effectually cope with both. Scale is a very hardy insect, and few insecticides will kill it without injuring the young growth. It is a very injurious pest, feeding upon the juices of the plant. Fumigation does not seem to affect it, and one dares not syringe with a solution sufficiently strong to kill the older insects. Unless the plant is especially valuable, I would burn it. Where scale exists, it is more than ever necessary to attack early, as you can apply a much stronger remedy to the Rose-wood that has ripened than young growth could endure without injury. Fly, red-spider, and thrips feed only upon the young growth and foliage, but Rose-scale is feeding all the year round, under glass. I have found the following an infallible remedy:—Get a painter's sash-brush, and drop a little petroleum on it; then rub it upon a cake of Gishurst's Compound Soap till a slight lather is formed. A brush thus charged will kill a large quantity of scale, and a large amount of wood may be covered with it quickly. If the plant is not cleansed before young growth has well commenced, it is generally a hopeless task.

Maggot.—The "worm i' the bud," will attack the young growth as soon as the leaves are developing. This maggot, or grub, is more prevalent upon outdoor than on indoor plants, and particularly affects some of the hybrid perpetual varieties. Their presence may be readily discovered from the leaves being eaten, and also from some of them being curled and fastened together with a few threads spun by the maggot. If not killed early they do an immense amount of mischief, eating out the points of young shoots and the flower buds. During some seasons it is a great plague, entailing a large amount of work in freeing the plants. Fortunately, some kinds of birds are partial to them, especially the grasshopper warblers, tom-tits, and whitethroats. The common house sparrow is not credited with consuming much insectivorous food, but I have frequently watched them very busy among my plants clearing off these pests, and also the dauphin or green-fly. It is a strange fact, but there are some seasons when they will not touch them, while at others they search over the plants very closely indeed. I have seen them with open beaks, literally stripping off the whole lot of flies upon a shoot. It is difficult to unfold the curled foliage without injuring it, and I do not waste time in the process unless the point of young growth is also enclosed in the web. There is no more effectual plan than pinching the curled leaves containing the grub, between the thumb and finger. You can go over a large number in a short time, and it does not injure the foliage nearly so much as trying to uncurl the leaves. This also should be commenced very early, in fact, as soon as young growth begins; for, like the pests previously named, these do a great deal of damage in a short time, and if the first few are killed early, the plants are generally clear for the remainder of the year. Where these grubs are prevalent, I would first go over them by hand, and follow this up with a sharp syringing of the solution advised for green-fly, &c. To this you should add a little quassia-water in which the chips have been boiled for about fifteen minutes. An ounce of chips to 1 gall. of the former-mentioned solution will be sufficient, and render it much more deadly to the maggot. This pest has a peculiarity that should be taken advantage of. It will drop from the plant as soon as disturbed. Therefore, if you look over any infested plant carefully first, pinching the leaves that are curled, and then administer a smart tap to the stem, any maggots that have been overlooked will usually drop from the plant suspended by a portion of the silky thread they use in binding the leaves together. Kill them at once, or they will soon be up on your plant again.

This finishes the chief of the insect pests infesting Roses, and although their effects may sound disastrous, and the remedies troublesome, involving considerable labour, the work is easily accomplished, and in a far more effectual manner, if you commence operations early, and before the pests have been able to obtain firm hold. *A. P.*

NOTES FROM EDGBASTON BOTANICAL GARDENS, BIRMINGHAM.

Solanum Wendlandii.—This very beautiful warm-house climber is in bloom in the gardens. The plant is figured in *Bot. Mag.* 6914, and the writer of the notice accompanying the plate states that "living plants of this beautiful Solanum were sent to the Royal Gardens in 1882, by Dr. Wendland, with the information that it is a native of Costa Rica, where it climbs trees." It is further described as "a climbing glabrous shrub, with terete green branches; prickles on the short stem branches; and petioles few, scattered, short, and hooked. Leaves very variable, 2 to 10 inches long by 1½ to 4 inches broad." The plant in the Botanical Gardens covers a good amount of space on the roof of the Lily-house, to which it is trained, and yields large clusters of blooms, each as large as half-a-crown, and of a lovely tint of pale mauve. The foliage is also handsome.

Nepenthes Mastersiana ×.—This superb hybrid is to be observed in great beauty just now in these gardens. It is a cross obtained by Messrs. Veitch & Sons from N. Khasiana and N. sanguinea. The pitchers on the plant in question are about 10 inches long, stout, of a rich brownish-chocolate colour, with purple-tinted markings in the throat, and veined with a creamy colour. The lid is bright in colour, and it is a fine-looking plant, with robust, short-jointed growth. Mr. Latham, at the time of my visit, was making cuttings from growths which had been cut out of the plant, placing each in a small pot, with a lump of peat for the base of the cuttings to rest upon, packing them in firmly with sphagnum moss and a few bits of peat, and placing them in bottom-heat.

Fuchsia triphylla.—This very pretty species is to be seen year after year in fine form in the gardens, and probably there are now fifty plants just opening their first flowers. It is a plant of more than ordinary interest, inasmuch as it is the original Fuchsia introduced, and the first to receive the name of Fuchsia. Looking back over some volumes of the *Botanical Magazine*, there is a coloured plate of it, No. 6795, in the volume for 1885, from which I take the following extract:—"A most interesting plant, from being the type of the large genus Fuchsia, which was founded upon it 180 years ago, and yet it has been all but unknown to science till the present year (1885). I cannot do better than extract the details of this anomaly in botanical history and literature from an excellent account of the Fuchsia triphylla, drawn up by Mr. Hemsley for the *Gardeners' Chronicle*, premising that Mr. H. was the first to recognise the name and interest of the plant when transmitted to Kew for naming. In the latter part of the 17th century, Father Plumier, a missionary, collected largely in the West Indies, and chiefly in the Island of St. Domingo, and, in 1703, published

his *Nova Plantarum Americanarum Genera*—of this genera, one was that called "Fuchsia triphylla flore coccinea." Mr. Latham keeps up a supply from cuttings struck either in July or August, or in the spring.

Stigmaphyllum ciliatum is a lovely warm-house creeper but seldom seen, now in flower in the Lily-house. In growth it bears some resemblance to the smaller-foliaged Aristolochias. The leaves are opposite and cordate, and wide apart; the flowers on the pendent branches are of a yellow colour and fringed, bearing a certain resemblance to an Oncidium bloom. It is a plant of easy culture. Cuttings from ripened wood root freely in sandy soil in heat.

Hydrangea hortensis.—Have any readers of the *Gardeners' Chronicle* noticed this species producing entirely blue flowers instead of the pretty rosy-pink colour natural to it? Such is the case with plants in these gardens, and which has not hitherto been observed there. *W. D.*

LIST OF GARDEN ORCHIDS.

(Continued from vol. xii., p. 583.)

90. Lissochilus, R. Br., in *Bot. Reg.*, vii. (1821), t. 573; *Lindl. Collect. Bot.*, t. 31; *Benth. and Hook. f., Gen. Plant.*, iii., p. 536.—Sepals and petals spreading, the latter usually broader and more brightly coloured than the former, otherwise much as in *Eulophia*. Species upwards of fifty, and exclusively African. At least ten species have been in cultivation, though the majority of them are now lost.

(1.) L. Bouliawongo, Rchb. f., in *Flora*, xlviii. (1865), p. 188. *Galeandra Bouliawongo*, Rchb. f., in *Bot. Zeit.*, x. (1852), p. 935.—W. Trop. Africa. According to Reichenbach, this plant is known to the natives of the Gaboon district as "*Boulia Wongo*," and is used as a remedy against colic. That author includes it in a list of garden Orchids, but does not state where it was cultivated.

(2.) L. dispersus. *Eulophia dispersa*, N. E. Br., in *Kew Bulletin*, 1892, p. 127.—East Tropical Africa. Introduced from the Livingstone Mission Station, Lake Nyassa, and flowered with Mr. R. I. Lynch, at the Cambridge Botanic Garden in May, 1881. The flowers are yellow.

(3.) L. giganteus, Welw., ex Rchb. f., in *Flora*, xlviii. (1865), p. 187; *Gard. Chron.*, 1888, i., pp. 616, 617, fig. 83; *Ill. Hort.*, xxxv., p. 49, t. 53; Warn. and Will., *Orchid Album*, x., t. 457; *Veitch Man. Orch.*, pt. ix., p. 3.—West Tropical Africa. Originally discovered by Dr. Welwitsch, in Angola, where it is widely diffused. It was introduced to cultivation by M. Auguste Linden, in 1887, from the Lower Congo, and first flowered in the collection of Sir Trevor Lawrence, Bart., at Burford, Dorking, in May, 1888, when it was exhibited at the May Show of the Royal Horticultural Society in the Inner Temple Gardens. It is a noble species, and in its native home must be exceedingly handsome, as the following extract from Johnston's *Congo* will show:—

"In the marshy spots near the river shore are masses of that splendid Orchid Lissochilus giganteus, a terrestrial species that shoots up often to the height of 16 feet from the ground, bearing such a head of red-mauve scented blossoms as scarcely any flower in the world can equal for beauty and delicacy of form. These Orchids, with their light green spear-like leaves, and their tall swaying flower-stalks, grow in groups of forty and fifty together, often reflected in the shallow pools of stagnant water round their bases, and filling up the foreground of the high purple-green forest with a blaze of tender Peach-like colour."

(4.) L. Græfei, Kränzl. in *Gard. Chron.*, 1892, i., p. 749. A species very near *L. streptopetalus*, Lindl., but said to be more than twice as large. It was introduced by Messrs. Seeger & Tropp, of East Dulwich, and cultivated by Dr. Hugo Græfe, of Streglitz, near Berlin.

(5.) L. Horsfallii, Batem., in *Bot. Mag.*, xci. (1865), t. 5486; *Veitch Man. Orch.*, ix., p. 4.—West Tropical Africa. A handsome species, with blush and purple flowers, sent from Old Calabar in 1861 by Mr. S. Cheetham, to Mr. Horsfall, of Bellamour Hall, Staffordshire, in whose collection it flowered in October, 1864. It is probably not in cultivation at the present time.

(6.) L. Krebsii, Rchb. f., in *Linnæa*, xx., (1847), p. 685; *Bot. Mag.*, t. 5861; *Veitch Man. Orch.*, ix., p. 4.—Natal. Originally described from dried specimens sent to Europe by the collector, whose name it bears, but was introduced to cultivation by Sanderson, of Natal, who sent plants to Kew in 1867. Plants were also received from Mr. McKen, of the Natal Botanic Garden. It is very near *L. streptopetalus*, Lindl., and perhaps only a variety of it.

Var. purpuratus, Ridl., in *Gard. Chron.*, 1885, ii., p. 102; Warn. and Will., *Orchid Album*, vi., t. 259; *Veitch Man. Orch.*, ix., p. 5.—A darker-coloured variety, introduced by Mr. E. A. Heath, F.L.S., and flowered in the Royal Botanic Society's Garden at Regent's Park.

(7.) L. parviflorus, Lindl., *Gen. and Sp. Orch.*, p. 191; *Bot. Reg.*, xxiv.; *Misc.*, p. 14; *Maund's Botanist*, iv., t. 172.—Algoa Bay. Introduced by Messrs. Loddiges, of Hackney, with whom it flowered in December, 1837. A plant of it flowered at Kew a short time ago.

(8.) L. roseus, Lindl., *Bot. Reg.*, xxix. (1843); *Misc.*, p. 25; *Id.*, xxx., t. 12. *Dendrobium roseum*, Sw., in *Schrad. Neues Journ. Bot.*, i. (1805), p. 97.—Sierra Leone. A handsome species, with rose and purple flowers. Sent to Mr. S. Rucker, of Wandsworth, with whom it flowered in February, 1843. It is not now in cultivation, though both it and *L. Horsfallii* are worthy of re-introduction.

(9.) L. Sandersoni, Rchb. f., in *Otia Bot. Hamb.*, p. 62; *Gard. Chron.*, 1885, ii., p. 17; *Bot. Mag.*, t. 6858.—Natal. Originally described from a drawing sent to Kew by the late Mr. Sanderson in 1867. Dried specimens were afterwards sent by Mrs. Sanderson. Living plants were sent to Kew by Mr. Lyle, of Natal, in 1879, which were planted in a bed in the Palm-house, and flowered for the first time in June, 1885. It is a majestic species, the flower stem reaching 6 feet high. It is probably now lost to cultivation.

(10.) L. speciosus, R. Br., in *Bot. Reg.*, vii. (1821), t. 573; Lindl., *Collect. Bot.*, t. 31; Paxt., *Mag. Bot.*, iv., p. 25, with plate.—South Africa. The original species of the genus, introduced from the Cape by Mr. Griffin of South Lambeth, in whose hothouse it flowered for the first time in the early part of the summer of 1821. It is said to have been introduced some years before.

(11). L. streptopetalus, Lindl., in *Hook. Comp. Bot. Mag.*, ii., p. 204; Rchb. f. in *Walp. Ann.*, vi., p. 669. *Eulophia streptopetala*, Lindl., *Bot. Reg.*, xii. (1826), t. 1002); *Bot. Mag.*, t. 2931; *Rchb. Fl. Exot.*, iii., t. 203. South Africa.—Flowered in the nursery of Mr. Colvill in March, 1826, and said to be a native of Brazil, which Lindley then remarked was probably incorrect, as was soon afterwards proved.

I observe at p. 355 that my friend Mr. Ridley takes objection to the inclusion of *Œceoclades maculata*, Lindl., in the genus Eulophia, on account of its "stiff leathery leaf" and "distinctive vegetative characters pointed out by Pfitzer, the form of the pollinia, and the fact that no other Eulophia is known from the New World." Curiously enough, my attention had been concentrated on this very question for several months, and I now regret that I did not include Pfitzer's genus Eulophidium in the synonymy, and give the results of my observations on it, as I now must do. It is quite true that Pfitzer includes Eulophidium with the Maxillarieæ, notwithstanding the presence of a spur, and the absence of the very characteristic extension of the base of the column into a foot, to which the lip is articulated, both of which essential characters rigidly exclude it. As for the flower, it is absolutely identical structurally with my *Eulophia latifolia*, which has membranaceous leaves, and I very much question whether a single dried flower of each would not be passed over as belonging to one and the same species, so alike are they in shape and size, especially of the spur. The form of the pollinia is absolutely reproduced in more than one species of Eulophia proper. The vegetative characters are nearly identical in E. macrostachya, Lindl., a native of Ceylon, except that the leaf is less fleshy. The flower also is very similar, except that the spur is stouter and obliquely truncate. The fact is, Eulophidium — or Œceoclades, for those who prefer to retain the remnant of a so-called genus whose disconnected fragments have all found their proper place elsewhere—has the solitary difference of a more fleshy variegated leaf, and cannot be retained even as a well-marked section, in spite of the long array of authorities cited, who left it to Reichenbach to discover its real position. Seeing that the allied Cyrtopera is found in America, Africa, and India, there is a greater geographical difficulty than the one propounded by Mr. Ridley, namely, why it is that four different forms of Eulophia should have become isolated, one in Brazil and Paraguay, a second in Western Tropical Africa, a third in Mauritius, and a fourth in Natal (all of which facts are fully set forth in my paper at p. 583 of the last volume), and yet have retained so close a resemblance, that Mr. Ridley and others should think they represent but a solitary species. This may or may not be, according as one defines the term "species." Different geographical forms they certainly are, and, as I know them, quite distinguishable. I wish none were less so. Mr. Ridley's remark about "one solitary species . . . . widely scattered over South America," would lead one to infer that he had overlooked the chief point of the argument, though from his reference to "Welwitsch's specimen" and "Richard's figure," this is probably not the case. His remarks about the variation of tropical vegetation are interesting in themselves, though they fail to explain away the facts under discussion. In conclusion, let me say, that had Mr. Ridley examined these four Eulophias, together with the two others now mentioned (all in a living state), as often as I did before my paper was written, he would never have penned his remarks, and have saved me the trouble of this necessarily lengthy reply. *R. A. Rolfe.*

(To be continued.)

THE UNITED STATES NURSERIES, NEW JERSEY.

Just 18 miles from the busiest part of New York, and in the northern part of the State of New Jersey, rise those pleasant undulating ridges known as Short Hills. The beauty and freshness of the locality tempted some of New York's wealthiest merchants to locate there years ago, but Short Hills might long have remained a rural *terra incognita* had not two minds been seized with the desire of giving the place a world-wide horticultural reputation. So within the short space of five years from their inception, the Short Hills Nurseries have taken foremost rank alongside kindred establishments of the world.

Visitors from the Mother Country *en route* for the World's Fair, have an agreeable surprise in store for them, if, instead of rushing on with the crowd, they turn aside for a day to visit Short Hills. As the train draws near the tidy depôt, the tourist finds his surroundings to be wide expanses of herbaceous plants, that are rich masses of colour in their season; crimson Pinks and Phloxes, white Achilleas, Pyrethrums varied in colour as the rainbow; blue Irids and Delphiniums, all combining to give a fine effect.

About 100 yards from the railroad depôt stand the greenhouses and hothouses, most of which are strikingly and economically arranged in ascending series along a sloping hill-side. Some idea may be got of the rapid growth of the establishment, when it is stated that forty-eight large houses are filled to overflowing with plants from all parts of the world, and though the huge consignment sent to the World's Fair to add to its many attractions, will relieve the pressure, this, we are satisfied, will only be temporary, for the firm has a strong faith in a representative botanical, rather than in a mere horticultural display.

As the establishment is of so recent date, and the creation according to will of the energetic partners, everything is constructed on the most approved plan. The long rows of plant-houses are flanked on either

side by potting-houses, while the end houses are utilised as offices and packing stores. Nor should we omit to mention that a compartment is set aside for a skilled photographer, whose reproductions of Orchids, Anthuriums, and other forms, are artistic to a high degree. A sunken area beneath the houses has the heating apparatus in the middle, and grouped round it are spacious and well-lighted seed-stores, in which a large staff of men and boys finds employment.

In the centre of a block of twenty houses devoted to foliage plants, is a long Palm-house, on either side of which the others open. Besides the Palms, which include some beautiful and rare forms, such as Pritchardia grandis and Chamædorea Pringlei, the building contains tall Araucarias, Cycads, Zamias, and Screw Pines, but most striking were the long vistas of giant Tree Ferns, chiefly Dicksonia antarctica and Cyathea dealbata.

The first house entered on the right from the Palm-store is used for propagation purposes, and for starting new or rare plants received from the tropics.

Fig. 104.—SAINTPAULIA IONANTHA: FLOWERS VIOLET. REDUCED ONE-HALF. (SEE P. 682.)

The next contained a fine collection of Dieffenbachias, Alocasias, and Nepenthes, among the last being a strong and symmetrical specimen of the curious N. bicalcarata. The collection of Anthurium or Flamingo flower is of more than ordinary interest, for beside such stock species as A. ornatum, Scherzerianum, Andreanum, grande and crystallinum, and hybrids such as A. Ferrierense× and Reynoldsianum× were some crosses of great promise. The progeny of a cross between A. Andreanum and the hybrid A. Ferrierense excels in beauty of colour and richness of form anything that we have yet seen. The spathe, which approaches that of the species parent, is of an intense blood-red colour, and with the yellow spadix contrasts well against the handsome green foliage. We predict a good future for it. But successes do not always come. Witness the cross between A. Andreanum and A. Scherzerianum, the starved and stunted offspring of which could only be described by the Scotch word "weardie." Evidently Nature's powers had nearly been strained to their limits. The treasures of this house included some good Bromeliads and Pine-apples, among the latter being a finely variegated variety.

The fourth house is filled with foliage plants, such as Panax Victoriæ, Crotons, and Marantas. In addition to strong examples of such species as Maranta zebrina, princeps, Massangeana, and chimboracensis, we here made first acquaintance with M. Lageriana, a Columbian introduction from the firm's indefatigable collector, Mr. Lager, whose additions to the list of known plants are already considerable. Graceful and low-growing in habit, the obovate leaves of this new species have prominent bronzed veins above, and are of a dark port wine-red beneath. The fifth and sixth houses surprised one by their wealth of Stag's-Horn Ferns; the side walls and roofs supporting hundreds of wood blocks, over which crept plants varying in size from a crown-piece up to great spreading antlered clusters—veritable patriarchs, removed to a new home, but rejoicing in their changes. Between and beneath were long rows of Screw Pines and Dracænas, that included the rich D. indivisa atro-purpurea of the firm's raising.

The popular Maidenhair and other species of Ferns are deservedly given three houses to themselves. The collection embraces several hundred species and varieties. The silver-leaved brake (Pteris Victoriæ) had quite a large space assigned to it, and grew with the utmost luxuriance. A rival to it, both in quantity and appearance, was a variegated form of Maidenhair, which should be quite a favourite with the ladies. Much more in America than in England is the Norfolk Island Pine used as a decorative house plant, and few succeed better, or have a neater and more symmetrical aspect. This, we suppose, has induced the firm to give the entire first house on the left side of the Palm-range to the genus Araucaria alone. In addition to hundreds of small trim market-plants, were large specimens of A. Bidwilli, A. Cookii, A. excelsa, and A. Cunninghami. Messrs. Pitcher & Manda have been exceptionally successful in rearing marked varieties of the above, so that it is not too much to say that the twenty-eight species and varieties here shown form the largest and finest collection ever brought together.

Though the Sarracenias have not yet become the favourite plants that they deserve to be, the future of horticulture is here anticipated by a large representation of species and hybrids; also of Darlingtonia and of Dionæa. Along with these were many vigorous specimens of Cycas revoluta, a familiar outside pot-plant during summer in many American gardens.

The remaining houses of the block were filled with decorative Palms, such as Kentia Fosteriana and Belmoreana, Areca Baueri and lutescens, Cocos Weddeliana, Geonoma gracilis, and Phœnix rupicola. Not least interesting to us was a large stock of two-year-old Ivory-nut Palms, the young stems of which spread out into graceful leaves above, but still retained below the long curved portion of the seed-leaf in contact with the hard seed. The soft hidden tip of this seed-leaf, retained within the seed, was still busy digesting, absorbing, and handing on the once stony food that might have seemed to defy Nature's utmost efforts to break down after so elaborate an upbuilding. Such is the effect of ferments! Altogether, an assemblage of Palm species and varieties is here brought together such as few establishments can boast of.

The Chrysanthemum and general flower collections fill seven houses, that lie higher on the hillside. About 48,000 specimen and standard Chrysanthemums are being brought forward, among which we noted such strains as Mrs. E. D. Adams and Miss Annie Manda, both white varieties raised in the Short Hills nurseries, and already famed as prizetakers. A scarcely less distinguished history attaches to Mrs. W. S. Kimball, Harry May, Hicks Arnold, and Mrs. F. L. Ames. About two-thirds of the collection are seedlings, from which great things are expected, so that the blossoming of them in autumn or winter is anxiously awaited.

Some very floriferous strains of tuberous Begonia were noted, the handsome flowers still showing to advantage even at so late a date as the early part of April. Alongside, we saw Datura cornucopia, a plant of great future promise, recently secured by one of the firm's Orchid collectors in South America. It has a robust, branching, symmetrical habit; the shining woody stem is of a dark brown-purple colour, and produces spreading branches 3 to 4 feet long, that are laden with large dark green leaves, and later with purple-white trumpet blossoms. These in many respects are a botanical puzzle and curiosity. Instead of a single corolla, one finds three, each of a delicate French-white, marbled and flushed with purple. Then, when one attempts to verify the anticipation of a reduced number of stamens through semi-doubling of the flower, lo! eight to ten are discovered filling up the corolla-mouth. When to the above we add that 200 to 300 fragrant blooms are the crop of one plant in a season, and that it is as hardy as striking, the success of it is assured.

A fitting conclusion to the tour of inspection was the group of twenty-one Orchid-houses that crowns the brow of the hill. Hanging from the roof, lining the walls in dense rows, or staged in closely packed series, these aristocrats of the floral world seemed, for vigour and luxuriance, as if at home in their haunts among Indian or American jungles.

The Cypripedium-houses contained many treasures in species and hybrids. The coveted C. Fairieanum was in full bloom. Hybrid progeny reared at Short Hills, are well represented; but C. Greyanum× is not only a fitting dedication to an ardent Orchid-grower, it is one of the best and most delicately-coloured products of the genus, and was obtained by crossing C. Druryi with C. ciliolare.

Six large houses are devoted to the Cattleyas, and though, at the time of my visit, the show of bloom had passed for the season, those remaining well repaid inspection. Vanda, Aërides, Odontoglossum, Oncidium, and Cœlogyne were all in fine condition, though we cannot now speak of them. Hybridisation is carried on extensively, and one large house is filled with promising hybrid seedlings between many species. The firm has also adopted the practice of selling packets of hybrid seeds, and already many amateur growers have crops of these advancing. Patience and expectation may have their full fruition some day in an Orchid gem.

Viator.

FRUIT PROSPECTS.

At last, and after the longest spell within memory of living man, of nearly three months of an almost pure blend of fire and frost, a measureable amount of rain has fallen. One is loth to go out and consult the gauges, for the fear of intercepting the rain, which also looks so much larger and better quenching the thirst of the parched earth than measured through intangible decimals of inches through rain gauges. There have been slight showers throughout the day, which gathered into a smart rain towards evening, the wind, as has been usual when rain threatened during the interminable drought, boxing round the compass during the process.

It still rains as I write, 8 P.M., the wind threatening to settle down for the night into east by south rather than south-east. We have had a few heavy drops, no thunderstorms, hence all the rain that has fallen has been at once utilised in laying the dust on the surface or carrying quickening life, a stimulating medicine, though it furnished little to famished hosts of thirsty roots. It may be fancy, but it seems also a very tangible fact, that far more of the long-waited-for rain than usual has clung to the thirsty surfaces of meads, corn, and green crops, and was long heavily suspended, like ropes of glistening pearls, from branchlets, twigs, and fruitlets. Can it be possible that their tension of endurance had strained to the utmost their capacity of living, and endowed them with abnormal electrical or mechanical power of absorption or cohesion of water or of vapour? It may very well be so, for few careful observers can have failed to observe a curious correlation between the fall of dew, and the need of plants, for it. The dryer the weather, the more clear and arid the air, the heavier seems the dew at times; and if so, what more natural or useful than for the heads of plants to bathe themselves profusely in vapour or water as it passes over them to supply the wants of their roots. Be that as it may, few lovers of plants and of Nature who were eagerly on the watch to-day to note the meeting of drooping life and the rain but must have noted that more drops than usual, and of larger size, lingered among the branches of bushes, opened and rested longer in the discs of the many-formed, many-coloured flowers. But little of certainty can be added within a few hours as to the effects of the rain on fruit or crop prospects, though we fancy that already everything looks fresher, stronger, more promising, as well as more beautiful. But then the wish may be, probably is, father to the thought; and yet who shall affirm there is no difference since the rain? Chiefly the croakers, who declared there was no hope before it; to make good their assertions that all was lost, nothing of fruit or crops can be reaped now. Not a few of us, however, still believe that the rain, late as it is, may yet make all the difference between success and failure. Since the rain, I at least am far more hopeful than before. The measure of that hope was expressed a few weeks since in the *Gardeners' Chronicle*, and in the *Agricultural Gazette*, &c., other authorities have expressed similar views. One of the strongest and most logical of these appeared in the *Cambridge Independent Press* lately. An able article on fruit culture was headed thus:—"Fruit Prospects in Cambs. better than the Average Seasons." The writer, of whom I have no personal knowledge, visited fruit districts with which I am familiar. The latter fact enables me to indorse the correctness of his estimates and descriptions, a few of which I will, with your permission, quote. His general estimate is that there will be more than an average harvest of fruit. The following are some of his more important statements as to particular crops.

The Apple crop is showing—doubtless setting is meant—half the crop that might have been expected from the plentiful blossom (if so, a fourth of the set will prove a break-down crop). Again, this writer says the Pears are likely to be a good crop, and the Plums also are promising well. Red Currants are thick, and bid fair to be the crop of the season.' Raspberries are plentiful and thriving, but in need of water. Gooseberries plentiful, but ravaged by insects (though I might add a good many hundred bushels of fruit have been already safely gathered and sold at from 4*d*. and 2*d*. per pint).

The writer adds that the development of fruit culture is one of the most pleasing features of the county. Fruit is the mainstay of the villages. The one bright spot in the clouded outlook of agricultural depression is to be found in villages surrounded by orchards, which find regular employment for many labourers, and occasional work for their wives and families. It is a fact readily understood in these places, that the distress consequent upon bad Corn crops and low prices, has been mitigated if not wholly relieved by the extra labour required by fruit growers. Let us hope that there will be a great development in these directions, for it is one of the means by which farmers may the more easily make ends meet. The writer is generous enough to refer in conclusion to my lectures in Cambs., as furnishing interesting and profitable contributions to these ends. *D. T. Fish.* [Publication delayed. Ed.]

A JOURNEY THROUGH SOUTH FRANCE, ITALY, AND SWITZERLAND.

Paris, *August* 28, 1892.—After breakfast on this date, the far-famed Jardin des Plantes was visited, and most of the day was agreeably spent amongst its collections. A hedge of Tamarix gallica, covered with its rosy plumes, and the healthy growth of the Salisburia or "Ginkgo" trees, and the veteran Oleanders and Pomegranates, in huge tubs, were especially noteworthy; so also the noble Cedar of Lebanon on the mound, and the Robinia, said to have been planted here by Jean Robin himself many years ago. All through the Boulevards and in the Bois de Boulogne, the Plane trees were luxuriant, the old bark having fallen away, leaving their stems as clean as new parchment, beneath a heavy canopy of leaves. Much as Paris offers worthy of admiration, we left on the evening of the 28th for Dijon, and spent the forenoon of the 29th in its quaint old botanical garden, famous as it is for its splendid old Poplar trees. There is here one specimen of the "Black Poplar" (Populus nigra) growing, and is supposed to be 500 years old. It is 40 mètres in height, and its trunk is 12 mètres in circumference, its cubic contents being 50 mètres (see *Gardeners' Chronicle*, May 17, 1884). There are also here very fine specimens of the Abele Poplar (P. canescens), P. canadensis, P. alba, and P. fastigiata. Here also is a curious specimen of a sweet Chestnut (Castanea vesca), grafted upon the Oak (Quercus robur) as a stock. On a small island are two fine examples of the Swamp Cypress of North America (Taxodium distichum).

There is a museum of natural history attached to these gardens, and the collections of Lepidoptera and Coleoptera are of peculiar interest. On the outer walls of the museum buildings the "Judas Tree" (Cercis siliquastrum) grows luxuriantly, and its red, Bean-like pods quite covered its branches.

We left for Lyons through fertile plains beside the Saone, fringed with pollarded white Willows (Salix alba), and slender Lombardy Poplars. In the fields the crops were Maize and Buckwheat (Polygonum Fagopyrum). Vines were here and there in patches trained on stakes in the fields, and on sheds, fences, and the walls of the houses. In places the land was being prepared, ploughing and harrowing being done by oxen instead of horses. In low-lying positions near the river the verdant water or irrigated meadows were filled with cattle.

August 30.—At Lyons, where we visited the park and gardens of the "Tête d'Or," the botanical resources of which are rich and varied. A rare Japanese tree, Sophora japonica, 30 to 40 feet in height, was covered with its white Robinia-like flowers. Magnolia grandiflora formed perfect cylindrical specimens, 20 feet in height, and bore rosy fruits as well as great cup-shaped blooms. Gleditschia horrida had a singular appearance, its outer branches being fringed with bunches of its long green Bean-like fruits. The glass-house department here is very extensive, no fewer than 20,000 decorative plants being cultivated annually for the ornamentation of the city squares and other municipal departments. Palms, Orchids, succulent plants, such as Agaves and tropical Ferns, are here well-grown. A rare and handsome Palm grown is very remarkable, viz., the tropical American Acanthorhiza Warscewiczii, with glaucous palmate foliage and slender stem covered with spines. The aërial or stem-roots of this Palm resemble in external appearance those of Pandanus. There is also a fine example of the Dwarf Date Palm (Phœnix humilis). Marcgraavia umbellata (=M. vaccinifolia) is another great rarity that was seen here for the first time. At Lyons also, we visited the nursery gardens of M. Crozy, the raiser of the new race of flowering Cannas, now so popular for decorative purposes. He had many fine seedlings, all growing in the open air in beds richly manured and irrigated.

August 31.—Arrived at Marseilles. Saw dwarf or pollarded Olives on rocky terraces near the sea for the first time. Vines in rows, dwarf, like Gooseberry bushes. The great Reed (Arundo Donax) grew everywhere in wet places and gullies near the line. The grass-green Pinus Halepensis (Aleppo Pine) appeared for the first time as we touched the shores of the Mediterranean. The Park Borelli, with its fine trees and gardens, its museums, and splendid views, is also rich in plants of botanical interest, although here and there disfigured by examples of the so-called carpet bedding. Several groups of Fan Palms (Chamærops) and groves of graceful Bamboos 15 to 20 feet high were remarkable, and here, as elsewhere in the south, fresh green grassy lawns were only obtainable by irrigation, little channels being cut in all directions, so as to conduct the water to flower-bed or tree. Here, at Marseilles, as indeed all along the Riviera, the Oleander of every tint, from snowy-white to vivid crimson, is everywhere grown in pots or tubs, or it is planted out just as we do Rhododendrons.

September 1.—To Toulon for Hyères. Leaving Marseilles, the railway passes through a valley of irrigated meadows, every ditch filled with Arundo Donax, 20 feet in height. This great reed is grown for its stems or canes, which are largely used for training Vines, Tomatos, Runner Beans, &c., all through South France and North Italy. The line soon emerges on to the hot rocky coast, and is then fringed with Agaves, and here and there groups of Opuntia or Indian Fig are seen. Near the station at Toulon, Date Palms were seen for the first time, and in the town "Blue Gum trees," or Eucalyptus, are planted. A short branch line soon brings one to Hyères. At the time of our visit, the thermometer stood at 90° F. in the shade.

We visited the Jardin d'Acclimatation here, which is a southern branch of the one in the Bois de Boulogne at Paris. Here are fine groves of Eucalyptus, Date Palms, Acacias, and many other plants, generally requiring with us a greenhouse climate. Xanthorrhæa hastilis, one of the rare Grass Gum Trees of Australia, bore a flower-spike 15 feet in height. Brahea Roezlii, a glaucous-leaved Fan Palm, was in splendid health, and formed a notable feature, its colour being so different from that of other Palms. Diospyros Kaki, the Japanese Date Plum, is well grown here in many varieties, and looks like a robust Plum tree covered with Tomato-like fruits. Although highly valued as an edible dessert fruit in Japan and China, it is not thought much of as an addition to the Grapes, Figs, Oranges, &c., of South Europe, being even less valued than the Japan Medlar (Eriobotrya japonica), which has established itself throughout South France and Italy, its sub-acid fruits being much appreciated. In this garden is a fine collection of Agaves, and also of Bamboos, of which genus of Tree Grasses some thirty or forty species are grown along this shore. Bambusa scriptoria is one of the most distinct and novel, its great long plumose stems reminding one of enormous green ostrich feathers.

Leading from this garden to the town is a long

avenue of Palms, intermixed with Acacias, &c., and in the town itself is the well-known avenue of old Date Palms, leading to another public garden or square. Here were noted Lagerstrœmia indica, 20 feet high, each young shoot covered with its crispy-petalled purple flowers. Also the so-called Pepper tree (Schinus Molle), 20 to 30 feet in height, of drooping Acacia-like habit, its young branches covered with coral-red berries. In this town-garden are fine old Date Palms, one having a branched trunk, and another has a curious reclining stem, supported below by a brick-work buttress. Magnolia grandiflora forms leafy trees 40 feet in height, and must be very beautiful when in bloom.

Cannes, *September* 2.—Visited some of the best villa gardens at Cannes, alongside the then hot and dusty Route d'Antibes. At the Villa Les Délices, saw Grevillea flexuosa, 40 feet high, a tree visited by crowds of visitors when covered with its gorgeous scarlet-crimson flowers. The India-rubber Fig of Assam (Ficus elastica) is here 40 feet high, and every leathery leaf is as fresh as if grown in a Palm-house, instead of in the open air. Here, again, we saw the blue-green Brahea Roezlii, in fine condition. Two rare relatives of the Cocoa-nut Palm, viz., Cocos flexuosa and C. capitata, were here seen in perfect health, the latter having a clear trunk 5 feet in height. Washingtonia filifera had a trunk 8 feet high beneath its umbrageous crown of great fan-like leaves. Jubæa spectabilis was also very fine, and had a noble head above its 6 feet of clear trunk.

At the "Villa Menier" we saw a much larger garden laid out in gentle slopes or gradients with groups of Magnolias, Blue Gum trees, Palms, Bamboos, &c., arranged in what is here called the natural or English style. The elegant white marble villas, rising out of a background of rare vegetation, and fronting the blue sea, are very striking, and show the luxurious possibilities when thought and wealth, and a genial climate in a beautiful country, are united or focussed in the making of gardens. There is here a very striking waterfall over rocks fringed with Bamboos and succulent plants, while the pool below is rich in aquatic vegetation, amongst which the Egyptian or Sicilian Papyrus antiquorum, the great Reed, and bright blossomed Cannas are conspicuously lovely. On the walls alongside the hot and dusty road grow Banksian Roses, a lovely white-blossomed Solanum, and dense hanging clusters of Fig Marigolds (Mesembryanthemum), and here and there one catches charming glimpses of Palm and Bamboo up against the blue sky.

The beautiful villa of the Danish Minister, Comte de Falbe, was also visited *en route*, and like the other gardens seen, it is rich in subtropical vegetation. This Villa Valetta, being more elevated than those previously mentioned, naturally enjoys finer views of the coast-line of the Golfe Juan and the sea. This garden is remarkable for a grove of Washingtonia filifera, fifty or more plants all growing rapidly and robustly.

A very delightful experience was that of a visit paid to the Villa Thuret, at Antibes, now a branch of the Paris Jardin des Plantes, under the care of the veteran botanist, M. Naudin. It is an extensive and well-kept place, rich in the species of Eucalyptus and other new plants and trees from temperate climates that are destined to play such an important part in the gardens of the Riviera. Here we saw a new Grape from Japan in fruit. It had large rough cordate leaves, and dense, small-berried clusters of black Grapes, the flavour not very good for eating, but yet possibly useful for wine. It is named Vitis rugosa, from its rough-surfaced foliage. Here also we saw the Islay or Holly-leaved Plum tree of California, the red-purple fruits of which were as large as Damsons. It grows and fruits freely, but it is doubtful if it will prove of any economic importance. In this garden is a tree of Eucalyptus viminalis upwards of 60 feet in height, and having a trunk or bole 15 inches in diameter, a growth attained in seven years from seed. There are here also, other remarkable instances of the rapid growth of these "Gum" trees, a feature that has led to their general adoption as town trees, sometimes, I regret to say, to the exclusion of the more beautiful Plane tree. Eucalyptus botryoides, only six years old, is 40 feet in height, with a bole 12 inches in diameter. E. Gunni and E. coccifera, are said by M. Naudin to be the two most hardy kinds or species as yet grown. A very distinct species is E. undulata, with crisp-edged foliage.

A most enjoyable walk with M. Naudin followed our inspection of the Thuret garden, and he pointed out to us the noble Olives that grow on the headland (Cap d'Antibes), and which are said to be unsurpassed save by those of Greece. The district here is mostly cultivated, the best land being devoted to Roses, Lavender, Pinks, Carnations, Tuberoses and other bulbs, Marguerites, &c. Of Roses and Carnations we saw splendid patches, which are so planted as to be readily covered with frames or sashes during the coldest and most windy part of the year. The rough and uncultivated part of this place is rocky, and covered with an undergrowth of Lentiscus, Myrtle, Smilax, Asparagus, Carob, and other low shrubs, which struggle for light and space amongst the stones. The Carob and other bushes or low trees are often garnished by the red berries of the

Fig. 105.—Fruit of the Dragon's Blood Tree, as imagined by Mediæval Artists.

Smilax, and the fruits of the wild Lentisk gleam like garnets among the leathery leaves.

Leaving M. Naudin, we visited a charming seaside rocky garden, called Helen Roc, rich in Palms, Bamboos, Roses, Oleanders, &c., while the rocks overhanging the sea are covered with Agaves, Mesembryanthemums, and other succulent plants in great profusion. The hot, dry, and dusty season of August and September seem to represent the really dull or winter season in gardens along the Riviera. The plants then rest, and many deciduous kinds lose their leaves. Roses, for example, we found leafless, and pruned in closely, and the ground intended for lawn is cultivated and manured, raked, and rolled level, the grass-seeds being sown annually every September. The bulbs which enliven this region every winter and spring, the Narcissus, Anemone, Tulips, and a hundred-and-one other things now are asleep below the baked earth, or are being ripened in the hot ground. The heat during July, August, and September, is often quite tropical in its intensity; but in October comes the cool and rainy season, and the parched ground is softened, and growth of seed and bulb and shrub and tree, a real spring-like resurrection begins. In the gardens everything is fair to see from November with its Narcissus and Violets, to May with its Roses and Carnations. *F. W. B.*

(To be continued.)

"DRAGON'S BLOOD."

In the year 1569, Monardes published his *Historia Medicinal*, &c., and of this the famous Belgian botanist Clusius published a Latin version, with notes, in 1574. The original editions are not before us as we write, but it is desirable to note the dates at which they were published. In the French edition of Monardes, the *Histoire des Simples Medicamens apportés de l'Amerique* (1619), lib. v., cap. xxiv., we find it stated, as it probably is in the first edition to which we have referred, that the Bishop of Carthage had recently brought home the fruit of the tree, whence exudes the tear (larme) which is commonly called Dragon's Blood. Now, this fruit, our author goes on to say, is every way admirable, for as soon as the rind is removed, quite suddenly a little dragon appears, elaborated with such natural artifice, that it appears as if sculptured in marble by some skilled workman. It has a rather long neck, the throat open, the backbone beset with spines, the tail long, and the feet well armed with nails. To make matters more sure, a figure is given, which we here copy (fig. 105). "Carthage" in Peru, is said to be the source whence the dragon's blood is derived, and its properties are described as highly astringent, and the drug is used in those cases where a medicament of that nature is required. Clusius, in a note, proceeds to describe what we now know as Dracæna Draco, and which was raised from seed at Brussels. He describes the fruit, but he is careful to add that there was no dragon in it. Gerard, in his *Herbal* (1597), p. 1339, under the head of Draco arbor, the Dragon Tree, unblushing copyist that he is, gives the same figures, and a good description of the Dracæna Draco. The external appearance of the fruit is well described, and then it is further stated that there "is to be seene, as Monardus and divers others report, the forme of a dragon, having a long necke or gaping throat; the ridge or backe armed with sharpe prickles like the porpentine; it hath also a long taile, and fower feet, very easie to be discerned; the figure of it we have set foorth unto you according to the greatnes thereof, because our words and meaning may be the better understood." Gerard then, as Clusius had done before him, assigned the fruit with the dragon in it to what we now know as Dracæna Draco, although, as we have seen, Clusius is careful to say that he could not find any dragon in it. The Dracæna also offers a difficulty, inasmuch as it is a native of Teneriffe and Madeira. But Gerard is equal to the emergency, for he goes on to say of his Dragon Tree that "this tree groweth in an Iland which the Portingales call Madera, and in one of the Canarie Islands called Insula Portus Sancti, and as it seemeth it was first brought out of Affrike, although some are of a contrarie opinion and say, that it was first brought from Carthagena in Nova Orbe by the bishop of the same province." In any case the sixteenth century botanists attributed the "dragon's blood" to the vegetable kingdom, but their far-off predecessors were less metaphorical in their notions. Pliny, for instance, in his *Natural History*, book xxxiii., cap. 40, says dragon's blood (which was used as a "vehicle" or as a pigment by artists) is a thick matter issuing from the dragon when crushed beneath the weight of the dying elephant. Elsewhere Pliny (book xxxv., cap. 32, speaks of India sending to Rome the slime of her rivers, and "the corrupt blood of her dragons," and this fact serves him as an illustration of a tendency which is apparent now as then. "Everything, in fact, was superior at a time when the resources of art were so much fewer than they now are. Yes, so it is; and the reason is . . . that it is the material, and not the efforts of genius, that is now the object of research." (Bohn's edition, vol. vi., p. 246.) The question to be solved is, what was the fruit mentioned by Monardes, and which contained so striking a verisimilitude to a dragon? A conventional dragon it must have been, like the effigy at Temple Bar, perhaps, for no one quite knows what a dragon was! What is known nowadays as

dragon's blood is a resinous exudation used for varnish, and derived in some cases from a Palm, Calamus Draco, in others from a Dracæna. Now, the Palm has a scrambling stem thickly beset with spines, and its fruits are covered with hard scales turned down, and dragon-like as dragons are supposed to go, but the Calamus comes from Sumatra and Borneo, and not from Carthagena. In spite of its name, it is rather difficult to see any resemblance to a dragon in a Dracæna. Perhaps the bayonet-like leaves may have suggested the idea.

Orchid Notes and Gleanings.

CATTLEYA LABIATA MENDELII, CLARK'S VARIETY.

From Walter C. Clark, Esq., Orleans House, Aigburth Drive, Sefton Park, Liverpool, comes a very pretty and distinct form of this showy Orchid. The sepals and petals are of pure white, as is also the lip, with purple lines running from the base to a central bright mauve blotch in front; the side lobes are tinged with chrome-yellow inside, and around the lip a broad finely-crimped white margin runs. It is one of the prettiest light forms of C. Mendelii that I have noticed, and bears some resemblance to C. Rex in the marking on the lip. *J. O'B.*

ROUND GHENT.

(Continued from p. 659.)

Jules de Cock, Ledeberg.

This nurseryman grows a far larger number of plants than most of his Ghent *confrères*, and is also the chief plant auctioneer of Ghent, in which line he does considerable business at times. The neat group of Platyceriums in his houses, and the other rare Ferns and other plants were a great relief to the eye after the seemingly interminable inspection of Kentias, Latanias, Coryphas, Aspidistras, &c. Here also was found a good collection of Cypripediums and a brilliant lot of Anthuriums, which were very handsome objects at the time of our visit.

M. K. J. Kuyck (successor to M. Aug. Van Geert), Mont St. Amand.

At this, one of the finest of Ghent nurseries, we found a very good show of Orchids, the chief of these being Dendrobium nobile, D. Dominianum×, D. thyrsiflorum, D. densiflorum, D. Brymerianum, and other Dendrobes; Cattleya Mendelii, C. Schroderæ, C. Lawrenceana, Lælia purpurata, Ada aurantiaca, Odontoglossums, &c., the O. vexillarium being specially good. There was also a good show of Cypripediums, Anthurium Scherzerianum, and varieties A. President Carnot, looking especially fine. The Azaleas filled many houses, and were covered with bloom. A fine batch of Choisya ternata was in flower; and a grand lot of Dracænas, Crotons, Palms, &c., occupied many houses, and all were in fine health. In the propagating-houses were many novelties, amongst them a pretty variegated-leaved plant, which is now pretty generally distributed, viz., Abutilon Souvenir de Bonn, green leaf with white edge; and Bertolonias, which were very handsome.

M. Petrick, Mont St. Amand.

In addition to the usual run of ornamental plants, this grower has a nice houseful of Bromeliads, and shows a decided inclination towards New Holland plants, the Polygalas and some others being very showy. The blue-flowered Lithospermum fruticosum, the Araucarias and Palms cleverly grown, and the Azalea indica were compactly formed and covered with flowers, among which we noted as specially effective:—Azalea President Oswald de Kerchove, A. Theodore Remiers, A. Paul Weber, and A. Memoria de Louis van Houtte.

Vervaet & Co., Mont St. Amand.

Here was found a very select collection of Orchids, the Cattleyas, Cypripediums, and Odontoglossums being of great merit. A few of the first plants of a batch of seedlings obtained by crossing C. insigne Chantini and C. Boxalli, and of another lot between C. Spicerianum and C. insigne were in flower; in each case they were handsome and distinct. Other Cypripediums, and some Odontoglossums were also in bloom, among the latter, the clear yellow O. Masereelianum was very conspicuous.

The Miltonia vexillaria were excellent; Cattleya Lawrenceana, C. Schroderæ, and C. Mendeli, and a number of species of Dendrobium were in flower. The plants of Lælia elegans were remarked as being in grand health; and in the other houses as much may be said for the Aspidistras, Araucarias, Palms, &c. Orchids form the principal feature at this nursery, but whatever is undertaken besides these is well done.

Trees and Shrubs.

ROBINIA HISPIDA.

Although this is one of the more beautiful of dwarf trees, it is not too common in gardens. Few trees are so attractive at this season, when the rose-coloured flowers are produced in profusion, and maintain a scattered succession until the autumn. R. hispida was introduced from South Carolina in 1743, and there are many varieties, but the species is the finer. No garden should be without a specimen, but it is scarcely a suitable tree for parks, or to plant near roads, as the flowers are a temptation to mischievous folk. It is not particular in regard to soil, but own root trees should be obtained, if possible, and when coming into full bloom, the branches may be supported, as they are very brittle. It is, on this account, necessary to plant this Robinia in sheltered spots, as high winds inflict much damage, but I do not care for it much against a wall. There is no need to plant it thus, when it is perfectly hardy, and most beautiful in the open. To preserve a good shape, pruning must be done, but this is not a great tax on the labours of the gardener. The brownish hairs on the shoots are a distinctive characteristic in this species. It is a good town tree, but must be kept away from populous thoroughfares. *V.*

The Week's Work.

THE ORCHID HOUSES.

By W. Holmes, *Gardener, Pickering Lodge, Timperley.*

THE CATTLEYA-HOUSE.—Species of Cattleyas about to flower, viz., C. gigas, and its variety Sanderiana, which is rather more free to flower than the type; C. Warneri, C. Schilleriana, and C. Aclandiæ, should be plentifully supplied with water, the late-formed pseudobulbs being now so far advanced that they take water without any risk of the bulbs damping off. C. gigas and C. Warneri are flowering very freely with us this season; some of them have five flower buds on a spike. These last are two very fine species, which when well grown, can scarcely be surpassed in beauty. C. Schilleriana is often a rather ticklish species to cultivate, but if properly treated, and not pulled out of its basket too often, but grown on in the same one for some years, the same as C. Aclandiæ, it is not so difficult. Once thoroughly disturbed, it soon begins to decline in vigour, and the pseudobulbs to become fewer. On purpose to make a trial of C. Aclandiæ, I hung up a plant of it fixed on a small raft in our Dendrobium-house twelvemonths ago; which grew, and was then rested a season—and this house gets to as low a figure as 50° in the winter months, so that it received just the same kind of treatment as the other plants in the house, receiving water not oftener than once in a month. The plant was started in February last, is now in flower, and has made quite as fine looking pseudobulbs as those plants that were kept all the season in the Cattleya-house, the temperature of which is seldom lower than 65° at the part where the plant is hung. I intend to give it a trial for another year, and note the results. Cattleya speciosissima must now be afforded plenty of water, the new growths being well advanced, and many showing flower. This is a species rather shy to flower if the pseudobulbs are not well-matured. It should be placed in an Orchid-basket, and hung up close to the roof. Any plants of C. Mossiæ or C. Mendelii, as they go out of flower, if needing surfacing or repotting, should be taken in hand forthwith, but do not repot merely for the sake of repotting, the plants not liking disturbance at the root. If the plants are healthy, and there is enough space in the pots to accommodate them—even if they have been in the same pots for years—do not disturb them. We have Cattleyas which have not been potted for the space of four years, and these have flowered well, and are quite as healthy as the more recently-potted plants. It is good practice to topdress the plants, if this be needed, with a compost of three parts sound fibrous peat and one of sphagnum moss, making it as firm as can safely be done without injury to the roots. Trichopilias, failing other quarters, may be cultivated in the Cattleya-house, and any of those needing repotting or top-dressing should be seen to. Some species do well in baskets, whilst others prefer pots. Brassia Lawrenceana, B. verrucosa, and B. Wrayæ also succeed in this house, and when they have finished flowering may be repotted or top-dressed, if necessary making use of good peat and sphagnum-moss in about equal parts, with a few broken crocks thrown in. Established plants of Trichopilias will take water freely at the roots from the present time. The Cattleya-house should be freely damped as regards the paths, floor, &c., and syringing amongst the pots on the stages at least three times a day, as with a large amount of ventilation now needed, the air of the house soon becomes dry.

MEXICAN HOUSE.—In this division Brassavola Digbyana and B. glauca succeed, and flower freely, their pseudobulbs getting well made up and mature. B. Digbyana should now either be flowering or approaching this stage, and after this is past will need to be well watered till such time as the growths are made up, when water should be gradually withheld, and only enough given at last to prevent the shrivelling of the pseudobulbs; do not shade the plant. Brassia glauca having flowered in March or April, its pseudobulbs will be about finishing up, and the plants should be dried off by degrees. Odontoglossum citrosmum is grown here in shallow pans hung under and close to the roof, and as the plants finish flowering, which will be soon, they should be re-potted, or top-dressed with peat and sphagnum moss as may be required, keeping them rather moist till growth begins, when water may be afforded them three or four times a week, or as often as may be required, as I have found that they require two extremes of treatment—to be grown wet and hot, and rested cool and dry.

FRUITS UNDER GLASS.

By M. Temple, *Gardener, Carron House, Falkirk, N.B.*

VINES.—Well-drained borders will now require liberal waterings, and it should be remembered that rain which sinks only a few inches under the surface is of little value to the roots. A dusting of special manure forked lightly into the soil before water is given may be of great advantage. In some cases, where the border has been frequently treated with manure, it will be better to administer lime-water to purify the soil. Elevated borders, and such as are shallow, should receive a mulching of old Mushroom-manure, or that from spent hot-beds. Vines in northern and other late districts should be set and thinned by this time, or it may be difficult to get them well-ripened. Early Muscats which are ripening should have air given early in the morning, and the pipes kept just warm. Warmth, with a free circulation of air will favour colouring, and be conducive to high flavour. If red-spider appears, coat the pipes with sulphur in white-wash and apply strong heat for a few hours in the evening; the sponging with Gishurst Compound and some sulphur mixed in it is the more certain method of cleansing the foliage. Later crops which may be swelling their fruit, should have a high and moist temperature at closing time, which may fall considerably during the night; 85° as a maximum temperature, and 65° as a minimum, is safe. Young Vines may be liberally syringed when shut up in the afternoon, but an abundance of air to prevent gross immature growth should be given. Allow plenty of foliage to remain, but crowding is fatal to success.

MELONS planted in pots or narrow beds in houses soon grow to a fruiting size under the one-bine system; stop the side growths as soon as they have formed a leaf, and allow the plants to grow 4 to

5 feet before they are permitted to set their fruit—it is a simple and profitable system of growing Melons. In 11-inch pots we have some sixty Melons ripening at ends of Pine-houses; three to four fruits are the average numbers to a plant. The sorts are Davenham Early, Blenheim Orange, and Eastnor Castle. Dressing the surfaces of pots with charcoal, loam, and special manure is of much moment after the fruit is set.

PINES.—Where fruit is required during the autumn and to the end of the year, a number of the strongest plants may be selected, and if they can be placed in a structure by themselves, the difficulty of managing them will be materially reduced. If the pots are well filled with roots, and the plants have strong collars and short broad foliage, they will be started easily with a bottom-heat of 90°, and the general temperature of the house not less than 75°, rising to 90° with sunshine. Another selection of plants should be arranged, in order to rest them, by admitting more air, and only giving enough water at the roots to keep them healthy, but no check to impair the vitality of the plants should be allowed, and these will give a succession. At this season, when many Pines are ripening, the supply may be more than the demand. As soon as the fruits show colour, they may be removed to a cool fruit-room, or vinery from which the fruit has been cut. The fruits will thus be retarded a month without materially injuring them. The flavour is often of good quality from fruits treated as indicated; suckers are, however, apt to suffer. More water is required by growing plants at this season than at any other; but the condition of the soil, the quantity of roots in the pots, the quantity of bottom-heat, and the vigour of the plants, must have due consideration when water is given.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maiden Erlegh, Reading.*

MORELLO CHERRIES.—Where these have become infested with black aphis, no time should be lost before taking measures to thoroughly cleanse the trees. Prune back any shoots not required for laying in, then dip the points of the shoots into a solution of tobacco-liquor, and afterwards syringe the trees with some strong soap-suds and tobacco-liquor. This should be done in the evening, and care should be taken to wet every portion of the trees. This will soften and prepare any filth there may be upon them, for removal with the syringe or garden engine on the following morning. If necessary, repeat the process until the trees are quite clean. If not already given, a mulching of spent hot-bed manure, and root-waterings will be found beneficial to both the trees and the crop.

RASPBERRIES.—For these the season has been a trying one, especially where circumstances have prevented the watering and mulching, as advised in a former calendar, being carried out. If a satisfactory crop is to be expected, this must no longer be delayed. I cannot too strongly recommend good rotted cow manure for this purpose. Thin out all weakly canes from the stools, to four or five of the strongest.

SUMMER PRUNING.—This important operation should be commenced at once in most districts. Bush and pyramid trees which have been regrafted or budded within the past two or three years, and which have not yet began to bear, will have made strong growth, and should be dealt with first. Prune to two and three leaves all growths not required for supplying branches for the future tree. This should not be completed at one operation, but rather take off all the strongest of the shoots first, and where they are the most dense. After an interval of at least a week, they should be gone over again, to complete the work. Any shoots required for forming the crown should be left intact until the autumn. Wall-trees will next require attention, the work also being completed at two operations. Bush, pyramid, cordon, and other trained trees in the open, must be treated in their turn; but in the case of bush and pyramid trees, all the leading branches must be left intact till the autumn.

HEADED-DOWN APPLE AND PEAR TREES.—Old trees that were headed-back in the winter, to be budded during the present season, or grafted next season, must have the shoots thinned out now to the proper number; and should budding be decided upon, this may be done so soon as the bark will raise easily. Budding may be done in many cases in preference to grafting, and especially where suitable scions are difficult to obtain. If the sort required is growing on a wall, the only strong growth made is in breast wood, which, while furnishing good buds, cannot always conveniently be left for scions. Budding also occasions but little labour, nothing more than attention to removing the ties being necessary. Pears will be ready for budding a week or fortnight earlier than Apples, and the month of July is the best time.

THE KITCHEN GARDEN.

By H. C. Prinsep, *Gardener, Buxted Park, Uckfield.*

ASPARAGUS.—Those beds which it is intended to force next season should not be cut over after this date, and the growth of the plants should be encouraged by affording liquid manure liberally, or a dressing of some kind of suitable manure, as salt, nitrate of soda, phosphate of lime, powdered mortar, rotted seaweed, and watering copiously if the weather be dry. The seedling plants standing in beds where they are intended to remain should be thinned to 1 foot apart, and those which are to be transplanted half that distance in the row. The soil should not be allowed to get very dry, or growth will be weak.

SEAKALE.—This plant has grown rapidly this season, the foliage of young plants already covering the space between the rows. The plants should be examined, and offsets, however small, removed, so as to limit growth to a single crown. Plants of weak growth should receive a slight dressing of salt and liquid-manure, the latter occasionally.

LEEKS.—It is a good plan to transplant Leeks into shallow trenches, the soil taken out being utilised for moulding up the stems in the autumn. The ground to produce stout growth should be well enriched, the same as for Celery. The plants may be put in single or double rows, at from 9 inches to 1 foot apart, according to variety.

FRENCH BEANS.—On the night of May 31, the thermometer at this place showed 4° of frost, the growth of Beans and Vegetable Marrows suffering in consequence where they were unprotected, but owing to the cold which had previously prevailed at night, no serious damage was done. Another sowing of French Beans should be made, watering the drills on sowing the seed, and covering the rows with moist litter. Any Scarlet Runner Beans that have begun to run should be secured to the stakes with matting or a green Rush.

BROCCOLI.—Where space is limited, the plants should be pricked-out 6 inches apart in beds, thereby keeping them from being drawn in leaf and stem, till a convenient time for planting them occurs. When pricked out, the beds will require to be kept moist by evening waterings, free from weeds, and the soil stirred occasionally. If clubbing is feared, dust the roots with lime, or fork some into the soil before planting.

PLANTS UNDER GLASS.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

LAPAGERIA ROSEA.—The young shoots of Lapagerias should be provided with a piece of thick string, or other means of climbing, and if slugs are feared, place an inverted flower-pot in a pan filled with water, and stand the plant-pot upon it. Planted-out Lapagerias should be dusted with tobacco-powder or Pepper round about the young shoots, not neglecting to search at night and early morning for these creatures.

PASSIFLORA CONSTANCE ELLIOT.—A beautiful free-growing, profuse-flowering white variety—one of the best whites. The plant likes plenty of water at the root during the summer, and to be well syringed in the afternoon of hot days. It should not be cramped by training.

HEDYCHIUM ANGUSTIFOLIUM, H. CORONARIUM, and H. GARDNERIANUM are species well worth growing for their fine robust bold foliage and spikes of sweet-scented flowers. They require large well-drained pots, good loam-peat, leaf-mould and sand, and to be afforded plenty of water when growing. They do very well in the warm conservatory or greenhouse, and are easily increased by division of the root in early spring.

HELIOTROPIUM PERUVIANUM AND VARIETIES, which are growing strongly against walls and trellises, should be cut well back with a pair of hedge shears at different times during the year; and if four large plants are grown, one of them may be cut back at intervals of three months, so as to give a succession of flowers.

THE SUMMER TREATMENT OF WINTER-FLOWERING PLANTS.—Richardia æthiopica, the Lily of the Nile, and R. Little Gem: plants of these that have been grown and flowering in pots during the winter and spring months should now be plunged in ashes outside, keeping them rather dry for about six weeks, but not drying them off; and after they have rested, divide and repot them into good turfy loam, leaf-mould, and sea-sand, replunging them where they are to remain till the middle of the month of September. R. Little Gem flowers well four in a pot, and is most useful for table work or small vases.

CYCLAMEN PERSICUM.—Tubers which have done flowering should be gradually dried off, but do not quite withhold water till the leaves are gone, and keep them meanwhile in a cool house or frame for a month, then shoot them out of the soil, and repot. Plants from seed sown during last autumn will require to be carefully watered, and kept cool and airy near the glass, shading them from bright sunshine. When the pots fill with roots, re-pot into one size larger, avoiding large shifts at any time. As compost, use good turfy loam, leaf-mould, some dry cow-dung, and plenty of sand, and clean well-drained pots; the foliage should be damped over after bright days.

THE FLOWER GARDEN.

By T. H. Crasp.

BIENNIALS AND PERENNIALS.—Seeds of the beautiful Iceland Poppy (Papaver nudicaule) may now be sown on rich soil, on warm sunny borders, which should be kept watered till the seedlings appear. These will make nice plants for flowering in the autumn and spring. If the sowing of seeds of Anemone coronaria has been delayed, no time should be lost in sowing seed, otherwise results will not be satisfactory if plants are required to bloom in early spring. Good varieties of Wall-flowers of the double-flowered varieties are best increased by cuttings taken about this date, and put in a sheltered spot in soil that is light and friable. Kept moist and shaded during the hottest part of the day, these cuttings will be well rooted and fit for planting-out in the autumn. Sweet Williams may be similarly treated. Other biennials and perennials that may be sown now are Sweet Rocket, Sweet Williams, of which the Auricula-eyed varieties are excellent; Foxglove, not forgetting the white and the yellow varieties; Canterbury Bells, single and double-flowered, very gay early summer flowers for beds and borders; Lunaria biennis (Honesty), including the novel variegated-leaved form; Chelone barbata, Silene pendula, S. ocymoides, and seeds of perennial Phloxes, from which many pretty varieties may be selected next season when the plants bloom. Phloxes to bloom the first year from seed, should be sown in October, and kept cool till they germinate, which they do in late winter, or in heat, 60° to 70°, in January.

HARDY CREEPERS need attention now in thinning out and regulating growth, otherwise confused masses of shoots, that spoil each other, result. The current season's shoots of Passiflora, Lonicera, Rose, Bignonia, &c., should be secured to the trellis, &c., before they become unsightly, or injured by winds. All seed-vessels on the Rhododendrons, Azaleas, Laburnums, &c., should now be gathered.

SHRUBS.—Lilac, Gueldres Rose, Mock Orange, and some species of the Berberis that have gone out blooming, should be neatly pruned.

BEDDING.—The planting out of all half-hardy plants should now be completed as soon as possible, as well as the tender kinds of bedding plants, giving copious supplies of water should the drought continue.

EDITORIAL NOTICES.

LETTERS FOR PUBLICATION.—*All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for contributions, or to return unused communications, or illustrations, unless by special arrangement.*

ILLUSTRATIONS.—*Photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c., are particularly solicited; but the Editor cannot be responsible for loss or injury.*

NEWSPAPERS.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Advertisements should be sent to the PUBLISHER.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY, JUNE 13 { Horticultural Club. National Rose Society.

WEDNESDAY, JUNE 14 { Royal Botanic Society. Musical Promenade. East Anglian Horticultural Club.

THURSDAY, JUNE 15—Linnean Society.

FRIDAY, JUNE 16 { Royal Botanic Society. Lecture at 4 P.M.

SHOWS.

WEDNESDAY, JUNE 14 { York Grand Floral Fête (three days). Early Rose Show, at The Earl's Court Exhibition (two days).

SALES.

TUESDAY, JUNE 13 { Orchids, at Protheroe & Morris' Rooms.

WEDNESDAY, JUNE 14 { Established and Imported Orchids at the Orchid Nurseries, East Dulwich, by Protheroe & Morris (two days).

FRIDAY, JUNE 16 { Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—60°.6.

The Kew Guild.

To those who are interested in Kew and its history—and these must surely comprise everyone interested in gardening and botany at home and abroad—the publication of the *Journal of the Kew Guild* will afford much pleasure. We have already mentioned the formation of the Association, intended to comprise within its ranks all those at present occupied in the work of the garden, and as many of those who have been therein employed as can be induced to join the Association. Kew as a scientific centre, and Kew as a pleasure resort, are well-known to the general public; but the greatness of its services to economic botany, and the development of the resources of our colonies, are only very imperfectly appreciated, save by the few. Nor can it be said that Kew in its purely horticultural aspect is so well known as it should be among gardeners. The gardener whose ideas of horticulture are bounded by his Vines, his kitchen garden, and his "bedding-stuff," can, indeed, hardly be expected adequately to appreciate the work done at Kew. Those, however, who have had the good fortune to have received a part or the whole of their training in the establishment, will recognise not only the catholic spirit with which the establishment is managed, but also the great benefits they have themselves received during their sojourn. Young gardeners pass through the curriculum of practical work in each department, and they have the inestimable advantage of simultaneous instruction in the principles of their art; while self-instruction is promoted by the mutual improvement society, managed by the men themselves. A past "Kewite," then, ought to afford the realisation of the idea of what a gardener should be, provided, of course, he can supplement elsewhere his training in fruit-culture and vegetable growing. It is not wonderful that with such training "Kewites" may be found all over the world, and, in many cases, they occupy positions which confer honour on them, and of which they in their turn worthily uphold the reputation.

To associate in one body, so far as practicable, those who are still in the garden and those who have passed through Kew, is the laudable object of the promoters of the Guild. In few departments are wholesome co-operation and collective action more needed than among gardeners. We are glad to see indications of it from any quarter, and it is on this account that we have welcomed the formation of the Kew Guild, in the hope that sooner or later it may serve as the pioneer of that more extended confederation and higher social position which are such desirable objects to be worked for by gardeners.

To put themselves "in order," the promoters of the movement in December, 1892 (not 1893, as stated by a misprint), obtained the sanction of the Director, which was readily given. In a letter here printed, Mr. DYER says that nothing has encouraged him more as Director "than to see the spirit of loyalty, not to say affection, which always animates Kew men towards their *alma mater*.

"Kew has now completed the first half-century of its existence as a national and public institution. It has accomplished work already of which any institution might be proud. It carries its influence through its men to every part of the world. That it is so strong, arises in a great measure from the fact that the uniform tradition which has animated every member of the staff, from top to bottom, is to work self-sacrificingly for Kew rather than for himself. Officials and *employés* arrive and pass away; the institution remains and grows in usefulness, in strength, and in beauty. All who have had a hand in the work are content that that should be their record."

The copy of the Journal before us, which is, of course, not an "official" publication, but a private enterprise, contains a list of all the old Kewites with their addresses so far as they could be obtained, a note of recent appointments, and of changes in the staff, a brief record of the principal work done in the garden during the year, including the obituary notice of the historic Araucaria. Incidentally, we may mention that of late years one principal object of the officials has been not so much to accumulate numerous ill-grown illustrations of no special value, as to secure representative specimens of interest, in the shape of well-grown plants, displaying their natural characteristics so far as circumstances permit. This is a procedure which ought specially to commend itself to gardeners, as it puts them into closer touch with the work done at Kew than was formerly the case. The interests of botanists will be served by keeping a record of the flowering of plants, the publication of descriptive notes where necessary, and the preservation of specimens in the herbarium. In this way the interests of all classes of students may be served, whilst the more agreeable aspect of the plants is a distinct gain to the general public.

The "British Botany Club" demands a word of notice. Those of us who can remember the gardeners of the old school will recall many who had a wide knowledge of British botany, and will agree with us that the gardeners of the present generation are, as a rule, deficient in their knowledge of wild plants, as compared with their predecessors. As an unfailing source of interest and pleasure, and as affording excellent training for the future gardener, the collection and study of wild plants may be strongly recommended, and it is with gratified surprise that we learn from the pages of the report that a British Botany Club is in full work at Kew, and that its excursions are well attended, and turned to good account.

Mr. W. B. HEMSLEY's reminiscences of his career are singularly interesting, especially to those whose recollections range over the same period. We can find no space for extract, but we advise all interested in the history of Kew to peruse this pleasant account. We hope that at some future time Mr. HEMSLEY may be induced to add to his reminiscences in the garden, those relating to his work in the herbarium. The history of the sorting and distribution of the collections made by Dr. (now Sir) JOSEPH HOOKER and Dr. THOMSON, in India, would of itself be very interesting.

But we must bring our comments to an end, and simply add our heartiest good wishes for the prosperity of the "Kew Guild."

ECHIUM ARBORESCENS (see fig. 106).—"The flowering of Echium arborescens is so unusually fine this spring," writes Mr. THOS. HANBURY, La Mortola, Ventimiglia, Italy, "that I am tempted to send you a photograph, just taken by my son, of the largest bush of it in my garden. The circumference is 50 feet, and the height of the centre spikes is 9 feet from the ground. The colour of the petals is deep azure blue, and the stamens light pink. Except in the temperate house at Kew, I do not recollect to have seen this plant in England; but though a splendid thing, no doubt it is too unwieldy for the ordinary conservatory."

ROYAL HORTICULTURAL SOCIETY.—The Society intends holding a show at Chiswick Gardens on July 11, at which prizes to the amount of nearly £150, besides two Silver Cups, will be offered. It is proposed also to hold a great show at the Agricultural Hall, Islington, on August 29, 30, 31, and September 1, at which over £460, as well as medals and cups, will be offered in prizes. Schedules of either show may be obtained on application to the Secretary, Royal Horticultural Society's offices, 117, Victoria St., S.W.

LINNEAN SOCIETY.—On the occasion of the evening meeting on June 15, at 8 P.M., papers will be read:—1, "On the Botany of Mt. Kini Balu," by Dr. STAPF; 2, "Notes on British Tunicata," part ii., by Prof. W. A. HERDMAN, F.R.S.; 3, "Description of a new plant constituting a new genus, and provisionally referred to Melastomaceæ," by Miss A. L. SMITH; 4, "African Species of the Genus Ficus," by SCOTT ELLIOT, F.L.S.; 5, "Contributions to the Embryology of the Amentiferæ," by Miss M. BENSON.

ROYAL BOTANIC SOCIETY OF LONDON.—The second lecture by Professor S. H. VINES, "Leaves and their Functions," was given on the 2nd inst., at the Gardens of the Society. Last week the lecturer discussed the means by which plants obtained the materials for their growth; on this occasion he dealt with the various processes passed through ere the food manufactured in the green leaves in the shape of starch could be changed into the oils, gums, resins, and other substances used or stored up in different parts of the plant. One fact brought prominently forward was—that while the plant could only collect its food by the action of sunlight, night was equally necessary for its development. It was to the energy of sunlight absorbed and stored up in the tissues of the plants of the carboniferous era that we are indebted for the coal we use, which enabled us to utilise the sun's energy of the earliest times, in steam and other engines of the present day.

BIRTHDAY HONOURS.—In the list of honours conferred on the occasion of the Queen's birthday anniversary, we are glad to see that the claims of Mr. DANIEL MORRIS, the assistant-director of the Royal Gardens, Kew, have not been passed over. Mr. MORRIS' services in developing the industries of the West Indies, his work in Ceylon and in British Honduras, to say nothing of his labours at Kew, have amply won for him the honour of appointment as Companion of the most distinguished Order of St. Michael and St. George. Mr. E. MAUNDE THOMPSON, the principal librarian of the British Museum, is made a C.B., and Mr. JOHN TENNIEL becomes Sir JOHN. As to the propriety of these particular appointments, there can be no two opinions; but, speaking generally, it is surely grotesquely inappropriate to bestow upon eminent physicians, literary men, artists, and men of science, the same honours as are bestowed upon partisans whose only claim is that as ardent party-politicians they have been useful to the Government of the day. Of course, such gentlemen should meet with their due recompense, but it should not be the same as that bestowed on disinterested labourers in a much higher sphere of work, else there is great risk of the so-called honour being really a very bad compliment.

ROSE SHOW FIXTURES IN 1893.—We publish the following additional dates and alterations of dates of Rose shows during the present season, kindly sent us by Mr. E. MAWLEY, Rose Bank, Great Berkhamsted:—June 26 (Monday), Hitchin; 27 (Tuesday), Maidstone and Sutton; 28 (Wednesday), Earl's Court. July 5 (Wednesday), Farnham; 6 (Thursday), Manchester; 11 (Tuesday), Wolverhampton, three days; 13 (Thursday), People's Palace, two days; 20 (Thursday), Bedford. He wishes us to state that he will supply us during the present month with a list of Rose Show fixtures, which will be issued each week, and he will be glad to have early notice of the dates of any shows not mentioned above, and also of any change of dates.

NATIONAL CHRYSANTHEMUM SOCIETY.—The annual outing and picnic of the members of the above Society will take place, by the kind permission of the Right Hon. Lord CARRINGTON, in the grounds of Wycombe Abbey, High Wycombe, on Monday, July 17, and among the amusements provided will be a cricket match between members of the Aylesbury Floral and Horticultural Society and the National Chrysanthemum Society. Arrangements are being made for a visit to Hughenden Manor, to one of the large chair-making establishments in the town, and to some other places of interest in the locality.

KEW EYOT.—We are delighted to find from a communication of Mr. JOHN ALLEN to *Nature Notes* that this most pictural bit of river scenery, which charms the eye of anyone passing over Kew Bridge, is to be preserved from desecration. Brentford Ait—or Mottenshaw Twig, as it is also called—ran the risk of becoming an appanage of the gasworks, when the newly-incorporated borough of Richmond has stepped in and saved the most beautiful bit of Thames scenery near London. Kew has for municipal purposes been merged into the borough of Richmond, and if this is to be taken as a sample of the work of the enlarged municipality, the public has cause to be grateful. A view of the "Ait" was given in our columns of 1891, ii., p. 129.

FIG 106.—ECHIUM ARBORESCENS: FLOWERS INTENSE BLUE: CIRCUMFERENCE 50 FEET. (SEE P. 690.)

NATIONAL ROSE SOCIETY'S ANNUAL DINNER.—We understand that the Very Rev. the Dean of Rochester, President of the National Rose Society, will take the chair at the annual dinner, to be held at the Rooms of the Horticultural Club, Victoria Street, Westminster, on the 20th inst., at 6 P.M.

NATIONAL CARNATION SOCIETY (SOUTHERN SECTION).—Alteration of date. At a committee meeting held at Hotel Windsor on June 3, it was unanimously agreed, that owing to the exceptionally early season, the date of the exhibition, which was

to have been held in the Drill Hall, James Street, Westminster, on July 25, under the auspices of the Royal Horticultural Society, should be altered to July 11, and that the exhibition be held in the Gardens of the Royal Horticultural Society at Chiswick, in connection with the exhibition to be held there on that date. *Jas. Douglas, Hon. Sec.*

STUART AND MEIN'S NO. 1 CABBAGE COMPETITION.—This open competition, which took place as usual at Messrs. STUART & MEIN'S Nursery, Kelso, on Saturday, May 27, resulted in Mr. J. H. LUXMORE, Beeralston, Devonshire, being declared the winner with a Cabbage 12 lb. 12 oz. in weight; Mr. C. JACOBS, Niton, Isle of Wight, being a close 2nd with a Cabbage of 12 lb. 8 oz. The other Cabbages shown were mostly much less heavy.

THE BIRMINGHAM AMATEUR GARDENERS' ASSOCIATION.—The members of the above, to the number of eighty, visited Kenilworth and Stoneleigh Abbey, on the 3rd inst., calling first at Mr. HENRY WHATELEY'S extensive glass establishment, to inspect the great crop of Tomatos, Cucumbers, &c., grown here, and especially many outdoor beds of Mushrooms, all in the highest state of cultivation. The party then proceeded to Stoneleigh Abbey, to view the gardens under the guidance of Mr. BEDDARD, and to the amateur especially, the visit was a great treat, whilst those accustomed to see first-class gardening were pleased to see such good order and excellent all round cultivation. Fruit trees at Stoneleigh have suffered from caterpillar, but there are fairly good crops. In the woods, Oaks especially, also other trees, and the undergrowth of Hazel, have been to a very great extent, denuded of their foliage by caterpillars.

BEDFORD FRUIT CARDS FOR AMATEURS.—We have received from Mr. C. BROWNE, 20, Mill Street, Bedford, some cards to the number of four, suitable for suspending on the wall in reading-rooms, schools of rural districts, and bothies, and treating in concise and accurate terms, of the cultivation of (1), The Vine, entitled "Golden Rules for Amateur Grape Growers," which contains all the points of culture that an amateur in a general way requires information upon; (2) the Peach and Nectarine, Plum, Apricot, and Cherry, affords brief instruction in pruning, training, disbudding, and general points of cultivation; (3) treats of the management of the Pear, Apple, and Fig; (4) affords to the amateur all that is usually essential for him to know, if he will cultivate those economically important fruits, the Raspberry, black Currant, red and white Currant, Gooseberry and Strawberry. The price of the first two-named is 6*d*., Nos. 3 and 4, 3*d*. No. 5 of the series, Fruit-Pests and Diseases, 6*d*., is in course of preparation.

EARLY POTATOS FROM SCOTLAND.—Messrs. JAMES LYBURN & SONS, says the *Glasgow Herald* of June 1, despatched from Maybole station yesterday morning twenty barrels of new Potatos, grown by Mr. WILLIAM LYBURN on Balchriston Farm, being the first from Ayrshire this season, and the earliest on record. The size is good, and quality fine. The dates of the first arrivals for the past five years are as follow:—1888, July 4; 1889, June 13; 1890, June 12; 1891, June 26; 1892, June 17. Mr. J. GRAY, Potato merchant, Glasgow, despatched on May 31 the first consignments of new Potatos to Ayr, Glasgow, Perth, and Dundee. The sample, crop, and quality are good.

GARDENING AND FORESTRY EXHIBITION AT EARL'S COURT.—In the flower show tent here, began on 3rd inst., a display of plants and flowers which continues until to-day (Saturday), Messrs. BARR & SON contribute a collection of hardy flowers, and Messrs. JOHN LAING & SONS and Mr. H. B. MAY the foliage and flowering plants.

DUTCH HORTICULTURAL AND BOTANICAL SOCIETY.—On the occasion of the meeting held on May 13, the Floral Committee made the following awards of First-class Certificates:—To Mr. P. W. VOET, Haarlem, for Iris iberica var. insignis; to Mr. C. G. VAN TUBERGEN, Jun., Haarlem, for Eremurus himalaicus, Iris nazarensis, I. atropurpurea, I. lupina; to Messrs. E. H. KRELAGE & SON, Haarlem, for Eremurus robustus var. Elwesianus, Iris atropurpurea, I. Mariæ, I. lupina; the following varieties of Darwin Tulips—Sarah Bernhardt, J. Reijnault, Sir D. Hooker, J. G. Baker, Souvenir de Douleur, Galatea, Vespucci, Emmanuel Sweerts, L'Ingénue, Panapia, La Tulipe Noir; the following varieties of Flemish Tulips—Fanny Delemer, Rosa Valida, Semélé, Jeanneton, Gretchen, Belle Laure, Salutation Angélique. Second-class Certificates were awarded to Mr. C. G. VAN TUBERGEN, Jun., Haarlem, for Camassia esculenta var. major, C. Leichtlini, Iris Korolkowi var. violacea, Brodiæa Howelli; to Messrs. E. H. KRELAGE & SON, Haarlem, for the Darwin Tulips, Kate Greenaway, Samuel, P. Hondius, Madame de Grignan, Isis, La Fiancée, N. Van Campen, Alcibiade; and for the Flemish Tulips, Roméo, Duc de Brabant, Fleur de Marie, Captain Cook. A Botanical Certificate was awarded to Mr. H. J. VAN HEIJST, Wijk, near Duurstede, for Codonopsis ovata.

THE INCIDENCE OF THE SEASON.—Messrs. HURST & SON, of Houndsditch, have supplied some interesting statistics as showing the unusually early character of the season as applying to the ripening of the first early Pea crops in their trial ground, that is, when the pods are sufficiently ripe to admit of the haulm being pulled up preparatory to drying-off for thrashing out. They give a record extending over ten years as follows:—In 1883, June 21; 1884, June 26; 1885, June 24; 1886, June 24; 1887, June 25; 1888, June 26; 1889, June 16; 1890 is not given, but as it was a hot dry summer, the date would probably be the 18th or so; 1891, June 27; 1892, June 15, the spring having been dry; 1893, June 4 to 6 at the latest.

PROTECTIVE MIMICRY, ETC.—In Sir JOHN LUBBOCK'S attractive little book on *Flowers, Fruits, and Leaves*, p. 128, mention is made of the occasional association of the Dead Nettle (Lamium), and of the Stinging Nettle (Urtica), and it is suggested that the true Nettle is protected from browsing quadrupeds and leaf-eating insects by its stinging hairs. Recently we lighted upon a tangled mass of Lamium album, L. Galeobdolon, Nepeta Glechoma, and Urtica dioica. Are we to assume that the Nettle Urtica protects its companions as well as itself? In any case, the competition was evidently very severe, though we should imagine the true Nettle would, sooner or later, overpower its weaker neighbours. In the same neighbourhood (Hythe, Kent) three species of Sedum were found growing together in one patch, viz., S. album, S. rupestre, and S. acre. Here S. rupestre seemed likely to gain the day. Close by was a profusion of Silene maritima, mostly with purple-veined sepals, but in some cases, under precisely similar conditions, the calyx was pale primrose-yellow, and the veins relatively inconspicuous. In other cases, the anthers of this plant were full of some Uredo spores, and in this case not only were the anthers purple, but the petals were suffused with a similar tint.

THE THYRSOS OF DIONYSOS.—The generally-accepted interpretation of the conical structure terminating the thyrsos carried by DIONYSOS (BACCHUS), is that it represents the Pine or Fir cone. Such cones were used in imparting a resinous flavour to the wine. Dr. S. DOLLEY, however, has contributed to the American Philosophical Society a paper in which he contends, basing his contention on many a quotation from classical writers, that the conical top of the thyrsos is a conventionalised representation of the flower cluster of the Date Palm, the association of which with Dionysian worship and its peculiar significance are pointed out. Incidentally, it is mentioned that the Palm is not alluded to in the *Iliad*, but in the *Odyssey* the Palm at Delos excites great admiration on the part of ULYSSES, who compares the slender figure of NAUSICAA to it, just as SOLOMON does in his Song, "This thy stature is like to a Palm tree."

ROOM DECORATION.—We have received from Messrs. JOHN HOOD & Co., 109, Elswick Road, Newcastle-on-Tyne, a novel receptacle for growing Ferns. It is made of terra-cotta, and takes the form of a circular plaque, in the middle of which is a flattened pocket, also of terra-cotta, into which is fitted a tin receptacle for water. Either Ferns or cut flowers can be placed in this tin, the advantage being that the water cannot readily be spilt. The disk at the back of the plants affords, too, sufficient protection for the wall against which it is hung. For those who are so disposed, the flat margin of the plaque offers sufficient space for painting, in the style that finds favour now-a-days. In their present plain condition these plaques are better suited for the verandah or conservatory, than for the drawing-room. A wire support is also provided, by means of which, if desired, the plaque can be stood upon a table or bracket.

THE ALDERMASTON ESTATE.—A famous historical property will be offered for sale at the Auction Mart, on the 26th inst. It is the mansion and estate of Aldermaston, comprising the entire village of that name, with farm homesteads, &c., in the county of Berks, and covering altogether an area of upwards of 2,500 acres. Aldermaston figures in history at various times from the Conquest downwards. The old house described by JOHN EVELYN in the time of Charles II. was destroyed by fire about 50 years ago. The present structure, which stands in the centre of the park and deer forest, is a Tudor Elizabethan building. The auctioneers, Messrs. SIMMONS & SONS, of Reading, Basingstoke, and Henley-on-Thames, have prepared printed particulars of the property in the shape of a large folio pamphlet, with maps, plans, and numerous photographic illustrations.

THE FLORA AUSTRALIENSIS.—We are pleased to learn that a completing volume to BENTHAM'S *Flora Australiensis* is likely to be shortly undertaken in Melbourne. It has long been the intention of Baron VON MUELLER to furnish such a volume, more especially as after fifteen years' previous botanical researches in Australia he was the collaborator of Mr. BENTHAM in the *Flora*, the first and as yet the only one for any of the great divisions of the globe. As few unexplored parts of Australia now remain to afford additional material for novelties, the intention of Baron VON MUELLER, so long cherished, will be early carried out. For this task his position is unique. He has gained personal experience by long exploratory travels in each of the Australian colonies, his researches in this part of the world having commenced in 1847, after seven years' previous home studies.

A CENTENARIAN GARDENER.—The *Kentish Express* contains a notice of JOHN CUCKOW, of Lenham, now in his 102nd year, and still in possession of his faculties. The old man's reminiscences of agricultural depression in former days, and of the state of the agricultural labourer then as compared with his lot now, ought to make grumblers better satisfied with the existing state of things. To the surprise of our contemporary, Mr. Cuckow stated that this year he had cultivated the whole of his garden, which is about 9 perches in extent. The centenarian himself escorted his visitor to the garden at the rear of the houses, and stated with pride that this spring he tilled and planted the ground himself. The garden bore signs of careful cultivation.

PACKING AUSTRALIAN FRUIT.—In pursuance of a request that I would get together a small jury of experts on fruit and fruit packing, the following gentlemen attended at the Imperial Institute on Friday, June 2:—Philip Crowley, Esq., F.R.H.S., F.L.S., F.Z.S., &c., chairman of the Royal Horticultural Society's fruit committee; Dr. Robert Hogg, LL.D., F.R.H.S., F.L.S., &c., author of *The Fruit Manual*, and a member of the Royal Horticultural Society fruit committee; George Monro, Esq., F.R.H.S., importer and salesman of fruit, Covent Garden Market; James Webber, Esq., F.R.H.S., importer and salesman of fruit, Covent

Garden Market; Rev. William Wilks, M.A., F.R.H.S., Master of the Worshipful Company of Gardeners, secretary of the Royal Horticultural Society, and a member of the fruit committee. The question laid before them was:—1. To decide on the relative merits of the packing and general condition of samples of Apples and Pears from Melbourne. 2. To furnish useful hints (if any required) for the better packing of the fruit, and its arrival (if possible) in better condition in future in this country. 3. To offer suggestions as to the varieties sent. On the first head they were unanimously of opinion that the samples sent from Tumuc Valley, Pakenham, were both the best packed and in the better condition. On the second head, they remarked that they were unable to commend the packing of either parcel. In the Neilson samples, each fruit was enclosed in a paper bag, and the bags wedged in the cases with paper shavings. They considered bags in themselves undesirable, as preventing the escape of the necessary moisture sweating out of the fruit. The paper of these bags was also of a kind calculated to retain moisture. The Tumuc, samples were loosely wrapped in squares of paper, which was considered the right method, and the paper was of a much better quality for the purpose. The committee thought tissue paper the best. The "padding with paper shavings" was considered unnecessary, and tending to retain moisture and prevent free circulation of cold air, and in the cool chamber in transit. The committee recommend that the fruit be packed earlier, i.e., that it should be *in a less ripe state when packed;* that each fruit should be folded in a square of tissue paper, and that the fruits be then closely and firmly packed together in the cases, *no padding whatever being used*, save just sufficient at the sides to prevent the fruits shaking out of place. The sides of the cases should be made of two parallel boards, with *a space left between them* to allow free exit of moisture and ingress of air during transit. The committee attached the greatest importance to the words in *italics*. It should be mentioned that in both the Tumuc and Neilson parcels the Pears were all absolutely rotten, and arrived all in a mash; whereas some sent a week or two earlier, only wrapped in tissue paper, with no padding, but with side ventilation to the cases, were still in almost perfect condition. Under the third head, the varieties sent were London Pippin, Sturmer Pippin, Rome Beauty, Stone's Pippin, Jonathan, and Adams' Pearmain (it was said by a gentleman from Melbourne that Adams' Pearmain was called Dutch Mignonne in Australia, but there was no question with the committee that the fruits were Adams' Pearmain, and had nothing to do with the true Dutch Mignonne). Of these varieties Sturmer had arrived in, by far, the best condition, leaving, in fact, little to be desired; and London Pippin in the worst, there being very few perfect or even passable fruits. The other varieties were all more or less woolly. Jonathan is a very attractive-looking Apple, and if it could be sent over in a less mealy condition, would, no doubt, sell; but, judging from the samples, Sturmer will prove by far the best market fruit. The same remark applies to Adams' Pearmain as to Jonathan. With regard to the cases used, the wood was considered sufficiently good for the purpose, but the ventilation at the sides, as in the Tumuc samples, was considered a *sine quâ non*. It was incidentally remarked that much of the Tasmanian fruit lately sent has been spoiled by the very rough insides of the cases pressing unequally against the fruits. A specimen of a Tasmanian case was pointed out, the sides of which might be described as almost corrugated. Whether this be due to the very hard kind of wood used in Tasmania, or simply to the coarseness of the circular saw used in cutting the boards, the committee were unable to say. Signed on behalf of the committee above named, *W. Wilks, Secretary, R.H.S.*

The Horticultural College, Swanley.—The Experiments Committee of the Kent County Council, held a meeting at the Horticultural College, Swanley, on Thursday, May 25, 1893. The subjects for discussion were Apple Blossom Weevil and Aphis. Prof. Cheshire gave the life history of the weevil (Anthonomus pomorum). He had found that by spraying with arsenical preparations four times in the year, in the proportion of 1 ounce to 10 gallons of water, he kept the trees entirely free from attacks of this insect. Professor Cheshire then gave the life history of the aphis or dolphin, noting its extraordinary powers of increase by eggs and budding. He gave as an effectual remedy soft-soap, quassia, and petroleum. A member gave his experience with aphis in his Hop plantation, where he was using a mixture consisting of 5 lb. of soft-soap, 5 lb. of quassia chips, to 100 gallons of water to destroy them. A vote of thanks was accorded Professor Cheshire for his lecture.

Jubilee of Messrs. Hurst & Sons.—This well-known wholesale Seed Firm of 152, Hounsditch, this year celebrates its Jubilee. The premises originally occupied by the firm were at 6, Leadenhall Street, immediately contiguous to Leadenhall Market, but some years ago the business was transferred to very commodious premises at 152, Hounsditch, in addition to which there are depôts in other parts of the country. As illustrating the growth of the business, it may be stated that, thirty years ago, some ten persons were regularly employed by the firm; there are now over 100. The extinction of several of the older wholesale houses, or their absorption by others, tended to the rapid extension of the Hounsditch business. By way of celebrating the Jubilee, the whole of the staff were invited, together with a few representatives of other firms, to join in a day's outing to Slough and Windsor on the 27th ult. Most of the places of interest in the neighbourhood were visited, and Mr. N. N. Sherwood, the head of the firm, was afterwards presented with an address signed by ninety-four of the *employés*, expressive of the respect in which he is regarded by the staff.

Gardeners' Royal Benevolent Institution.—The fifty-fourth anniversary festival will be held at the Hôtel Métropole, on Thursday, June 22, 1893, when Baron Schroder will preside. The secretary already announces subscriptions and donations, received or promised, amounting to £697 17*s.*, and will be pleased to receive and acknowledge further sums at the office, 50, Parliament Street, S.W.

Publications Received.—*Old English Tulips*, Messrs. Stuart & Mein, Kelso, N.B.—*Special Card Bulletin*, State Agricultural Station, Burlington, Vermont, U.S.A.: "*Spraying Potatos.*"—*Tourists' Guide to the Continent*, G.E.R.—*British Forest Trees*, by Dr. J. Nisbet (Macmillan & Co.).—*Phenological Observations*, 1892, E. Mawley.—*Missouri Botanical Garden*, 4th annual report.

HERBACEOUS PÆONIES AT THE R.H.S. GARDENS, CHISWICK.

These magnificent flowers are now in beauty at Chiswick, and vary in colour from pure whites and blushes to roses and the deepest crimsons, while many of them are more or less rose-scented. The ornamental and massive character of the foliage make these hardy Pæonies attractive plants for the herbaceous borders, or to mingle with shrubs. The flowers are greatly valued for cutting, as they travel well, and last long in water. If these Pæonies are planted in beds or groups in the borders, Lilies, especially the varieties of L. speciosum and L. auratum, should invariably be associated with them, as they grow well together, and succeed each other in time of flowering. As to culture, trench the ground before planting as deeply as possible, adding abundance of rotted manure, and after planting mulch the surface with manure. In summer, if convenient, give a plentiful supply of liquid-manure twice a week, to encourage a rapid development, as the plant is decorative in proportion to its size. The Pæony may be planted in any position, but, considering that the flower-buds are formed early in spring, it is preferable to grow the plants where the sun's rays in spring do not fall upon the plants earlier than eleven or twelve o'clock. Perhaps that named Nœmie Demay is one of the finest in the Chiswick collection; flowers double, white, habit of plant very dwarf and compact.

Other good sorts are Charles Binder, full deep rose, fine robust deep green leaves; Madame Jules Calot, opens pale pink, passing off lighter, fine; Nivea plenissima, creamy-white, dwarf habit; Madame Ducell, good double rose flowers, which are seen to great advantage contrasted with the dark green foliage. Rich and effective is Paul de Riefert, flowers crimson-purple; a good large double rosy-purple flower is Comte de Nanteuil; Queen Victoria, blush, flowers well-shaped; Rubra triumphans, is noteworthy by reason of its very deep crimson flowers. *J. B.*

Home Correspondence.

Dropping of Peach-buds.—The writer of your leader (p. 574) enumerates a number of probable causes of the loss of buds on Peach trees. Mr. Fish, also at p. 635, continues the conjecture; and, although everyone will commend their laudable object of enlightenment, it can only be said that, information based upon generalities is not of much value unless the respective writers could demonstrate clearly the cause of the loss of buds to be due to one or other of their conjectures, and are able to decide upon a specific remedy for the same. They should also be able to explain why an Alexander Peach, early forced each year, in spite of every one of these enumerated precautions being taken, should continue to drop all its best and apparently healthiest and matured buds, and leave only those which one would consider to be semi-dormant and ill-matured, but which nevertheless always produce a fair crop; whilst on the other hand Stirling Castle, Hale's Early, Bellegarde Peaches and Lord Napier Nectarine growing alongside in the same border and under exactly similar treatment, in the same house, are in every way satisfactory, without losing any buds of consequence, the growth and vigour of the trees being about equal. It is a fact that Peaches grown under glass, under the most skilful cultivation, will always drop their buds more or less, according to circumstances, as any one may verify who will take the trouble to examine the young shoots, and note the vacant spaces appearing previous to the flowering of early-forced trees. The varieties with large blooms drop the worst indoors, but nothing to speak of out-of-doors. I am of the opinion, based upon close observation, that there is a period in the growth of the bud, just about the time of its complete development (when, if growth should not cease, owing to artificial heat or other circumstances, the buds are kept in a growing state) they become too forward and unable to rest, and a check is given really before forcing has commenced, the injury being invisible before the trees are started. This is evidently the reason why the trees in the earliest houses are generally the greatest losers, and also that Alexander, a very precocious variety, is often disappointing. The only remedy which I can suggest, is to lift the trees in August so as to check growth at that season and prevent the buds becoming forward, and inducing rest at an early period. The experience derived from this plan hitherto, warrants my continuing the practice. The question of suitable and unsuitable stocks opens up a wide field for enquiry, and it is certain that many of the stocks upon which Peaches are worked, do not add to the longevity of the trees. We have lately proved the Pershore Plum stock suckers to afford capital stocks for several varieties of Peaches, notably Bellegarde—the union does not enlarge so much; moreover, it possesses a hardy constitution, and the growth is vigorous, with plenty of fibrous roots. For the last few years we have been raising seedling Peach-stocks, which have undergone the customary preparation by bringing up the tap-roots to the horizontal position. These stocks have been budded with some of our best varieties of the Peach for indoor work, and the experiment so far is encouraging, of good promise, and which we hope to write of later on. It is generally considered that seedling Peach-stocks are too delicate to stand our winters; and I like to have them budded at about 2 to 3 feet from the ground.

Many cultivators, myself included, are unable, owing to want of space, to deal with Peach-roots in a manner that is really essential to the welfare of the trees. *Wm. Crump, Madresfield Court, Malvern.*

TRESCO ABBEY GARDENS.—Never have the famous sub-tropical gardens at Tresco Abbey presented such a remarkable appearance as at the present time, nor has its equal been seen in any other part of the United Kingdom—perhaps not in Europe. For some years past, great attention was paid to the cultivation of Dracænas, especially D. indivisa and D. australis, and with great success. Thousands of them have been planted all about the gardens, and on the other islands as well. Year by year these plants have bloomed, and ripened seed, which has been carefully preserved; but the present year eclipses all previous years in the matter of flowering, hundreds being now in full bloom, their nodding plumes meet the eye at every turn, and the air is redolent of their fragrance. In some cases the foliage is almost hidden by the mass of flowers; and it is impossible to give an adequate idea of their appearance. *H. Tonkin, St. Mary's.*

EREMURUS ROBUSTUS, now in fine condition at Messrs. Barr & Sons' nurseries, Long Ditton, is probably one of the most noble hardy plants ever introduced; flowers of a soft rosy-pink, yellow centre, produced on towering spikes some 2 feet in length, and rising boldly from amidst Lily-like foliage to a height of 8 feet. *J. B.*

TECHNICAL EDUCATION IN HORTICULTURE.—There are two or more general methods of proceeding in regard to this vitally important matter. The one would treat it as a new potent and efficient means of teaching the art and practice of horticulture to those who purpose following it for a living or as a profession. That, whatever its merits or demerits, can hardly be said to have entered into the plans of county councils; still, two or more of the latter would be prepared to spend their funds for the special training of young gardeners as such, either in the principle or the practice of the art of horticulture. But on the other hand, as everything included in the art of horticulture tends to make the hand more skilful, and the head more wise, and consequently, to mould men and women into more useful citizens, better fathers and mothers, county councils feel disposed to take up with zeal the teaching of horticulture among the masses. The first step to substantial progress, and it is probably the longest and the most difficult, has already been taken in many districts. It consists in gathering together willing listeners to the new social gospel of horticulture, something, as a leading county councillor said to the writer the other day, that will do them good, enrich their homes, and make their lives more worth living, and more likely to be lived in the rural districts because of the lectures. But very few of our audiences have yet had more than five lectures each, more fewer still, and it is unreasonable to expect too much in such brief time. It is also very discouraging alike to teachers and learners to have results discounted adversely in advance. It takes a deep knowledge of rural audiences to measure the amount of instruction that may "go in at the one ear and out of the other," and that far larger portion that will mostly be carefully "learned, marked, and inwardly digested." As no one indeed can measure the waste for his fellows, why not more charitably and truly assume that there may be little or no waste, but rather that every stream of solid truth leaves a sensible residuum of mental enrichment behind it. If you can create a new interest for rural residents in their homes and gardens, and enable them to reap more perfect products, and larger profits, there will be no fear of our teaching going in at one ear and out of the other. As a matter of fact, it has not done so, but is already bearing good fruit for the time, though not a few of those who have been to school or college half their lives are pestering us for the finished results of our technical instruction, before we have well got to work. I need not add that young gardeners are welcome to all the technical lectures on horticulture, though it may be well to caution them against expecting lectures specially adapted for teaching them the principles and the thorough practice of their art, and the vital importance of dogged perseverance, as the keystone of success, the blandishments of cricket and other amusements notwithstanding. It seems almost impossible to make the technical lectures on horticulture more practical than they have been. The shyness of the audiences and time difficulties prevent much active participation in the work from those who come to listen. Nevertheless, cordial responses have frequently been made for assistance in the pruning, training, &c., of trees and bushes. It is needful, however, to remember, in connection with such episodes, that the lecturer has to sustain the interest of, and retain his hold over, his audience. These range from twenty to a hundred in number, and it needs considerable tact to hold them with him from first to last, and not to lose his hold through questions or experiments by himself or others. In classes of older scholars in day or night schools, under the control of the teachers, the systematic teaching and learning of horticulture might be made easy. In fact, in the near future, horticulture will become a subject of teaching and rewards in all our public, elementary, and other schools. School gardens, and special classes for schoolmasters and mistresses, and teachers, will doubtless follow, in which our great national industries of horticulture and agriculture will be thoroughly taught. Some county councils are already moving in this direction, and others are offering special prizes for the best kept and most profitably-cropped gardens and orchards, in order to test the practical results of the lectures in different counties. *D. T. Fish.*

IRIS TO BLOOM IN THE WINTER.—The Iris stylosa will meet the requirements of "Gaucho." It should be potted in a large pot, and the second winter after potting, when pot bound, if brought under glass late in summer, will bloom profusely from November to January. The blooms are of pale lilac hue, delicately veined, and more elegant than most of the summer-flowering species. *B. P.*

AN EXPERIMENT IN GARDENING.—I have a good old-fashioned garden of about 2 acres, treated in the ancient style, where Roses, Peas, Hollyhocks, Cabbages, Foxgloves, Lilies, and things in general struggle for the mastery over each other, and do their best to encroach on the herbaceous borders, where bedding-out is strictly forbidden. The wild Hyacinths, Cowslips, Primroses, and good old wild flowers are all welcome, and the scarlet Pimpernel, which comes up in the walks, is respected and allowed to have its own way, as are the Shirley Poppies, which seed themselves and decorate the Cabbage ground. As an experiment last autumn, I obtained from one of the Dutch bulb growers, a general mixed collection of things which are not generally grown in this country, and which are, as a rule, not mentioned in the bulb lists of English dealers. The result has been as charming as it has been unexpected, and the endless variety of new flowers has been, and still is, a constant source of pleasure. The greatest success, as regards beauty and general effect, has been a lot of Parrot Tulips, most of which we have forced, some in the stove and some in the cooler houses. For some unexplained reason these have been considered as unfit for forcing in this country and, so far as my experience goes, it is a great mistake, as they have with me turned out a most brilliant success as early flowers for table decoration. Next winter they will have the first consideration, and we shall grow them in boxes in hundreds for cutting. Why so magnificent a flower as the Parrot Tulip has been neglected for this purpose I am quite at a loss to understand. *Thos. Fletcher, Grappenhall, Cheshire.*

EARLY PEAS.—The spring of 1893 will doubtless be long remembered for its unusual amount of sunshine, and the long period of drought. These two circumstances brought out some curious facts in connection with garden Peas. Observation of these plants shows that varieties which possess stout haulm and large foliage withstand drought better than Peas with more slender stems and small leaves—at least, this is my experience. Those varieties that withstood the drought the best were sown at the end of the month of January on an unshaded border, and were afforded the same kind of culture. The hard, round-seeded Peas are the earlier by a few days, but their haulm turned of a yellow colour much sooner than the varieties with wrinkled seed, and the pods were unfit for use in a much shorter time. Exonian proved itself to be an excellent Pea this season, the pods large and well filled, and with from six to nine seeds in each, of good flavour and colour when cooked; the pods were fit for use on May 15. Chelsea Gem grew 2 feet high, and is now (last week in May) as green as at the beginning of April; the haulm covered with well-filled pods of a dark green colour, that were ready for table on May 20. Cannell's English Wonder, sown alongside these varieties, was robust, and the bine 2 feet in height, and of a pale colour. The plants were about ten days longer than the others in coming through the soil, and about the same time behind in becoming fit for use. The haulm was well covered with good pods; still, it should be classed as a "first early" Pea. Empress of India, sent out by Messrs. Sutton & Sons last season, is a robust grower, having reached this season the height of 4 feet; the pods large and well filled, and fit for gathering on May 25. Duke of Albany grew and cropped well; crop at the end of May. Sutton's Early Marrow, a dwarf kind, with large mottled foliage, stout haulm, and large well-filled pods, was ready for use on May 25. At the beginning of March the ground on each side of the rows of plants was dressed with nitrate of soda and potash, and was afterwards mulched with fresh cow-stable litter, the mulch being covered with earth to give it a tidy appearance, and to-day (May 27), though rain has only fallen to the extent of one-tenth of an inch since March 3, the bine is as green as though abundant rains had fallen. Some varieties have not grown so tall as usual. Thin sowing, high cultivation, and deep digging are necessary to secure the best results with Peas, and the best varieties may be grown in vain if these factors are not taken into account. *H. C. Prinsep, Buxted Park.*

SUMMER-PINCHING OF FRUIT TREES.—Mr. D. T. Fish is so well known as a voluminous teacher in horticulture, that I was not surprised to find some severe criticism of my note on the above subject, see p. 666 of the last issue of the *Gardeners' Chronicle.* If he will visit the gardens of which I have charge, I will guarantee him a hearty welcome, and he then can judge for himself whether or not I have "mastered the alphabet of summer-pruning practice." But, why do my critics run away with the idea that I entirely disapprove of the practice of summer pruning of fruit trees? I never said so. If Mr. Fish will kindly read what I did say, p. 666, he will find that he has misinterpreted my meaning in the same way as "W. L. C." has done; and I think he will then admit that there is a little in what I endeavoured—feebly perhaps—to explain. Had I the gift, we all so well know that Mr. Fish so largely possesses, I might have conveyed my puny impressions in a more concise intelligible manner. I will again try to make my meaning of the word "surplus" somewhat clearer. If a branch of, say, an Apple-tree, no matter its length, had ten shoots of the current year growing upon it, two of which are required for filling gaps in the framework of the crown of the tree, and the leader was needed for further extension, I should say that that branch possessed seven "surplus" shoots. The three shoots which I do not class as surplus ones, I should expect to bear fruit in 1895 at latest. With this, Mr. Editor, I send you a small branch or two that were shoots (not "surplus") in 1891; you will be able to judge whether or not my method of pruning for obtaining the successful fruit is sufficient to warrant my being argued with on that point. Apparently, Mr. Fish has made up his mind that it is but waste of time. If this explanation of the phrase "surplus" is not clear enough for my critic, I will try again. Mr. Fish would have us youngsters believe that he can command fruit buds to appear at the base of pure wood buds at will by a stroke of his pen! I have sufficient knowledge to aver that such teaching must not always be taken without the proverbial grain of salt. *E. M.*

—— Mr. D. T. Fish having written so fully and ably on this subject at p. 666, for the benefit of "E. M.," and others interested in the ever-recurring topic of hardy fruit culture, and the best means to be employed with a view to making the trees bear remunerative crops, it is unnecessary for me to write at length with a view to removing from "E. M.'s" mind the erroneous idea that he himself entertains, and which he considerately gives cultivators generally credit for entertaining as to the good results which undoubtedly follow the practice of timely pinching the growths of fruit-trees during the summer and early autumn months. At the same time I beg to inform "E. M." that my criticism (p. 606), of his previous note (p. 578), referred solely to what he wrote, and not to anything he might have intended saying, and I think that a reference to my note would show that I did not miss any salient point in his argument nor misunderstand what he said. And it might also show that your correspondent had no foundation for saying that "W. L. C." has not paid so much close attention to the matter as his note would lead us to believe. Being of that opinion, "E. M." proceeds to give some elementary information on the subject, telling the

readers of the *Gardeners' Chronicle* "that, as a rule, there is little connection between the real fruiting-buds and the wood-buds on any hardy fruit tree, and that one is quite distinct from the other, pure and simple." Adding, "it is for the advantage of the fruit-buds that I advocate the removal of the surplus shoots during the summer, for the admission of light and air." Thus, it will be seen that "E. M." summer prunes his trees solely for the purpose of letting light, wind, and air reach existing fruit-buds, that he is apparently no believer in the ability of the thoughtful and skilful cultivator, acting upon the lessons taught him by science and practice, to convert comparatively barren fruit trees into fruitful ones in the course of a couple of years by following a judicious course of root-pruning and pinching of the shoots during the summer and early autumn months, creating fruit-buds where none previously existed. "E. M." is also illogical and unpractical in saying (eleven lines from the bottom of his note at p. 666), "More real fruit-buds will be formed in a natural way by allowing the leading shoots to extend." How does he make this out to be the case? [We have an Apple-shoot from our correspondent "E. M.," which entirely proves his contention. Ed.] We pinch the leading shoots of horizontal and fan-trained trees for a two-fold purpose, namely, to promote a balance of growth and the formation of fruit-buds, and which result from the check given to exuberant growth and the diversion of the flow of sap into the proper channels, the buds thus formed being built up and matured by the combined action of sunlight and air the following year. "E. M." says, "We find good crops of fruit on orchard trees which do not receive any summer pinching." Quite so; but then it does not follow that those self-same trees would not yield more satisfactory crops were their summer growths pinched. It is only reasonable to suppose that they would do so. "E. M." says, "I know some fruit-tree cultivators who cut away many of the fruitless spurs clean to the base every year in June or July, instead of pinching in the orthodox manner, which they consider as being entirely unnecessary, either for the one purpose or the other." Then why do they waste time in doing that which they consider unnecessary? *W. L. C.*

—— As one interested in this subject, I would, with your leave, like to say a word or two in reference to Mr. Fish's remarks, p. 666, which are obscure and greatly exaggerate the benefits of pinching fruit trees as advocated by the school he refers to. I presume Mr. Fish speaks of Apples and Pears exclusively; for although his school pinches stone fruits, in orchard houses, in the same way as they do Apples and Pears, I do not suppose any gardener with the least experience will maintain that the bearing capacity of such trees (stone fruits), age for age, is increased thereby. As a matter of fact, their leaf area is reduced, and consequently, their fruiting power. I am here speaking of pruning or pinching the branches only. Very well. As regards the Apple and Pear, Mr. Fish's "enormous" gain in time by summer pinching can easily be measured by other methods than extravagant adjectives. Under ordinary conditions, outdoors, unpruned and unpinched Apples and Pears produce leaf-buds only at the axils of the leaves on the current year's shoots. The second year these leaf-buds are converted into fruit-buds, and the third year these buds produce fruit. Sometimes fruit is produced the second year sparingly; but, as a rule, under ordinary conditions and fair health, the branch behaves in the way described. Now, Mr. Fish's "enormous" gains must be won within the two years. By pinching, aided by root-restriction, he may force fruit-buds more freely on the two-year-old shoots, and induce some on the current year's shoots, and it is the latter which sometimes produce unseasonable bloom late in autumn, owing to injudicious pinching or the weather. But this gain in time is more apparent than real. When people form plantations of pyramids, they begin, in ninety-nine cases in a hundred, with established trees, already provided with generations of natural and other fruiting-spurs, far more than sufficient to provide as many fruits as the tree can carry, without depending on the buds formed during the last and current year at all; consequently, if the pruner's efforts are directed to the admission of air and light to these already established bud-clusters, he need hardly trouble his head about the fruit-buds of the current year, which will take care of themselves. I am simply stating facts that any one can verify for himself by examining a well-developed branch from a pyramid or bush tree. It is an idea of this kind, I think, that "E. M." has got into his head, and he seems to have got a much clearer and more practical view of the subject than Mr. Fish. This is one view of the subject; and another is this—still speaking of branches and their pruning only—prune if you like for shape or convenience, but the idea that you get more (or even as much) fruit on the average, age for age, and under equal conditions otherwise, by close pinching on Mr. Fish's method than you do without summer pinching, I believe to be a complete delusion. On an unpinched fruit tree the ratio of bud-production increases every year, and at an early age completely outstrips the closely-pinched tree. With this I send you a photo of a fruiting Apple shoot, consisting of four years' growths, exclusive of the terminal shoots of the two last years, which were cut off. It is the production of one bud, and bore forty-two Apples of fair size in October, but a few fell off in carrying the shoot to the photographer. It is from an orchard tree that never was summer pinched, and apparently never pruned, and I would ask Mr. Fish to produce, if he can, as good and prolific a shoot from a summer-pinched tree, and of the same age originating from one bud. The one sent is by no means an exceptional example. I may say, the photo was taken years ago, and is now a little faded, but it is clear enough for the purpose. Of course the crop shown is not the only crop the shoot has borne, because it would bear as it grew every year. *Extension.* [The fruits on the photographed branch referred to hang as thickly, almost, as possible. Ed.]

SOCIETIES.

ROYAL HORTICULTURAL.

June 6.—The show on Tuesday last at the Drill Hall, James Street, Westminster, was not quite so large as has generally been the case during this year. Orchids were in smaller numbers; but the exhibits under the auspices of the London Pansy Society, were both numerous and of good quality, and included large collections from the first Scotch growers, as well as from other exhibitors nearer home.

Floral Committee.

Present: W. Marshall, Esq., in the chair; and Messrs. J. Fraser, J. Laing, R. Dean, H. B. May, C. T. Druery, J. Jennings, H. Turner, W. Bennett-Poë, C. E. Shea, H. H. D'Ombrain, C. Noble, G. Paul, J. D. Pawle, E. Mawley, R. Owen, H. Herbst, G. Gordon, and P. Barr.

Messrs. G. Paul & Son, The Old Nurseries, Cheshunt, were awarded a Silver Flora Medal for a very fine collection of Pæonies and hardy cut flowers. Awards of Merit were recommended to Pæonies Jeanne d'Arc, a very large double variety, with lemon-coloured inner florets, and others of palest flesh; to M. Boucharlet, a huge rose-coloured bloom; and to Marie Lemoine, a pretty bloom of almost pure white, some of the extreme outer florets exhibiting a little rose. There were many other varieties exceedingly attractive. Amongst the hardy miscellaneous flowers were Heuchera sanguinea, several species of Campanula, Funkia Sieboldii, Dictamnus Fraxinella var. alba, some pretty double-flowered Potentillas; also some cut Roses, including varieties of hybrid perpetuals, some forms of Rosa rugosa, and Rosa macrantha. The Bourbon Rose Mrs. Paul is a good garden variety, of a pleasing pink colour.

A good collection of cut Roses was staged by Mr. Geo. Prince, Market Street, Oxford. The flowers, which were principally Teas, were clean, bright, and selected of an even size, though not large. Clara Watson, a new Tea, is a very pretty flesh-tinted variety, of fairly good form and size. Princess of Wales also is very attractive. Gustave Regis, a new hybrid Tea, appears to be very free-flowering; it is of a cream colour, and semi-double.

J. C. Tasker, Esq., Middleton Hall, Brentwood, Essex (gr., Mr. P. Perry), had a pretty group of cut Roses, and sprays of Canna. Amongst many varieties of the latter, there were excellent examples of Madame Crozy, Victor Hugo, and Comtesse de L'Estoile.

Lord Penzance, Easbing Park, Surrey (gr., Mr. Baskett), had a stand containing a number of the lovely varieties and hybrids of Sweet Briar, raised at Easbing. Flora MacIvor was a large semi-double rose-coloured one; Phœbe Mayflower, perfectly single, and of pale pink; Clara Mowbray, Margaret Ramsey, Minna (Award of Merit), Rebecca, Matilda Marchmont (Award of Merit), were all very beautiful. Bonnie Dundee was a rather striking variety of purple-crimson. Some blooms were also included of Rose Wamba, a cross-bred from General Jacqueminot and Paul Neyron. Wamba is a good rich crimson flower, fairly double, and flat in form.

From Messrs. W. Paul & Son, Waltham Cross, came some blooms of the pretty Tea Rose Corinna, and some of a new Bourbon variety, called Lorna Doone. It is reputed to be exceptionally free-flowering. Its colour is rosy-crimson.

Three boxes of hybrid Rhododendrons and Azaleas were sent by Mr. Anthony Waterer, Knap Hill Nursery, near Woking. They were some of Mr. Waterer's best seedlings, and most of the Azaleas were late-flowering, sweet-scented varieties (Silver Banksian Medal).

Messrs. P. Barr & Sons, King Street, Covent Garden, again staged a large collection of cut flowers of hardy and herbaceous plants, including Pæonies single and double, Iceland and Spanish Poppies, and other showy flowers (Silver Banksian Medal). Another such collection came from Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley; also a collection of Violas and Pansies (Bronze Banksian Medal).

Messrs. E. D. Shuttleworth & Co., Limited, Peckham Rye, and Fleet, Hants, showed a group of herbaceous flowers, including Pinks, Violas, Delphiniums, Gillenia trifoliata, &c., also some cut Roses (Bronze Banksian Medal). The same firm exhibited a miscellaneous group of plants, including Dracænas, Ferns, Hydrangea paniculata, some of the more ornamental varieties of Acer, and a plant of Sonerila Baron Salier, a pretty variety, the leaves of which are covered with small white spots upon a green surface, and veinings of deep rose.

Mr. Jas. Hudson, gr. to the Messrs. de Rothschild, Gunnersbury House, Acton, sent a rare lot of blooms of Ixora Prince of Orange and I. Westii. This latter, although difficult of culture at times, is a very lovely variety, nearly white, but having the faintest tint of pink. The trusses indicated first-rate culture.

Messrs. J. Laing & Sons, Stanstead Park, Forest Hill, S.E., had a few plants, chiefly novelties of their fine strain of Begonias. Awards of Merit were recommended to three varieties—Ernest Cook, a high flower, with full centre, of exceeding dark crimson; Gigantea, a very large double Camellia-like flower, pink; and Richard Dean, a robust variety of orange-scarlet. Several other varieties exhibited an advance in the efforts that are being made in the direction of increasing the strength of the stem, and to make them as nearly self-supporting as possible.

Prizes had been offered for collections of blooms of Rhododendrons, but only one exhibit was entered; this was from Mr. Wythes, gr. to the Duke of Northumberland, Syon House, Brentford, who had three trusses of each of twelve varieties of hardy Rhododendrons, and was awarded 1st prize—a Silver Flora Medal and £1.

A very fine seedling form of Carnation, Souvenir de la Malmaison, was that shown by Martin R. Smith, Esq., Haves Common, Kent. It is named after Sir Chas. Freemantle, and was accorded an Award of Merit. The blooms are extremely large, and the petals perhaps a little too close, but it will prove a first-rate plant for effect. The colour is crimson, or perhaps salmon-crimson.

A pretty Tree Carnation, named Annie Sandon, was exhibited by Mr. G. Fry, Lewisham, and received an Award of Merit. The flower is deep pink or rose, and of very good form; the calyx in the specimens sent was not split. Another attractive variety, from the same exhibitor, was Princess May, a yellow flower, flaked with scarlet.

A collection of Chrysanthemum blooms was sent by Mr. A. McMillan, Trinity Cottage, Edinburgh, in which the flowers were almost as large as are seen in November, but the colours were not nearly so good. There were blooms of Mrs. Irwin Clarke, Mons. Freeman, W. Coles, Etoile de Lyon, G. Wermig, &c. There appears to us, however, but little use or room for large-flowered Chrysanthemums at this season, and their presence in quantity would tend to lessen the enthusiasm with which they are welcomed in the dreary autumn months.

Mr. C. Turner, Royal Nurseries, Slough, exhibited some blooms of varieties of laced Pinks, including Empress of India (Award of Merit), Modesty, Zoe, Device, Boiard, and two seedlings. A very fine lot of new border Pinks in many varieties were exhibited by Mr. R. Dean, Ranelagh Road, Ealing, and had been grown in the garden of the Royal

Horticultural Society at Chiswick. They were all obtained from Dianthus plumarius. Some of the flowers were very beautifully fimbriated. The strain was Commended by the committee.

Messrs. Dobbie & Co., Rothesay, who exhibited blooms of Sweet William, also received Commendation for the quality of the strain.

A pretty Fern, with divided and crested pinnæ, was Athyrium filix-fœmina var., shown by C. T. Druery, Fernholme, Forest Gate, Essex. The plant was found growing wild in a ditch in the County Clare in 1892.

Abies orientalis var. aurea, shown by Messrs. J. Veitch & Sons, Chelsea, is a decidedly handsome Conifer, with soft yellow colour of a decided tone on the upper sides of the more youthful branches (a First-class Certificate was awarded). Cleome pungens is a resuscitated tall-growing profuse flowering annual shown by the same firm. The flowers of rosy-crimson colour, come in terminal corymbs, and consist of four club-shaped petals arranged vertically, fanwise, the stigma and anthers spreading out in the same way beneath them. The foliage is handsomely palmate.

Mr. J. B. Deleuil, Sainte Anne, Marseilles, showed Richardia aurata, with small yellowish-white spathe (Award of Merit). De B. Crawshay, Esq., Rosefield, Sevenoaks, showed Iris germanica Lionel, a flower with velvety very dark crimson falls, and standards of shaded coppery-purple—a striking bloom. Flowers of Lilium japonicum rubrum came from Mr. W. Smythe, gr., Basing Park, Hants.

The secretary of the Society, Rev. W. Wilks, showed what purports to be a cross-bred Poppy, Papaver orientale × P. rupifagum. It is a single-flowered variety of a blood-red colour, with blue-black anthers and disc. The width of the flower 6 inches. Cut blooms of Iris Lorteti and I. Xiphium var. Mongolia of a beautiful soft shade of yellow, came from M. C. G. van Tubergen, Haarlem. Salvia hians in flower was shown by W. Marshall, Esq., Bexley, a handsome blue-and-white flowered Sage.

Messrs. Hubert & Mallger, Doyle Road Nurseries, Guernsey, received an Award of Merit for Gladiolus delicatissima superbissima. The flowers are pretty; the colour white, each petal being marked by a blotch of crimson.

Fruit Committee.

Present: P. Crowley, Esq., in the chair; and Messrs. J. Lee, T. F. Rivers, Harrison Weir, G. W. Cummings, J. Cheal, G. Taber, T. J. Saltmarsh, W. Warren, J. Wright, A. Dean, C. Ross, G. Wythes, H. Balderson, F. Q. Lane, and J. Hudson.

Mr. Owen Thomas, gr. to Her Majesty, Royal Gardens, Frogmore, sent very good samples of Strawberries, Laxton's Noble, Sir Joseph Paxton, La Grosse Sucrée, and the American variety, Sharpless. This latter variety is not cultivated generally here, but is well spoken of in several places; also a seedling Melon, obtained from High Cross Hybrid and an unnamed seedling. The fruit is medium-sized, flesh white, and of excellent flavour. It is named Frogmore Seedling. An Award of Merit was made to it.

A large seedling Melon, with red flesh, came from Mr. G. A. Bishop, Netherton House, Wightwick, Wolverhampton; and a smaller one of very deep colour, from Mr. H. Parr, The Gardens, Apley Park, Bridgnorth.

Mr. M. C. Ritchings, gr. to Dr. Frankland, at The Yews, Reigate, showed a seedling Melon called Reigate Ruby, but it was much over ripe; and three fruits of a seedling, called Ashtead Park Seedling, came from Mr. J. J. Hunt, Ashtead Park.

From Mr. Joseph Fitt, The Gardens, Panshanger, Hertford, came three very large and extremely handsome fruits of a seedling called Salmon Queen. The flesh is red, and remarkably deep, but the flavour was not sufficient to tempt the committee to grant an award. Seedling Melons also came from Mr. A. Bishop, Westley Hall Gardens, Bury St. Edmunds, and Mr. S. Ely, Joyce Grove Gardens, Nettlebed, Henley-on-Thames. Mr. W. J. Myatt, market gardener, of Hextable, Swanley, sent six extra large fruits of Melon Conqueror, which excited much comment, many being of opinion that it is undesirable to have such large Melons.

Mr. Geo. Wythes, gr. to the Duke of Northumberland, Syon House, Brentford, was the exhibitor of a good and interesting collection of fruits and vegetables. Cherries from the open wall were shown in the following varieties: Black Tartarian, Belle d'Orléans, Black Eagle, Frogmore Early Bigarreau, and River's Early Black. A good dish of Pea Duke of Albany, and dishes of Potatos Sharpe's Victor, Veitch's Ashleaf, and Early May, from the open ground, and quite ripe (Cultural Commendation); and several heads of Cabbage Bunyard's Novelty and Denning's Cabbage were also included (Vote of Thanks).

Mr. James Hudson, gr. to the Messrs. de Rothschild, Gunnersbury House, had a box of Lord Napier Nectarines. They were large and well-coloured, and were culturally commended.

A dish of Duke of York Peas came from Messrs. Cooper, Taber & Co., Witham, Essex; and some samples of M'Hattie's Hardy Winter Lettuce, from Messrs. M'Hattie & Co., Chester. Mr. Tudway, Lower Berkley Street, sent some fruits of Auguste Nicaise Strawberry. The heaviest weighed 2½ oz. (Vote of Thanks).

A variety called Whitehouse's Seedling, from Mr. E. E. Whitehouse, Pelham Lodge, Kidderminster, was recommended to be tried at Chiswick.

Mr. T. Wilkins, The Gardens, Inwood House, Henstridge, sent a ripe fruit of Carica Papaya, the Papaw, a small Melon-like fruit, with Apricot-coloured flesh and exterior.

A collection of Peas was sent by Mr. H. C. Princeps, gr. to Viscountess Portman, Buxted Park, Uckfield, including two new ones, which appeared to be of good merit. No. 1 was sown on February 2, and grew 18 inches high, and looks as if it has been ready some little time. No. 2 was sown on the same day, and has grown 2 feet 6 inches high, and is not nearly so forward, but will be nicely full by the end of the week. There were also dishes of Telephone, Duke of Albany, Sutton's A 1, Sutton's Empress of India, Exonian, Sutton's Magnum Bonum, Chelsea Gem, Sutton's Early Marrow, Cannell's English Wonder, and Sutton's Invincible. They were all well grown, but unfortunately they arrived late.

The London Pansy and Viola.

THE promoters of this society have much reason to be satisfied with their first exhibition at the Drill Hall, and one satisfactory result flowing from the establishment of the society is to re-establish to some extent in the London district the culture of the Pansy as an exhibition flower. Time was when Pansy shows were common about London, but not only the shows but Pansy culture declined, and so the new society comes in at a time when the Pansy needed special attention. The hot dry weather has proved sadly trying to southern cultivators, and they of themselves would have made but a poor display, but the northern, and especially the Scotch growers, coming south in strong force, bringing with them in plenty their superb Fancies, made an exhibition that attracted considerable interest, and justified the establishment of a Pansy Society. Whether the society has within it the elements of continuance remains to be seen. We hope it has, because it is now certain that if any particular flower is to receive more than ordinary care in its cultivation, such care must be fostered by a special society.

The enormous proportion of blooms of the striking Fancy Pansies over those of the ordinary English or show type, staged on Tuesday, was remarkable, testifying to the hold it has taken upon the public mind. It seems practically impossible to get much beyond the show Pansies of twenty years ago; but the fancy section lends itself to great variation and mixture of colours; while the native vigour of the plants adapt them to the ornamentation of the flower border. They sell by thousands in our markets, and their price places them within the reach of the poorest. The Violas appear to multiply as rapidly as the aphis, and almost anything appears to pass in these days as a new variety. At present raisers appear to be somewhat undecided as to what constitutes merit in a new variety, and anything eccentric seems to be preferred to the useful. That the Violas are singularly effective on the exhibition table shown in bunches cannot be denied. But the Viola has practical uses, especially in the flower garden; and much that we saw on Tuesday will, we fear, prove ineffective there. One work the new Pansy Society might take in hand is defining qualities in the Viola, and especially in the direction of garden ornamentation.

The trade collections of Pansies and Violas shown in the first of the open classes were a leading feature, as they were unlimited, and therefore extensive. Messrs. Dobbie & Co., nurserymen, Rothesay, N.B., were placed 1st, having a background of sprays of Viola set up in their usual effective style, formed of some one hundred bunches and eighteen dozen superb fancy Pansies. It would be possible to select a dozen to eighteen good and effective varieties of Violas, but if two-thirds were got rid of, the loss would not be very great, if they are to be grown for flower-bed and border ornamentation. Archie Grant, Rosamond, Bullion, Prince of Orange, White Flag, Favourite, Duchess of Sutherland, Edina, Blue Cloud, Hyacinth, and Annie King, are all likely to be serviceable in the garden, supposing the habit of growth is suitable. The fancy Pansies were very fine, but unnamed. Messrs. W. Paul & Co., florists, Bridge of Weir, were 2nd, having about forty bunches of fansy Pansies, and twenty of Violas.

Fancy Pansies, Open Classes.—With forty-eight blooms, Mr. John Smellie, florist, Busby, N.B., was placed 1st with grand blooms, large, stout, and brilliantly coloured, showing the value of the cooler and moister climate of Scotland in developing the flowers. Some of the finest were David Rennie, Maggie Watson, James Watson, George Anderson, Mrs. C. E. Searle, W. Watson, J. P. Tait, Mrs. R. Thomson, John Bolton, Thomas Gardner, and Helen Christie; 2nd, Mr. A. Bailey, jun., florist, Sunderland, also with some very fine blooms. There were five stands of twenty-four varieties. Mr. John Smellie, who exhibited in superb form, being placed 1st, with David Rennie, Lord Hamilton, Maggie McPhail, Mrs. Thomson, Mrs. W. Watson, James Campbell, M. Lawrence, and Mrs. R. Niven, as illustrating some of the finest in the stand. Mr. A. Lister, florist, Rothesay, was 2nd. There were five stands of twelve varieties also, Mr. John Smellie taking the 1st prizes with very fine blooms. In the class for twelve blooms of any one variety, Mr. A. Lister was 1st with Tom Travis, having large dense glossy blotches, margined with creamy-white, the upper petals purple and white; Mr. Matthew Campbell, florist, Blantyre, N.B., was 2nd, with David Rennie, like the preceding, very fine. The best stand of twelve varieties of seedlings, unnamed, came from Mr. Lister.

Show and Fancy Pansies.—Compared with the fancy Pansies, the show varieties were only sparingly produced, and it is only a very sanguine temperament who would venture to assert any real improvement has been made in them during the last dozen years. Mr. J. Smellie had the best stand of twelve, showing of dark selfs, Dr. Inch, Harry Paul and a seedling; yellow self, Mr. J. Hunter; primrose selfs, Miss E. Bolton and Winnie Irvine. Yellow grounds, P.C.D. Boswell, John Borrowman, and G. C. Gordon; White grounds, Mrs. Brown, Mary Campbell, and a seedling.

A special prize, offered by Mr. W. Sydenham, florist, Tamworth, for two blooms each of three new fancy Pansies, of his own sending out, viz., Emmeline, Tamworth Hero, and Tamworth Gem, was won by Mr. J. Smellie.

The best fancy Pansy selected from the whole exhibition was Lord Hamilton, a large mauve-bronze and lavender variety in Mr. M. Campbell's collection.

Violas.—These, as already stated, were numerous and attractive. There were two collections of twenty-four sprays, nine blooms to a spray; the best came from Mr. J. Nicholson, Sewardstone, Herts, who had Daldowie and Lord Elcho, yellow; Champion and Countess of Hopetoun, white; Lady Dinah, claret; Archie Grant, blue; Doris, striped; Skylark, Countess of Kintore, &c.

The best twelve sprays, also of nine blooms, came from Mr. J. Smellie, who had Stanley and Mrs. Trater, and York and Lancaster, striped; Wonder, yellow; Lady Dundonald, Lucy Ashton, Mrs. Bellamy, &c. 2nd, Mr. A. J. Rowberry, South Woodford, whose best varieties were Duchess of Sutherland, Duchess of Fife, W. Niel, Violetta, Archie Grant, and Bullion.

With six sprays of rayless Violas, i.e., without blotch or rays in the centre, Mr. G. W. McLeod, Chingford, was 1st, with Rose Queen, deep pink; Sylvia, primrose; Blush Queen, deep blush; Violetta, white; and Sylvia's Rival, primrose.

No award was made in the class for six sprays of unnamed seedling Violas.

AMATEUR CLASSES.

Fancy Pansies.—There was but one collection of twenty-four fancy Pansies, to which a 2nd prize was awarded.

There were five collections of twelve blooms, Mr. A. J. Rowberry taking the 1st prize, with capital blooms of Mrs. J. Downie, Lord Hamilton, David Rennie, G. Crome, Dan Grey, Neil McKay, W. Dean, Mrs. Browell, &c.; Mr. H. A. Needs, Woking, was 2nd. In the class for six varieties, no award was made. With twelve Fancy Pansies of one variety, Mr. A. McWilton, Leytonstone, was awarded the 1st prize, having Neil McKay. With six blooms of one variety, Mr. A. J. Rowberry was 1st with

Tom Travis, a fine and striking Pansy; Mr. H. A. Needs coming 2nd with Neil McKay. No award was made in the class for six unnamed seedlings.

Show Pansies.—Mr. A. J. Rowberry took the 1st prize with twelve blooms of these, staging of dark selfs, Nero, James Dodds, Harry Paul, and a seedling; yellow selfs, A. Rolland, Cloth of Gold, and A. Armstrong; white selfs, B. Harper and Mrs. Dobbie; yellow-ground, W. Robins; white ground, Royal Visit.

Violas.—The best twelve sprays, six blooms of each, came from Mr. E. J. Pether, fresh, and admirably staged; Mr. A. J. Rowberry was 2nd. Mr. Bruce Cook, Chingford, was 1st with six sprays. The best six sprays, three blooms in a bunch, came from Mr. E. Fuller. The best six sprays of six blooms, two of each, of the following varieties:—Duchess of Fife, Countess of Hopetoun, and Countess of Kintore, came from Mr. B. Cook. The best six sprays of Rayless varieties were shown by Mr. A. J. Rowberry.

Special prizes were offered by Messrs. Dobbie & Co. for sprays of certain new varieties. Mr. A. J. Rowberry was placed 1st with Duchess of Fife, Annie King, Rosine, Golden Flash, Princess Beatrice and Bullion.

The best fancy Pansy in the amateur classes was Tom Travis, shown by Mr. A. J. Rowberry. First-class Certificates of Merit were awarded to fancy Pansies Alice Bolton, having large dark blotches margined with gold, the upper petals purple, large and stout, from Mr. A. Lister, Rothesay; to Princess, white, with slight margin of bright rosy-crimson, and large dark blotches, very delicate, from Mr. M. Campbell, Blantyre; and to Beauty, a very rich and striking variety, dark blotches, with edge of fiery crimson, and margin of gold, the upper petals crimson and rosy cerise, from Mr. A. Bailey, jun., Sunderland. Awards of Merit were made to the following show Pansies:—John Watt, yellow ground, and the Rev. R. McAllister, dark self—both from Mr. M. Campbell, Blantyre.

Of miscellaneous exhibits, Mr. A. Lister had sixteen dozen blooms of very fine Pansies; Mr. John Smellie four dozen blooms, also very fine; Mr. M. Campbell the same number, remarkably good also; Dr. Stuart, Chirnside, N.B., twelve bunches of seedling Violas; and Messrs. Dicksons & Co., Edinburgh, over 100 bunches of Violas and Pansies.

THE WEATHER.

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending June 3.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1893.	Below 42°, difference from Mean since January 1, 1893.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1893.	Total Fall since Jan. 1, 1893.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1893.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	0 aver	57	0	+ 240	— 56	5 —	95	17·1	21	25
1	1 +	67	0	+ 197	— 21	2 —	76	8 4	29	32
2	0 aver	70	0	+ 232	— 62	1 —	62	6 7	25	37
3	2 —	67	0	+ 278	— 37	3 —	62	6·2	40	44
4	0 aver	80	0	+ 357	— 47	4 —	62	6·8	30	41
5	0 aver	86	0	+ 309	— 43	4 —	58	6·8	41	45
6	1 +	75	0	+ 270	— 62	5 —	78	13 8	48	35
7	1 +	82	0	+ 349	— 91	3 —	66	8·8	33	35
8	2 +	98	0	+ 387	— 70	5 —	62	10·6	50	47
9	2 +	87	0	+ 293	— 104	3 —	80	10·7	31	29
10	2 +	97	0	+ 334	— 100	3 —	70	11·7	40	35
*	3 +	109	0	+ 439	— 52	4 —	68	8·8	70	54

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; * Channel Islands.

MARKETS.

COVENT GARDEN, June 8.

A BRISK trade doing, all classes of goods being well supplied, with rates well maintained. *James Webber, Wholesale Apple Market.*

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Arum, dozen pots	8 0-12 0	Lilium Harrisii	18 0-30 0
Adiantum, per doz.	6 0-12 0	Lobelia, per doz.	5 0- 8 0
Aspidistra, per doz.	15 0-30 0	Marguerite, per doz.	6 0-12 0
— specimen, each	7 6-21 0	Mignonette, per doz. pots	4 0- 6 0
Calceolaria, per doz.	6 0- 8 0	Musk, per doz.	2 0- 4 0
Cyperus, per dozen	4 0-10 0	Nasturtiums, p. doz.	4 0- 8 0
Dracæna, each	1 0- 5 0	Palms, various, each	2 0-10 0
Erica, various, doz.	9 0-21 0	— specimens, each	10 6-84 0
Ferns, various, doz.	4 0- 9 0	Pelargonium, p. doz.	8 0-15 0
Ferns, small, per 100	5 0- 8 0	— scarlet, p. doz.	4 0- 9 0
Ficus elastica, each	1 6- 7 6	Primula sinensis, doz.	4 0- 6 0
Foliage plants, doz.	12 0-42 0	Saxifrage, per doz.	12 0-18 0
Fuchsia, per doz.	6 0- 9 0	Spiræa, per dozen	8 0-12 0
Genista, per doz.	6 0- 9 0		
Ivy Geranium, doz.	6 0- 9 0		

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Arum, per doz. bl.	1 0- 3 0	Pæony, per doz. bun.	9 0-18 0
Bouvardias, per bun.	0 6- 1 0	Pansy, per doz. bun.	1 0- 2 0
Calceolaria, doz. bun.	4 0- 6 0	Pelargoniums, scarlet, p. 12 bun.	4 0- 6 0
Carnation, doz. bun.	4 0- 9 0	— 12 sprays	0 6- 0 9
Cornflower, 12 bun.	2 0- 4 0	Pink, various, 12 bun.	2 0- 6 0
Eucharis, per dozen	3 0- 4 0	Poppy, doz. bunches	1 6- 6 0
Gardenia, per dozen	1 0- 3 0	Primula, dble. p. bun.	0 6- 1 0
Heliotrope, per doz. sprays	0 4- 0 6	Pyrethrum, 12 bun.	2 0- 6 0
Iris, doz. bunches	6 0-12 0	— large bun., each	0 9- 1 6
Lilium Harrisii, doz.	2 0- 4 0	Roses, doz. bunches	3 0- 8 0
Maiden Hair Fern, 12 bunches	4 0- 6 0	— Tea, per dozen	0 6- 2 0
Marguerite, p. doz. bunches	1 6- 3 0	— coloured, dozen	2 0- 4 0
Mignonette, 12 bun.	3 0- 6 0	— yellow (Maréchals), per doz.	1 6- 6 0
Narcissus, various, French, doz. bun.	2 0- 6 0	— red, per dozen	1 6- 3 0
Myosotis, 12 bunches	2 0- 3 0	— (French) p. doz.	0 9- 1 6
Orchids:—		Spiræa, 12 bunches	3 0- 6 0
Cattleya, 12 blms.	6 0-12 0	Sweet Sultan, 12 bun.	3 0- 6 0
Odontoglossum crispum, 12 blms.	2 0- 6 0	Tuberose, 12 blms.	0 6- 1 0
		Violets, small English, p. doz. bunches	1 0- 1 6

ORCHID-BLOOM in variety.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, Nova Scotia, per barrel	10 0- 17 6	Lemons, per case	12 0-20 0
— Tasmanian, case	2 6- 8 6	Peaches, per doz.	3 0-12 0
Cherries, half-sieve,	4 6- 9 0	Pine-apples, St. Michael	2 0- 5 0
Cobs, per 100 lb.	... ...	Oranges, per case	20 0-30 0
Gooseberries, half-sve.	1 6 2 0	Strawberries, per lb.	0 6- 1 0
Grapes, per lb.	1 6- 2 6		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Beans, French, lb.	1 6- 2 0	Mushrooms, punnet	2 0-
Beet, red, per dozen	2 0- 3 0	Mustard and Cress, punnet	0 4- ...
Carrots, per bunch	0 4- 0 6	Parsley per bunch	0 3- 0 6
Cauliflowers, each	0 3- 0 6	Shallots, per lb.	0 6- ...
Cucumbers, each	0 4- 0 8	Tomatos, per lb.	0 6- 1 0
Endive, per dozen	2 0- 3 0	Turnips, per bunch	0 4- 0 6
Herbs, per bunch	0 9- 1 0		
Lettuces, per doz.	1 6- 2 0		

POTATOS.

Trade for old Potatos is at a standstill, only a few inquiries for best samples.

NEW POTATOS from Jersey are arriving freely, rather small, making 8*s.* to 10*s.*; Canary's, a large quantity on the market, selling at 6*s.* to 9*s.* *J. B. Thomas.*

SEEDS.

LONDON: *June 7.*—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that, as might be expected, the sowing demand for Clover and other Seeds, wonderfully protracted as it has been this most remarkable season, is now, however, naturally drawing to a close. Stocks all round, as previously noted, finish up at a lower ebb than has ever before been known. Spring Tares are still badly wanted, although, owing to quite a famine in the article, orders are with difficulty executed. Canary seed exhibits a substantial advance; tocks in Liverpool foot up to only about 4000 bags. Hempseed hardens in value. Mustard and Rapeseed continue scarce. There is no change in Peas. For Haricot Beans there is an improving tendency.

FRUITS AND VEGETABLES.

BOROUGH: *June 6.*—Quotations:—Peas, 4*s.* to 6*s.* per bushel; Cauliflowers, 1*s.* 6*d.* to 2*s.* 6*d.* per dozen; Cabbages, 4*s.* to 6*s.* per tally; Parsley, 3*s.* to 4*s.* per dozen bunches; Carrots, 3*s.* to 3*s.* 6*d.*; Egyptian Onions, 5*s.* to 6*s.* per cwt.; Horseradish, 2*s.* 6*d.* to 2*s.* 9*d.* per bundle; Apples, 7*s.* to 12*s.* per case.

STRATFORD: *June 7.*—An excellent supply of all kinds of produce at this market during the past week, and a brisk trade has been done at the undermentioned quotations:—Cabbages, 3*s.* to 6*s.* per tally; ditto, 2*s.* to 2*s.* 9*d.* per pad; Mangels, 18*s.* to 24*s.* per ton; Cherries, 4*s.* 6*d.* to 5*s.* 6*d.* per half-sieve; Strawberries, 4*s.* to 4*s.* 6*d.* per peck; do., 3*s.* to 4*s.* per half-sieve; Gooseberries, 2*s.* to 2*s.* 6*d.* per half-sieve; per dozen punnets; do., 2*s.* to 3*s.* 6*d.* per flat

FARRINGDON: *June 8.*—Quotations:—Apples, Tasmanian, 7*s.* 6*d.* per box; do., American, 14*s.* to 15*s.* per barrel; Cherries, 3*s.* per flat; Currants, Red, 2*s.* 6*d.* to 3*s.* 6*d.*; do., Black 2*s.* 6*d.* to 3*s.* 6*d.* per basket; Strawberries, 3*s.* 6*d.* per peck Gooseberries, 2*s.* 6*d.* per half-sieve; Tomatos, 5*d.* per lb. Cucumbers, 1*s.* 9*d.* to 2*s.* 6*d.* per dozen.

NOTICES TO CORRESPONDENTS.

LECTURE ON HARDY RHODODENDRONS, REPORT OF THE R. H. S. ORCHID COMMITTEE, ETC.—Owing to the pressure on our space, the publication of the above matter is deferred to next week.

BOOKS: *J. W. B. The Rose Garden*, by William Paul. Ninth edition. (Kent & Co., 23, Paternoster Row). This is the best work in the English language on the Rose. In French *Les Roses*, History, Culture and Description, by Hippolyte Jamain, Eugène Forney and C. Naudin, is excellent. (Paris: J. Rothschild, 13, Rue de Saints-Pères). *Dictionnaire des Roses*, published at Tournai by the author, M. Max Singer, is almost indispensable. The National Rose Society's show, to be held at the Crystal Palace, July 1, is the best south country Rose show.—*J. B.* Loudon's *Arboretum Britannicum.* There was only one edition of this book. Probably you refer to the *Encyclopædia of Trees and Shrubs*, an abridgment of the former work, and of which a re-issue, not a new edition, was published by Mr. W. Robinson, of *The Garden*, some few years ago.—*Highfield Vineries. The Tomato, its Culture and Uses*, by W. Iggulden, 171, Fleet Street, E.C.

CARNATIONS: *W. W. C.* Cuttings of the red-flowered Carnation can be struck under hand-lights placed over a hotbed whose heat does not exceed, at 1 foot below the surface, 70° to 80°. Under these conditions the Pink strikes readily. A layer of sand, or very sandy loam surfaced with sand, should be laid on the bed, into which cuttings of fairly solid growth, denuded of a few of the lower leaves and the tips of those that remain, should be inserted about 1½ to 2 inches apart, watered-in, and when the leaves are dry the hand-lights, &c., put on, shading them from strong sunshine by thin canvas. If kept close till rooted, with an occasional airing before 10 A.M., and a wipe out with a dry cloth, and decaying cuttings removed, rooting will be completed under one month from the time of inserting them. Some will take longer than others in forming roots, but all those which show signs of top growth must be lifted with their mass of roots and sand, and potted, as to keep them shut up after that has taken place, would spoil them.

FIG, &c.: *F. G.* The Fig was rotten on arrival The seed is that of some Bignoniaceous plant, but without further evidence, it is impossible to name. it. They are all tropical Climbers.

GRUB IN CAULIFLOWER ROOTS: *W. P. R.* See answer to "W. S." in our issue for May 20, p. 611.

HOLLIES: *G. P.* The monograph on cultivated forms of the common Holly by our late colleague, Thomas Moore, was commenced in these columns October 3, 1874, p. 432, and was continued at intervals till its conclusion on November 11, 1876. One hundred and fifty-three varieties were described, and many of them were figured.

INSECTS: *G. D. J.* We find several dead weevils. If the manure has killed them, it has done some good, at any rate.—*J. B.* and *Elphinstone*, both next week.

MADRESFIELD COURT GRAPE: *S. P.* It is an early ripening variety, requiring less heat than the Black Hamburgh. The cracking of the berries, just about the time of the final swelling, is brought about when the Vines are in confined borders, by flooding them with water after a season of dryness, or affording a too humid atmosphere, and the evil is worse in bunches inordinately thinned. In Vines, the roots of which have to travel wide in search of nutriment, the evil rarely happens. Avoid the causes inducing to cracking of the fruits.

MELON DISEASE: *J. L.* We suspect your Melons are attacked by the Cucumber disease described in our columns last week, p. 668.

NAMES OF PLANTS: *C. W. D.* Geranium macrorhizum.—*J. E.* 5, Hypolepis anthriscifolia.—*A. L. L.* 1, Centaurea nigra; 2, Centaurea sulphurea; 3, Armeria maritima; 4, Allium nigrum; 5, Iris Xiphium variety.—*M. T. T.* Viburnum Lantana; 2, a Lonicera, which

we do not recognise.—*M. D.* Cypripedium Lowianum.—*Vick.* Dictamnus Fraxinella alba, native of Southern Europe. It is perfectly hardy, and succeeds best in rich, but dry loam. Propagated by division or seed.—*J. W. Penlee.* 1, Clíveia nobilis; 2, Zephyranthes Atamasco; 3, Chrysobactron Hookeri; 4, Agapanthus umbellatus; 5, Edwardsia grandiflora; 6, Sisyrhynchium, perhaps grandiflorum.—*S. P.* 1, Lysimachia vulgaris; 2, Campanula media, double flowered variety; 3, Dicentra (Dielytra) eximia.—*M. J. T.* The cut-leaved shrub is probably Cratægus Aronia, but it is difficult to tell from such a scrap. The other is Cotoneaster frigida.—*G. W.* Specimens withered beyond recognition. One appears to be Silene acaulis.—*S. M.* 1, Veronica Teucrium; 2, Campanula speculum; 3, Campanula Portenschlagiana; 4, Linaria; 5, Viola cornuta.—*W. C. & Son.* One is a grass, the other probably a Cyperus. It is impossible to name them more closely.—*W. E. G.* Dendrobium chrysotoxum, yellow; Aërides falcatum syn. Larpentæ, the smaller, paler flowered form; A. crassifolium, the larger, darker flowered species; others next week.—*R. R.* 1, not recognised; 2, Alchemilla alpina; 3, Veronica longifolia; 4, Silene inflata; 5, Genista tinctoria; 6, Silene, not recognised.—*E. H. C.* 1 and 2, next week; 3, Pinus Laricio.

PANSY: *M. C.* The new variety, Bella Duncan, hardy, robust, free to flower, is excellent; flowers of good substance.

PEACHES FALLING OFF INDOORS: *A. G. D.* The crop which has set is too heavy, and the trees are relieving themselves of part of the burden by casting them at the period of stoning. This may reach a point that practically means an undue loss of the crop, and it may, in part, be due to the very narrow border in which the trees are planted, and to the required kind of nutriment not being afforded. A considerable portion of lime and potash should be added yearly when the trees are top-dressed.

ROSES: *Foreman.* The leaves are affected with orange-rust, Lecythea rosæ. There is no known cure, and the leaves had better be cut off and burned.

SEEDLING PICOTEES: *C. F. S.* Very poor examples; indeed almost monstrosities—many of the inner petals being but little removed in form from stamens. The edge of colour was ill-defined.

SITUATION ON A TEA OR COFFEE PLANTATION, OR IN THE CONGO FREE STATE: *T. W.* Everything is obtained now-a-days by those who advertise. Suitable mediums are the *European Mail*, 161, Queen Victoria Street, London, E.C.; *Home News*, for India, China, Ceylon, 55, Parliament Street, S.W.; *Overland Mail*, 65, Cornhill, E.C.; *Gardeners' Chronicle*, 41, Wellington Street, W.C., for India and all the colonies. It will not be prudent for you to go out to India, Ceylon, or elsewhere on the chance of obtaining employment, provided with such very slender means as those that you name.

VARIATION IN DAFFODILS: *W. L.* If you mean that N. incomparabilis fl.-pl. has varied so as to be indistinguishable from single white N. poeticus, we respectfully suggest that a serious error of observation has been made.

COMMUNICATIONS RECEIVED.—Mrs. Alexander.—N, E. B—W. H.—M. C. C. (shortly).—F. W. S. (shortly).—D. T. F.—L. M., Erfurt.—D. M.—F. W. B.—F. W. O.—J. S. W.—Wm. Kemp (with thanks).—H. C. & Sons.—E. P., Ghent.—J. L. & Sons.—Houlston & Sons.—T. Laxton.—G. J. T.—J. D. S., Baltimore.—F. M. San Diego.—J. H. Ford.—H. M.—W. G. B.—A. S. L.—J. G. B.—H. H.—M. Foster.—E. C.—M. C. C.—J. D.—J. O'B.—A. D.—A. Y.—W. A. C.—H. W. W.—A. L.—W. G.

SPECIMENS RECEIVED.—G. Croucher (shortly).—C. W. D.—T. S. (shortly).—Amateur.

PHOTOGRAPHS RECEIVED.—E. B. (with many thanks).

DIED.—Mr. JOHN RUSSELL, nurseryman, of Hampstead, Brentwood and Richmond, on the 4th inst., in his seventy-second year, passed away, after three days' illness.

LARGELY INCREASED CIRCULATION of the "GARDENERS' CHRONICLE."

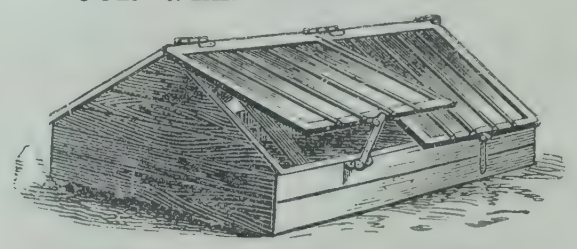
IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

Increased to the extent of 75 per cent.

Advertisers are also reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN, AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS *at home, that it has a specially large* FOREIGN AND COLONIAL CIRCULATION, *and is preserved for reference in all the principal Libraries.*

GREAT REDUCTION IN FRAMES

OUR WELL-KNOWN MAKE.



PORTABLE PLANT FRAMES.

These Frames are made of the Best Materials, and can be put together and taken apart in a few minutes by any one.

Sizes and Prices, Glazed and Painted.		£	s.	d.
6 feet long, 3 feet wide	CASH	2	0	0
6 feet „ 4 feet „		2	5	0
12 feet „ 4 feet „	PRICES,	4	0	0
6 feet „ 5 feet „		2	15	0
12 feet „ 5 feet „	CARRIAGE	4	15	0
12 feet „ 6 feet „	PAID.	5	12	6

Larger sizes at proportionate prices.

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Be sure to ask for "SUMMER CLOUD," it being the Original and only Genuine article. Each packet should bear the Trade Mark, as above.

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VASES FOUNTAINS, KERBING, BALUSTRADES, TERRACES, &c., IN

TERRA COTTA,

Durability Guaranteed.

GARDEN REQUISITES.

COCOA-NUT FIBRE REFUSE,

4d. per bushel; 100 for 25s.; truck (loose, about 2 tons), 40s.; 4-bushel bags, 4d. each.

SPECIALLY SELECTED ORCHID PEAT.

LIGHT BROWN FIBROUS PEAT, 5s. 6d. per sack; 5 sacks, 25s.; sacks, 4d. each.

BLACK FIBROUS PEAT, 5s. per sack; 5 sacks, 22s.; sacks, 4d. each.

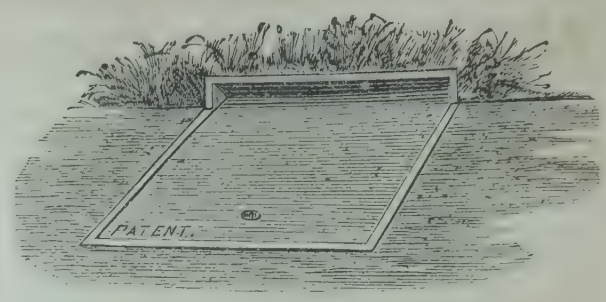
COARSE SILVER SAND, 1s. 9d. per bushel; 15s. per half ton; 26s. per ton, in 2-bushel bags, 4d. each.

YELLOW FIBROUS LOAM, PEAT-MOULD, and LEAF-MOULD, 1s. per bushel.

SPHAGNUM MOSS, 8s. 6d. per sack.

MANURES, GARDEN STICKS, VIRGIN CORK, TOBACCO CLOTH, RUSSIA MATS, &c. Write for Price LIST.—**H. G. SMYTH,** 21, Goldsmith Street, Drury Lane, W.C.

FOR SALE, BARKED NETTING, mesh ⅝ inch square, to keep Birds from any kind of Fruit or Garden Produce, or Seeds. For price per acre, fathom, or yard, apply to—
S. E. MARTYN, Trevemper, Newquay, Cornwall.



FIXED.

THE IMPROVED GARDEN GULLY

(VINCE'S PATENT).

This useful invention is a great improvement on the ordinary Garden Grating, and is especially suitable for hilly walks and drives. As they never get stopped by rubbish or sand they effectually prevent the washing away of the gravel in heavy storms, and they save half the labour in cleaning out the cesspools. The prices are:—

6-in., 1s. 6d.; 8-in., 2s.; 10-in., 3s.; 12-in., 6s. 6d. 15-in., 8s.

(The larger sizes are very strong for carriage drives.)

Full Particulars and Testimonials on application.

VINCE & VINE,
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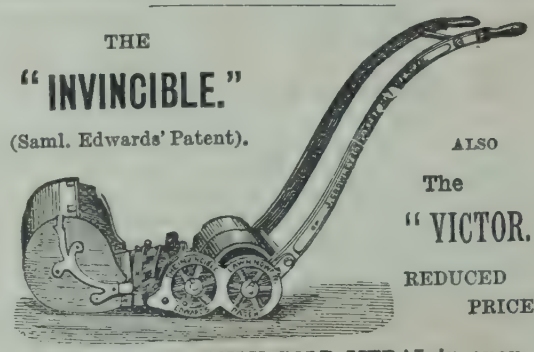
THE

"INVINCIBLE."

(Saml. Edwards' Patent).



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"FRIGI DOMO" CANVAS.

Made of prepared Hair and Wool, a perfect protection to all Plants and Blooms. Cheaper than any kind of mat, and will last for years.

To be had from all Nurserymen and Seedsmen.

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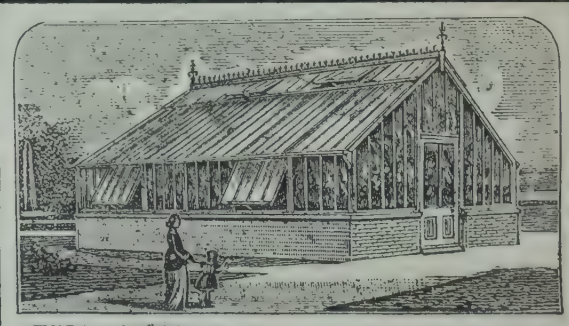
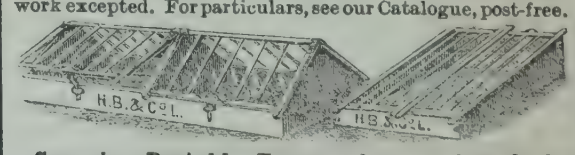


THIS GREENHOUSE erected and heated complete, in any part of the country, best materials only, workmanship guaranteed, 25 ft. by 12 ft., £50; 30 ft. by 15 ft., £70. Brickwork excepted. For particulars, see our Catalogue, post-free.



Superior Portable Frames, large stock ready for immediate use, well made, painted four coats, glazed with 21-oz. glass, carriage paid:—1-light frame, 4 × 6, 36s. 6d.; 2-light frame, 6 × 8, 58s.; 3-light frame, 12 × 6, 85s. 6d.

Span-roof Frames, 9 × 5, £3 15s.; 12 × 6, £5; 16 × 6, £7 10s. Can send off same day as ordered.

HARDY BRUIN & CO., Graham Street, **LEICESTER**

NEW PLANTS FOR 1893.

We have much pleasure in drawing attention to our NOVELTIES for the present Season

(*See Large Advertisement facing page* 623, *May* 27, 1893).

URCEOCHARIS CLIBRANI. This splendid introduction has created no small amount of interest, and is admitted to be a SENSATIONAL NOVELTY, AND ONE OF THE MOST IMPORTANT HYBRIDS of the last few years. Flowers pure white, very graceful, and produced in profusion. It is a grand addition to the list of plants, for cut flowers and decorative purposes. For Illustration, Press Notices, and Full Description, see NEW CATALOGUE, No. 121, post-free. Price in June, 21*s.* each, and a few extra strong Bulbs at 31*s.* 6*d.* and 42*s.* each. Orders executed in strict rotation.

Clibran's Grand New Double Begonias.—Six varieties.
Superb New Fuchsias.—Nine varieties.
New Single Zonal Geraniums.—Six varieties.
Splendid New Caladiums.—Three varieties.
Grand New Gloxinias.—Ten varieties.
Clibran's New Race of Tydæas.—Four varieties.
The New Bronze Broom (Cytisus Scoparius Andreanus).—The handsomest of the Broom family. Flowers deep golden-yellow and dark reddish bronze, very free flowering. Plants in pots, 1*s.* 6*d.*, 2*s.* 6*d.*, and 3*s.* 6*d.* each.
New Sweet-scented Passion Flowers.—Two varieties.

GRAND NEW TROPÆOLUMS:—

MRS. CLIBRAN.—THE NEW GOLDEN BEDDING VARIETY.—9*d.* each; 6*s.* per dozen.
CRIMSON BEDDER.—Magnificent dark crimson flowers, 6*d.* each; 5*s.* per dozen.
SCARLET BEDDER.—The most effective of the scarlet varieties, 6*d.* each; 5*s.* per dozen.
CLIBRAN'S GEM.—One of the finest climbing varieties, rich dark crimson flowers, 9*d.* each; 6*s.* per dozen.

CAMPBELL'S FUMIGATING INSECTICIDE.—The pioneer of Fumigating Insecticides, and still the best. Used and recommended by leading Gardeners. Rolls for 1000 cubic feet, 1*s.*; for 2000 cubic feet, 1*s.* 9*d.*, post-free.

LEMON OIL INSECTICIDE.—The Safest and Most Effective Liquid Insecticide. Pints, 1*s.* 6*d.*; quarts, 2*s.* 9*d.*; ½ gal., 5*s.*; or post-free, 1*s.* 10*d.*, 3*s.* 3*d.*, and 5*s.* 9*d.*

☞ For descriptions of above, and many other New and Rare Flowering and Ornamental Foliaged Begonias, Cannas, Cacti, Carnations, Pinks, Chrysanthemums, Ferns, Stove and Greenhouse Plants, Roses, Greenhouse Rhododendrons, New Climbing Solanums, Dahlias, Herbaceous and Alpine Plants, Double and Single Geraniums, Pelargoniums, Double Primulas, Hardy Climbing Plants, New Yellow Calla, and all kinds of Plants for In or Outdoors, see our NEW CATALOGUE, No. 121, post-free.

WM. CLIBRAN & SON, Oldfield Nurseries, **ALTRINCHAM;**
Also at MANCHESTER and LLANDUDNO JUNCTION.

MERRYWEATHERS'
HIGH-CLASS
GARDEN HOSE.

Horticultural Exhibition, 1892.
GOLD MEDAL
AWARDED TO
MERRYWEATHERS
FOR
SPHINCTER GRIP HOSE.
Other Makers awarded Bronze Medal only.

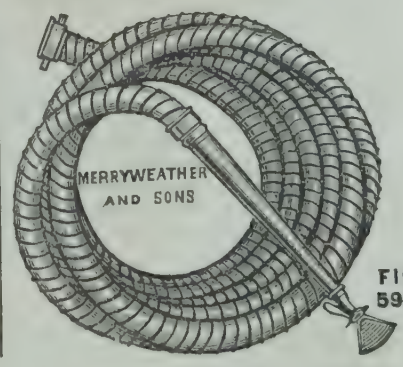


FIG 595.

NON-KINKABLE
Red-Grey Hose.
In many cases preferable to Sphincter Grip Hose.

Important Reduction
In Prices,
Quality maintained.

SPHINCTER GRIP
Armoured Hose.
Made by Merryweathers, the **original introducers** and **first makers** of this Hose in England.

ORDERS EXECUTED SAME DAY AS RECEIVED.

WRITE FOR PRICE LISTS FROM THE OLD ESTABLISHED FIRM.

MERRYWEATHER AND SONS continue to guarantee all their High-class Garden Hoses to pass the severe British Government Tests.

The ends of the Rubber Hoses are sealed, thus preventing the water percolating between the canvas plies, and destroying same.

IMPORTANT DECISIONS Re SPHINCTER GRIP HOSE,
IN THE HIGH COURT OF JUSTICE.
Judgment in favour of MERRYWEATHERS, with costs in all actions.

FIRE and GARDEN ENGINES, FOUNTAINS, SYRINGES, &c.
WRITE FOR GARDEN CATALOGUE.

MERRYWEATHERS, 63, LONG ACRE, LONDON, W.C.

The "CLIMAX" WEED KILLER
Kills all Weeds on Garden Walks, Carriage Drives, &c., &c. Brightens the Gravel. One application will keep the Walks clear of Weeds for a whole season. Acknowledged by all who have tried it to be the most effective Weed Killer in the World. Compare the prices and using strength with others.
ONE GALLON MAKES 51 GALLONS FOR USE
PRICES.
1 gallon, 3/- (tins included); 5 galls., 2/9 per gall.; 10 galls., 2/6 per gall.; 20 galls., 2/3 per gall.; 40 galls., 2/- per gall. Carriage paid on 5 galls. and upwards.

INSECTICIDE
NON-POISONOUS.
The only Insecticide that improves and brightens the foliage while at the same time it is certain death to all Insects.
ONE PINT MAKES SIX GALLONS FOR USE.
PRICES.
In tins: ½-pints, 1/3; pints, 1/9; quarts, 3/-; ½-gallon, 5/-; 1 gallon, 9/-. 5 and 10 gallon drums, 8/- per gallon. Carriage paid.

SUMMER SHADING
Convenient, inexpensive, and easily applied, lasting, and yet easily removed by rubbing at the end of the summer.
PRICES.
In packets containing 8oz., 6d.; 16oz., 1/- (postage 3d. extra); and in 7lb. tins, 5/-.

BLIGHT PREVENTOR
The most effective remedy for Blight or Fungi on Tomatoes, &c. Will not injure the Plants or Fruit.
PRICES.
In packets 8oz., 6d; 16oz., 1/- (postage 3d. extra); and in 7lb. tins, 5/- each.
NO TOMATO GROWER SHOULD BE WITHOUT IT.
Its use will save pounds worth of Fruit.

COMPLETE SATISFACTION GUARANTEED TO USERS OF THE "CLIMAX" PREPARATIONS.
PREPARED BY THE BOUNDARY CHEMICAL Co LIMITED, LIVERPOOL.

C. BEESON'S MANURE, composed of blood and bone. The best Fertiliser for all purposes. Sold in tins, 1*s.*, 2*s.* 6*d.*, and 5*s.* 6*d.*; also in air-tight bags, ¼ cwt., 6*s.*; 1 cwt., 10*s.* Full directions for use sent with each tin and bag. 1 cwt. and above sent carriage paid; cash with order.
C. BEESON, Bone Mills, St. Neot's, Hunts.

BONES! BONES!! BONES!!! Any size from dust to 1 inch. Dissolved Bone Compound, for Top-dressing. All at 10*s.* per cwt.; less quantity, 1½*d.* per lb. Carriage paid on 1 cwt. Terms, Cash with Order. Special quotations for large Buyers.
E. S. WILES AND CO., Bone Crushers, St. Albans.

CONCENTRATED MANURE.
GLOBE FERTILISER.

When using this Fertiliser for Flowers, Fruits, and Vegetables, results are marvellous. Plants grown in the open air are equal in Bloom and Beauty to those grown in hothouses.
Sold by Seedsmen, 1*d.* and 2*d.* Packets; 1*s.* 6*d.*, 2*s.* 6*d.*, 5*s.*, and 10*s.* in Bags, or from the Sole Manufacturers, Carriage Paid. Cash with Order.
GLOBE MILL COMPANY, Stratford Market, London, E.

PEARSONS'
CHEMICAL MANURE.

This Manure has now been before the public for five years, and has, from its intrinsic merits, almost without advertising, forced its way into the front rank. Extensive trials during above period have convinced us, that for efficiency and cheapness, there is nothing in the market to touch it; we having employed it with the fullest success upon Vines and other Fruit Trees, Pelargoniums, Fuchsias, Chrysanthemums, and almost all kinds of Greenhouse Plants. This opinion is supported by all the gardeners who have tried it, all being enthusiastic in its praise.

Per ton, £16; per cwt., 20s.; ½-cwt., 12s.; 28 lb., 7s. 14 lb., 4s.; 7 lb., 2s. 6d. Sample Tins, 1s. 3d.

Half-cwt. and upwards sent Carriage Paid to any Station in England, Scotland, or Wales.

Circular, containing further details, instructions, and testimonials, free on application.

J. R. PEARSON & SONS,
CHILWELL, NOTTS.

PATENT
SILICATE MANURE.

Dress Your Vines and Tomatos with it now.

"Royal Nurseries, Great Grimsby,
"September 2, 1892.

"We have used it liberally on Tomatos and Vines. The Tomatos have been a wonderful crop. The Manure seems to have a very great effect on the ripening and swelling of the fruit. Faithfully yours, (Signed),
"CHARLES COLEBROOK AND SON."

PRICES IN SACKS, AT WORKS—
10s. per Cwt.; £2 per ¼-Ton; £3 15s. per ½-Ton; £7 per Ton.

ADDRESS—THE CHEMICAL WORKS,
HEMEL HEMPSTEAD, HERTS.

ALBERT'S
HIGHLY CONCENTRATED
HORTICULTURAL MANURE.

A Chemically Pure Plant Food.

UNPARALLELED FOR ITS RAPID ACTION AND FRUCTIFYING PROPERTIES.

BEST and ONLY RELIABLE COMPLETE FERTILISER for all VEGETABLES, FRUIT TREES, VINES, FLOWERS, LAWNS, &c.

UNPRECEDENTED RESULTS obtained by its use.

For Prices and Descriptive Pamphlet, apply to—

H. & E. ALBERT,
17, GRACECHURCH STREET, LONDON, E.C.
Responsible Agents wanted.

FOSTITE

The only existing remedy that CURES and PREVENTS Mildew, Oidium, Black Rot, and other Cryptogamic Diseases of the Potato, Tomato, Beetroot, Vegetables, Vine, Roses and other Flowers, Fruit Trees, Mould in Hops, &c.

FOSTITE raises the Vegetation, destroys Caterpillars, Fleas, Leaf Lice, Slugs, and all other Vermin on Plants.

Effective Distributors also sold.

A child can perform the powdering.

Prospectus free on application.

Sole Shipper and Manufacturer—

JEAN SOUHEUR,
ANTWERP (Belgium).

Reliable Buying Agents wanted everywhere.

RICHARDS' WEED DESTROYER

Every Gallon Guaranteed above the usual Standard Strength.

AS AT PRESENT USED IN THE ROYAL GARDENS.

PREPARED AT ONE OF THE LARGEST CHEMICAL WORKS IN LONDON.

Full Directions for Use printed on each Package. To be used in the proportion of 1 gallon to 25 gallons of water.

In strong Drums of 2 gallons, 7/8; 4 gallons, 7/-; 6 gallons, 10/-. In Casks, 12 gallons, 18/6; 18 gallons, 27/-; and barrels, 40 gallons, £0/-.

SPECIAL QUOTATIONS GIVEN FOR LARGE QUANTITIES.

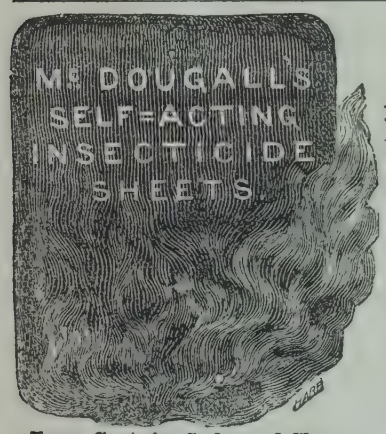
Six Gallons or more sent Carriage Paid to any part.

Full Invoice Price allowed on Empties, when returned in good condition carriage paid.

The reports from Customers who have used it during the past year (and tried it side by side with others), afford ample proof that it is the QUICKEST IN ACTION and the most PERMANENT WEED KILLER in the Market.

G. H. RICHARDS, Sole Manufacturer, Old Shot Tower Wharf, Lambeth, London, S.E.

Trade Supplied on Best Terms.



ARE IN GREAT DEMAND.

Exterminate all Insect Pests *without Injury to Foliage.*

No HOT COKES.

Vastly Superior to Tobacco Paper,

And Adopted by

Sir Trevor Lawrence, Bt.; Baron Schroder; Rt. Hon. Jos. Chamberlain; Sir Leopold Rothschild, Bart.; Messrs. Veitch, Chelsea; Sutton Reading; Carters', Holborn.

Easy, Certain, Safe, and Cheap.

Sheets, 9d. *(for 1000 cubic feet in parcels of 1 dozen, also ¼, ½, and 1 gross.)* **9s. per Dozen,** *at 13 to Doz.*

McDougalls' Liquid Insecticide.—For *Use under Glass.*

„ **Garden and Fruit Tree Wash.**—For *Outdoor Use.*

„ **Plant Food or Manure.**—For Vines, Fruits, & Plants.

All Free from Poison. *Patentees and Sole Makers—*

McDOUGALL BROS. { London: 10, Mark Lane. Manchester: 68, Port Street. Glasgow: 70 to 78, King Street.

FROM NURSERYMEN AND SEEDSMEN.

THE CHAMPION WEED KILLER

OF THE WORLD IS

THE ORIGINAL ARTICLE

MANUFACTURED BY

MARK SMITH, LOUTH,

LINCOLNSHIRE.

BEST and CHEAPEST—NEVER FAILS.

Used in the Royal Gardens.

Don't be imposed upon by useless imitations, but send at once for Prices and Testimonials.

Carriage paid on 4 gallons.

GISHURST COMPOUND, used since 1859 for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water, 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in lather from cake, for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1*s.*, 3*s.*, and 10*s.* 6*d.*

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6*d.* and 1*s.* from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY Limited), London.

GARDENS INCOMPLETE

WITHOUT

THE "STOTT" PATENT DISTRIBUTOR,

IMPROVED GARDEN ENGINES,

PATENT SYRINGE,

LAWN SPRINKLER,

PATENT SPRAYER.

THE BEST INSECTICIDE:—

KILLMRIGHT.

THE BEST FERTILIZER:—

FEEDMRIGHT.

FROM SEEDSMEN, NURSERYMEN, AND

THE "STOTT" DISTRIBUTOR CO., Ltd.,

MANCHESTER.

BENTLEY'S WEED DESTROYER

AWARDED PRIZE MEDAL,

(HIGHEST AWARD) AT THE

International Horticultural Exhibition,

LONDON, 1892.

SOLE MANUFACTURER—

JOSEPH BENTLEY,

CHEMICAL WORKS,

BARROW-ON-HUMBER, HULL.

TOMATO DISEASE.

SAVE YOUR CROPS BY USING

SMITH'S "PREVENTION."

Sold in Cans, with full directions for use:—

No. I. sized Can ... 5*s.* | No. II. sized Can ... 9*s.* 6*d.*

No. III. sized Can ... ... 18*s.*

Once used always used. Medium-sized Can clears a 100-feet house for the season. Sole Manufacturers:—

SMITH BROS., Gordon Nurseries, Enfield.

ARTISTIC ROCKWORK.

For beautifying Conservatories and Ferneries on large or small scale.

All designs executed under the personal supervision of J. McGREGOR, who invites inspection of Rockwork Samples at his Nursery—

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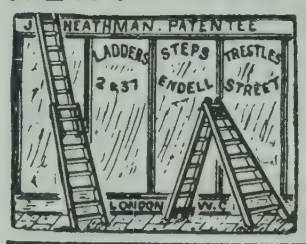
HEATHMAN'S LADDERS



Are a wonderful convenience; they Separate, or form Steps, or extend to varying heights, just as one's needs vary.

Height (closed).	Extend to	Price. s.	d.
6 ft. 0 in.	10 ft. 6 in.	16	6
7 ft. 0 in.	12 ft. 0 in.	19	6
8 ft. 0 in.	14 ft. 0 in.	22	6
9 ft. 9 in.	17 ft. 0 in.	26	6

Carriage Paid.

37, ENDELL STREET, W.C.

RICHARDS' NOTED PEAT.

Specially selected and prepared for Orchids and all other plants. Also Loam, Sand, Artificial Manures, Insecticides, Shading, Netting for Fruit Trees, Bamboo Canes, Water Pots, and Garden Sundries of every description. Special quotations given for any goods sent carriage paid.

G. H. RICHARDS, Old Shot Tower Wharf, Lambeth, London, S.E.; Peat Grounds and Depôts, Ringwood and Wareham. Address all letters to London Wharf.

EPPS'S Selected PEAT,

For ORCHIDS, STOVE PLANTS,

Hardwood do., Ferns, and Rhododendrons, by sack, yard, ton, or truckload. **SPECIAL ORCHID PEAT,** in sack only. Rich fibrous LOAM, superior LEAF-MOULD, Coarse, Crystal, and Fine SILVER SAND, CHARCOAL, C. N. FIBRE REFUSE, fresh SPHAGNUM, Patent MANURES, FERTILISERS, INSECTICIDES, and all other Garden Requisites. **Peat Moss Litter.**

The Original Peat Depot, RINGWOOD, HANTS.

ORCHID PEAT.

PREPARED, ready for use, all fibre, 10*s.* per sack; 5 for 47*s.* 6*d.*

SELECTED, in blocks, very fibrous, 8*s.* per sack; 5 for 37*s.* 6*d.* SECOND QUALITY, 5*s.* per sack; 5 for 22*s.* 6*d.*

BROWN FIBROUS PEAT, for Azaleas, Rhododendrons, and Ferns, 4*s.* per sack, 5 for 18*s.*; and 3*s.* per sack, 5 for 12*s.* 6*d.*

PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM, each 2*s.* 6*d.* per sack; 5 for 10*s.* PREPARED POTTING COMPOST, 4*s.* per sack; 5 for 18*s.* All sacks included.

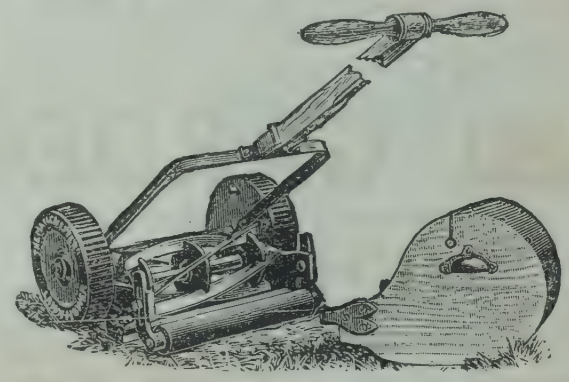
Send Postal Order for Sample Sack.

Special terms to the Trade. For Price List apply to THE FORESTER, **Joyden Wood,** near **Bexley, Kent.**

USE THE PATENT

"MANCHESTER" LAWN MOWER.

Awarded numerous National & International Prize Medals.



Many thousands of these excellent English-made Machines in use, giving unqualified satisfaction. Easy to work on uneven ground, and cut long or short grass, wet or dry, and give the turf a beautiful velvety appearance.

FOLLOWS & BATE, LTD.,

ENGINEERS,

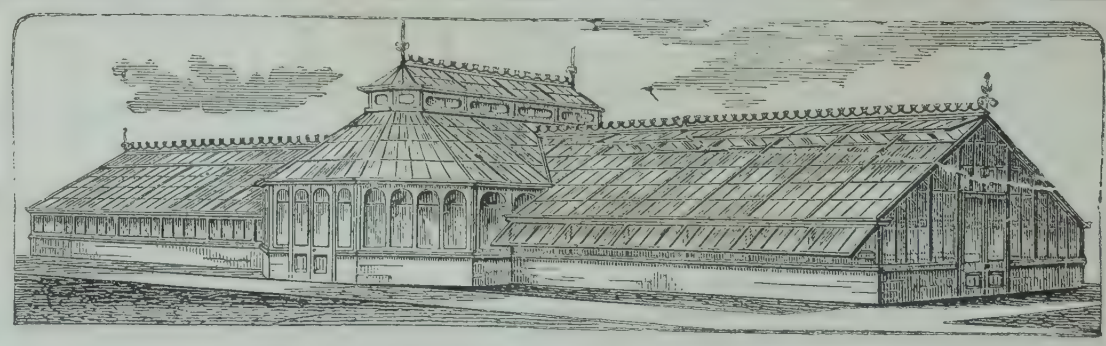
GORTON, MANCHESTER.

Patentees and Manufacturers of the New Patent "RUNAWAY," Royal "ANGLO-AMERICAN," "TENNIS," and "CLIMAX" LAWN MOWERS.

85,000 SOLD SINCE 1869.

To be obtained promptly from all respectable Ironmongers and Seedsmen. PRICE LISTS POST-FREE.

Five 1st Prize Medals recently awarded in open competition.



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R. HALLIDAY & CO.,

HOTHOUSE BUILDERS and HOT-WATER ENGINEERS,

ROYAL HORTICULTURAL WORKS, MIDDLETON, MANCHESTER.

Vineries, Stoves, Greenhouses, Peach Houses, Forcing Houses, &c., constructed on our improved plan, are the perfection of growing houses, and for practical utility, economy, and durability cannot be equalled. We only do one class of work, and that THE VERY BEST.

Conservatories and Winter Gardens designed architecturally correct without the assistance of anyone out of our firm, from the smallest to the largest. **Hot-water Heating Apparatus,** with really reliable Boilers, erected, and success guaranteed in all cases. **Melon Frames, Sashes, Hot Bed Boxes, &c.,** always in stock.

Plans, Estimates, and Catalogues Free. Customers waited on in any part of the Kingdom.

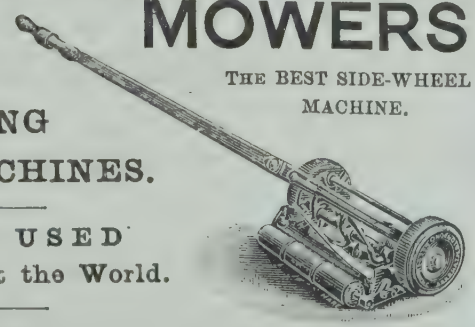
Our Maxim is and always has been—

MODERATE CHARGES. FIRST-CLASS WORK. THE BEST MATERIALS.

SHANKS'S LAWN MOWERS

THE BEST, CHEAPEST, and MOST LASTING MACHINES.

ARE USED throughout the World.



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STANDARD GEAR OR CHAIN MACHINE. FOR CATALOGUES, ADDRESS— "BRITANNIA" MOWER.

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Bulwell Potteries, Nottingham.

Messrs. Dicksons, Limited, Chester, write:—"The Flower Pots you have so largely supplied us with are light, strong and well made, and in every respect highly satisfactory."

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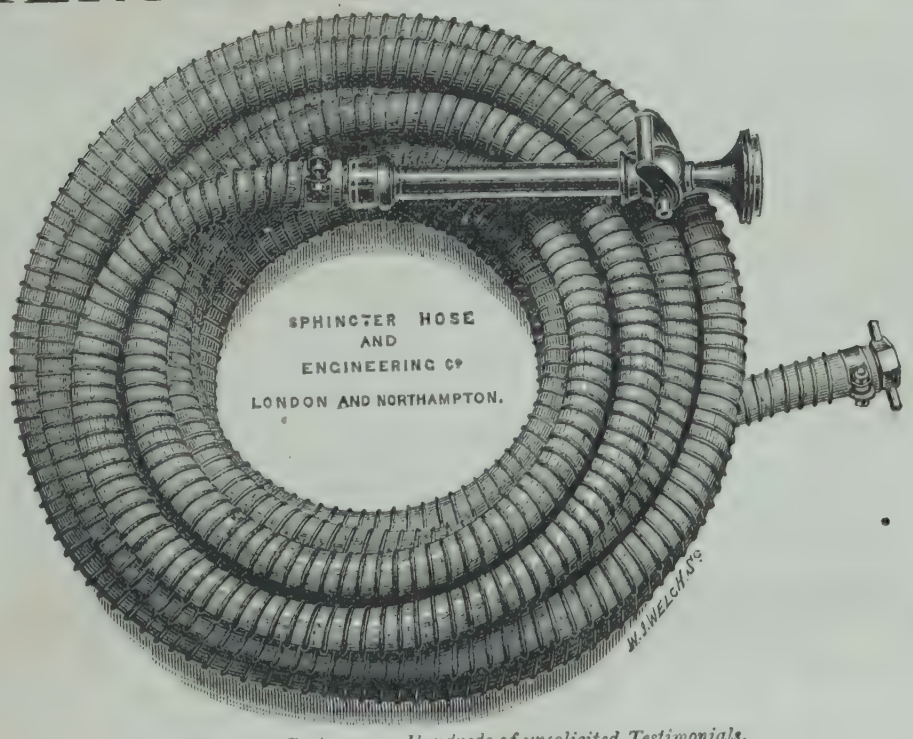
Largest Manufacturers in the World. No Waiting. Millions in Stock. Carriage and Breakage Free on £10 *Orders. Half Carriage on* £5 *Orders. Samples Free.*

1893.—GARDEN HOSE.—1893.

The Original Sphincter Grip Armoured and High-class Unarmoured Garden Hose.

"HERCULES" BRAND *(REGISTERED).*

International Horticultural Exhibition, LONDON, 1892. HIGHEST and ONLY AWARD.



No decisions, important or otherwise, have been given against this Company in relation to Sphincter Grip Hose, and any statements made to the contrary are untrue.

Over 10,000 *Customers. Hundreds of unsolicited Testimonials.*

10 Recent and Highest Awards at Principal Exhibitions.

CAUTION.—No Medal or Exhibition Award has ever been secured by any Firm except this Company for Sphincter Grip Hose, exclusively and distinctively.

Beware of Worthless Imitations and Foreign Importations, of which there are many, and of the goods supplied by any firm or firms making misleading statements. All this Company's Hose made from best Para Rubber, and English materials and labour only, to pass English Government Tests; this last feature in itself a guarantee of quality.

THE BEST, AND THEREFORE THE CHEAPEST.

Orders Executed same day as received. LARGER STOCK KEPT, and SALES GREATER than by any other Firm in the United Kingdom. Write for full Descriptive Price List of above, and of GARDEN PUMPS, HOSE, REELS, and FITTINGS. Post-free.

SPHINCTER HOSE & ENGINEERING CO., LTD.

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HORTICULTURAL SHEET GLASS

Stock Sizes		Sizes	
14×12		20×15	
16×12		20×16	
18×12		22×16	
20×12		24×16	
16×14		20×18	
18×14		22×18	
20×14		24×18	

21oz. and 15oz FOREIGN, of above sizes, in boxes of 100 feet & 200 feet super. ENGLISH Glass, cut to buyers' sizes, at lowest prices *delivered free & sound* in the country, in quantity.

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Stock lists and prices on application. Please quote. *Chronicle.*

MERRYWEATHER & SONS have a good Selection of Hand-Worked Fire Engines (new and second-hand), from 4 to 30 men-power — suitable for all kinds of Watering Fruit Gardens, Plantations, &c. Write or call, 63, Long Acre, and Greenwich, London, S.E.

HILL & SMITH'S

BLACK VARNISH

for Preserving Ironwork, Wood, or Stone.

(Registered Trade Mark.)

An excellent substitute for oil paint, at one-third the cost.

Used in all the London Parks, at Windsor, and Kew Gardens, and on every important estate in the Kingdom. Has stood the test of forty years' trial. Requires no mixing: can be applied cold by any ordinary labourer. Price 1s. 6d. per gallon at the manufactory, or carriage paid to any railway station, 1s. 8d. per gal. in casks of 36, 18, or 9 gals.

Every Cask bears the above Registered Trade Mark. Beware of cheap imitations.

CAUTION.—

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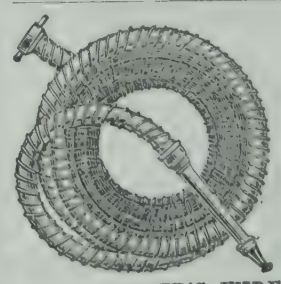

POTTER'S WIRE-ARMOURED HOSE.

Prices of 50-feet lengths (fitted with Brass Nozzle, Branch Pipe, Rose, and Jet).

ARMOURED.

The Excelsior Wire-armoured Hose secures a PERFECT grip, will not uncoil when cut at any part, stands enormous pressure, and wears for years.

Diam.	PRICES.	s.	d.
½-in.	best quality ...	36	3
,,	extra stout quality	43	7
,,	best quality	45	0
,,	extra stout quality	52	0
,,	best quality	52	0
,,	extra stout quality	60	7

PLAIN.

Unkinkable smooth surface Hose, will not crack, is made of pure rubber and canvas. Quality guaranteed.

Diam.	PRICES.	s.	d.
½-in.	specially cheap ...	19	3
,,	best quality ...	21	5
,,	extra stout quality	27	5
,,	best quality ...	28	0
,,	extra stout quality	33	0
,,	best quality ...	33	9
,,	extra stout quality	40	10

Carriage paid, and dispatched same day as ordered. Awarded 10 Gold and Silver Medals. Oldest and most reliable house in the trade. Also maker of Hose for Delivery, Steam, Fire, Suction, Liquid Manures, &c. Over 3,000,000 feet in use. Catalogues of above and all kinds of Belting, Roofing Felts, &c., post-free from—A. POTTER, Melbourne Works, Wolverhampton. Maker to Her Majesty the Queen, and H.R.H. The Prince of Wales.

OAK STAKES, a large quantity for Sale, suitable for Roses, &c., 4 feet long, ½ inch, ¾ inch, and 1 inch square Price, 4s. 6d., and 8s. per 100.
SHENSTONE, Grange Road, Leyton.

GLASS! CHEAP GLASS!
In Stock Sizes.
15-oz., per 100 ft., 8s. 6d. { 12×10, 18×12, 18×14, 24×14
21-oz., ,, 11s. 9d. { 14×12, 20×12, 18×16, 24×16
16×12, 16×14, 20×16, 24×18, &c.
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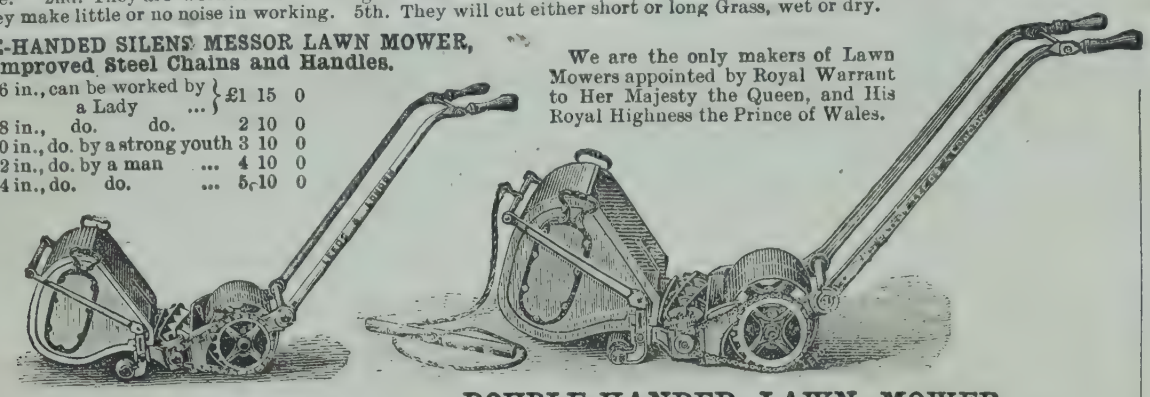

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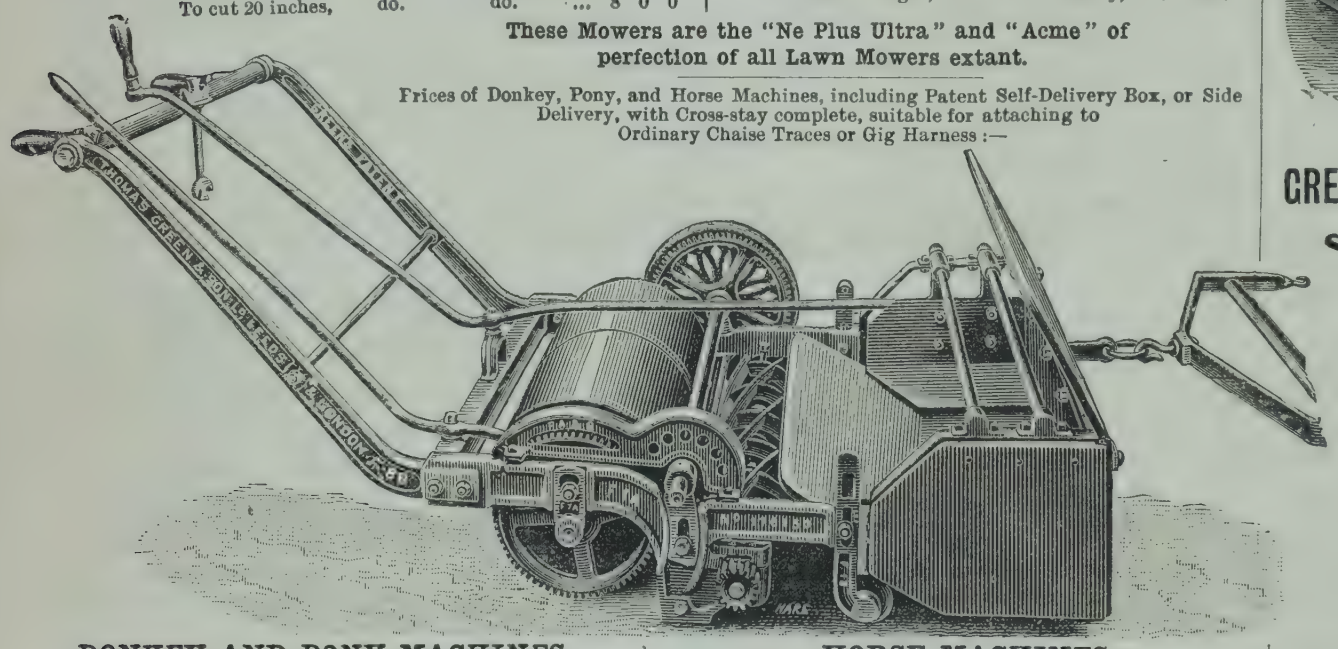
To cut 16 inches, can be worked by one man on even lawn ...	£6	10 0
To cut 18 inches, do. man and boy...	7	10 0
To cut 20 inches, do. do. ...	8	0 0
*To cut 22 inches, can be worked by two men	£8	10 0
*To cut 24 inches, do. do. ...	9	0 0

* If made stronger, suitable for Donkey, 30*s.* extra.

These Mowers are the "Ne Plus Ultra" and "Acme" of perfection of all Lawn Mowers extant.

Prices of Donkey, Pony, and Horse Machines, including Patent Self-Delivery Box, or Side Delivery, with Cross-stay complete, suitable for attaching to Ordinary Chaise Traces or Gig Harness:—



DONKEY AND PONY MACHINES.

To cut 26 inches	£14 0 0
To cut 28 inches	16 0 0
To cut 30 inches	18 0 0
Leather Boots for Donkey	1 0 0
Leather Boots for Pony	1 4 0

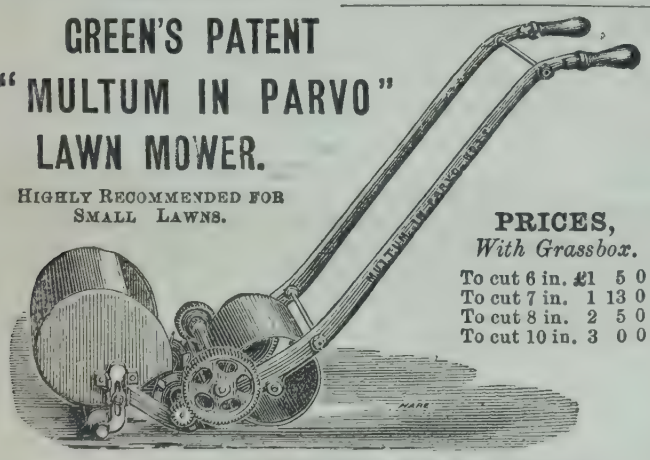
HORSE MACHINES.

To cut 30 inches	£22 0 0
To cut 36 inches	26 0 0
To cut 42 inches	30 0 0
To cut 48 inches	34 0 0
Leather Boots for Horse	1 9 0

The 26 and 28 inches can easily be worked by a Donkey, the 30 inches by a Pony, and the larger sizes by a Horse; and as the Machine makes little noise in working, the most spirited animal can be employed without fear of it running away, or in any way damaging the machine. Packing Cases as per List, except when for export.

GREEN'S PATENT "MULTUM IN PARVO" LAWN MOWER.

HIGHLY RECOMMENDED FOR SMALL LAWNS.



PRICES, *With Grassbox.*

To cut 6 in.	£1 5 0
To cut 7 in.	1 13 0
To cut 8 in.	2 5 0
To cut 10 in.	3 0 0

GREEN'S Patent LAWN TENNIS COURT MARKER.

No. 2412.

The Best Marker made.
Size with 1 wheel for Ordinary Courts, price **14s.**
Do., with 3 wheels, **17s.**
Size for Clubs and Large Grounds, price **£1.**

Small Bag of Marking Composition, 9*d.*

REDUCED PRICES OF

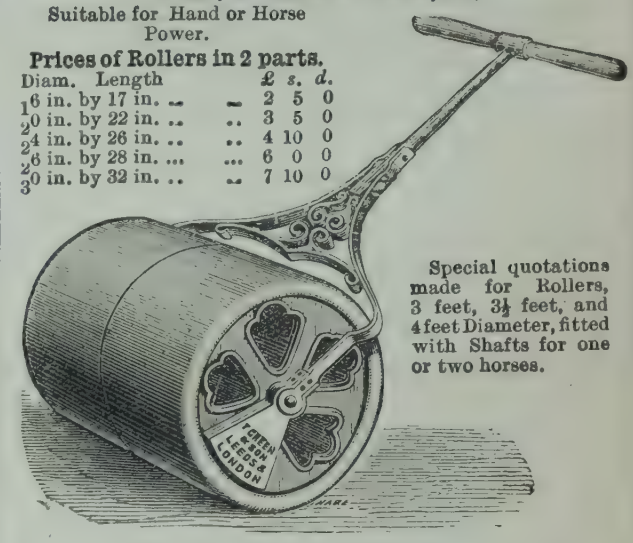
GREEN'S Patent ROLLERS,

For Lawns, Drives, Bowling Greens, Cricket Fields, and Gravel Paths, &c.

Suitable for Hand or Horse Power.

Prices of Rollers in 2 parts.

Diam.	Length	£	s.	d.
16 in.	by 17 in. ...	2	5	0
20 in.	by 22 in. ...	3	5	0
24 in.	by 26 in. ...	4	10	0
26 in.	by 28 in. ...	6	0	0
30 in.	by 32 in. ...	7	10	0



Special quotations made for Rollers, 3 feet, 3½ feet, and 4 feet Diameter, fitted with Shafts for one or two horses.

GREEN'S PATENT GRASS EDGE CLIPPER

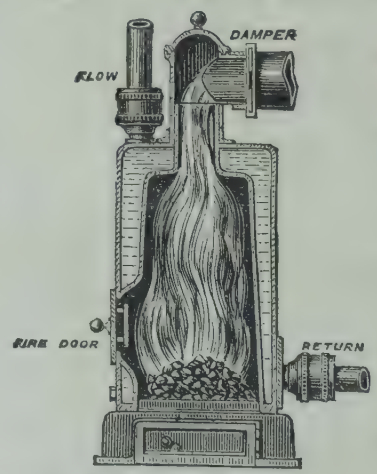
Size and Price, 7 inches wide, 7 ins. diam., **£1 16s.** Packing Case, 3*s.*

Specially designed to meet a want which has long been felt in cutting the overhanging grass on the edges of walks, borders, flower-beds, &c., and do away with the tedious operation of cutting with shears.

☞ **A very useful and serviceable Machine.**

MAKERS OF PATENT STEEL OR IRON ANGULAR-CHAMBERED AND TUBULAR

HOT-WATER BOILERS



AND OTHERS WITH
SHELVES,
AND HOLLOW OR ORDINARY CAST-IRON
GRATE BARS.

VERTICAL SADDLE BOILERS, &c.

Delivered Carriage Free at all the principal Railway Stations and Shipping Ports in England, Scotland, and Ireland.

The largest stock of Mowers kept by any manufacturer is to be found at our London Establishment, SURREY WORKS, BLACKFRIARS ROAD, where Purchasers can make selection out of several hundred Machines of Hand, Pony, and Horse Power, and have their Orders supplied the same day as they are received.

The above Machines are Warranted to give entire Satisfaction, otherwise they may be returned AT ONCE, Free of Cost to the Purchaser.

N.B.—Those who have Lawn Mowers which need repairing should send them either through their Ironmonger or Seedsman to our Leeds or London Establishment, or direct to us, where they will have prompt attention, as an Efficient Staff of Workmen is kept at both places.

GARDEN SEATS AND CHAIRS, AND HORTICULTURAL IMPLEMENTS OF EVERY DESCRIPTION, WIRE NETTING, &c., &c.

Descriptive Illustrated PRICE LISTS Free on application to

THOMAS GREEN & SON, LIMITED, SMITHFIELD IRONWORKS, LEEDS; AND SURREY WORKS, BLACKFRIARS ROAD, LONDON;

or they can also be had of any Ironmonger, Seedsman, Merchant, or Factor in the United Kingdom.

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CONTENTS.

Ascott, Leighton Buzzard 721
Azalea indica, culture and growth of 712
Begonia Lansbergæ ... 720
Blinds, paper Venetian . 713
Books, notices of—
Country Gentleman's Catalogue 721
Les Orchidées Rustiques 718
Botanical Magazine ... 719
Bouvardias, summer treatment of 714
Catalpa speciosa... ... 721
Chrysanthemum exhibition in Vienna ... 719
Dioon pectinatum ... 718
Fagus Moorei 720
Florists' flowers 713
Fruit trees, summer pinching of 723
Garden, an Irish... ... 709
Greenwich Observatory 719
Irish garden, an 709
Jaffa, Orange trade of ... 719
Lælio-Cattleya × Maynardii 715
Market gardening under glass 714
Nursery notes :—
Bull's Mr. Wm. ... 714
Orchid notes and gleanings 712
Orphan fund, gardeners' 719
Pansies 723
Peas 722
Peas, sale of growing ... 720
Perennials from seeds, hardy 723
Plants, new or noteworthy—
Chlorophytum brachystachyum 710
Iris Athoa 711
Polyanthuses, Border ... 722
Richardia Lutwychei ... 722
Roses at Kew 721
Scilla campanulata vars. 716
Societies—
Royal Horticultural ... 723
Rose Show at Earl's Court 724
York Horticultural ... 724
Stock-taking, May ... 720
Symphyandra Hofmanni, hardiness of 722
Trees and shrubs—
Retinospora obtusa and varieties 715
Utricularia longifolia ... 713
Vegetables—
Pea English Wonder... 716
Seakale Lily White ... 716
Vine root clubbing ... 711
Week's work, the—
Apiary, the 717
Flower garden, the ... 717
Fruits under glass ... 716
Hardy fruit garden ... 717
Kitchen garden, the ... 717
Orchid-houses, the ... 716
Plants under glass ... 716

ILLUSTRATIONS.

Dioon pectinatum. (Supplement). 726
Fly, the Pansy 715
Lælio-Cattleya × Maynardii 723
Pansy, a show 713
Utricularia longifolia 726
Ascomyces deformans (Peach Blister) 726

"GARDENERS' CHRONICLE."

LARGELY INCREASED CIRCULATION.

IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

Increased to the extent of 75 per cent.

Advertisers are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS *at home and abroad, and is preserved for reference in all the principal Libraries.*

ADVERTISERS will greatly assist our efforts to get to Press earlier, by forwarding their favours as EARLY IN THE WEEK as possible.

BEGONIAS.—Ours are now lovely, and showing more and more every day surprisingly beautiful flowers, and new colours of exquisite tints. Our Seedlings never were so good and robust: we should feel a real pleasure in showing them to friends and coming customers, and also around our establishment, which is now highly interesting. Our Illustrated Catalogue is acknowledged the best Year-Book for the Garden ever issued, and we should like to send it to all who are desirous of having really good Gardens. The best Plants and Seeds, which we send safely to all parts of the world.—H. CANNELL AND SONS, Swanley, Kent.

ORCHIDS.—New and rare species, a special feature. Catalogue forwarded post-free on application. SEEGER AND TROPP, Ltd., Orchid Nursery, East Dulwich, London, S.E.

For Present Sowing.

SUTTONS' PRIZE GLOXINIA.—A superb Strain, producing Flowers with unusual freedom, varied and rich in colour.

SUTTONS' PRIZE GLOXINIA.—Awarded a Silver Gilt Medal at the Great Temple Show. "A group of Gloxinias, exhibited by Sutton & Sons of Reading, attracted very general attention. The blooms were remarkable for their size, and were all of exceeding beauty."—*Daily News*, May 26.

SUTTONS' PRIZE GLOXINIA.—Price of Seeds, 5*s.* and 2*s.* 6*d.* per Packet, post-free. Genuine only direct from—

SUTTON AND SONS, THE QUEEN'S SEEDSMEN, READING.

New Polyantha Rose.

TURNER'S CRIMSON RAMBLER.

CHARLES TURNER invites an Inspection of this remarkable NEW ROSE, which is now in great perfection at the Royal Nurseries, Slough.
June, 1893.

To the Trade.

RAPESEED and AGRICULTURAL WHITE MUSTARD.

H. AND F. SHARPE have to offer fine samples of RAPESEED and WHITE MUSTARD, suitable for Field Culture. Special quotations and samples on application.
SEED GROWING ESTABLISHMENT, WISBECH.

7000 GENISTAS, in small 60-pots, at 10*s.* per 100, or £4 10*s.* per 1000. Cash with order, payable at Leyton High Street.—T. BALDWIN AND SON, Edith Nurseries, Burchall Road, Leyton.

Humea elegans.

B. S. WILLIAMS AND SON can offer fine Plants, 30*s.* to 42*s.* per dozen.
Victoria and Paradise Nursery, Upper Holloway, N.

Sow now for early flowering in Spring.

ROEMER'S SUPERB PRIZE PANSIES.
The finest strain of Pansies in the World.
Introducer and Grower of all the leading Novelties.
CATALOGUE, free on application.
FRED. ROEMER, Seed Grower, Quedlinburg, Germany.

BEDDING BEGONIAS.—All the choicest colours and best quality, 4*s.* per dozen.
Post or Package Free.
H. J. JONES, Ryecroft Nursery, Hither Green, Lewisham, S.E.

Herbaceous Plant Supplement.

PAUL AND SON have ready the above, containing all recent ADDITIONS to their collection of HARDY HERBACEOUS and ALPINE PLANTS.
The Old Nurseries, Cheshunt, Herts.

TO SAVE MONEY place your orders now.—ROMAN HYACINTHS, first size, 10*s.* 6*d.* per 100; Poeticus ornatus, early pheasant eye, 3*s.* 9*d.* per 100; Campernelle Jonquils, 3*s.* per 100, for not less than 100. Trade Price on application.—WALSHAW AND SON, Scarborough.

JOHN WATERER AND SONS, Ld., of Bagshot, Surrey, beg to announce their EXHIBITION of RHODODENDRONS is NOW ON VIEW daily at the VICTORIA EMBANKMENT (East of Temple Gardens).
Admission 1*s.*
The gate money will be handed to the Funds of the London Hospital.

ORCHIDS.—We have purchased the celebrated Collection formed by the late General Fytche, Bournemouth. Price List of which is now ready.
W. L. LEWIS AND CO., F.R.H.S., Chase Side, Southgate, London, N.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for List, free.—P. MCARTHUR, The London Nursery, 4, Maida Vale, London, W.

WANTED, Consignments of CHOICE CUT FLOWERS to SELL on COMMISSION. References, boxes, and labels supplied.
S. D., 67, Earlsbrook Road, Redhill.

CARNATIONS FROM SEED.—Seed of my own saving and hybridising, producing 75 per cent. of Double Flowers, equal to the finest-named sorts, but with greater vigour of growth and abundance of flowers. 25 seeds, 1*s.*; 100 seeds, 3*s.*; 500 seeds, 12*s.* 6*d.* Carnation Marguerita, flowering first season, 1*s.* per packet, post-free.
THOS. BUTCHER, Seed Merchant, Croydon.

TO THE TRADE.—Having just imported large stocks of the undermentioned BULBS, in splendid condition, I shall be pleased to quote Low Cash Prices for really good Bulbs:—
PANCRATIUM CARIBÆUM, P. AMŒNUM, CRINUM KIRKII, C. ZEYLANICUM, ZAMIAS, AMARYLLIS, HÆMANTHUS, CALLAS, NERINES, WATER LILIES, FREESIAS, IXIAS, BABIANAS, AMMOCHARIS, TUBEROSES, and ORCHIDS. Also New Seeds of TEA, COFFEE, CAPE SILVER TREE, &c. Send for LIST.
J. JAMES, New Malden, Surrey.

FERNS! FERNS!!—Trade.—Greenhouse and Stove, 25 saleable sorts, in 2½-in. pots, 12*s.* per 100; 10 best market sorts, in 48's, 6*s.* per doz.; stores, 6*s.* per 100. Large Adiantum cuneatum, value in fronds, 6*s.* and 8*s.* per dozen. Cyperus, Aralias, Rhodanthe, Grevilleas, in 48's, good value, 6*s.* per doz. Palms, Ficus, Hydrangeas, Pelargoniums, Marguerites, Dracænas, in 48's, 1*s.* each. P. tremula and A. cuneatum, for making large plants quickly, 16*s.* and 20*s.* per 100, well packed, put on rail free for cash with order.—J. SMITH, London Fern Nurseries, Loughboro' Junction, London, S.W.

CLEARANCE SALE of BULBS for Summer and Autumn Flowering. PRICE LIST on application.
Finest named Gladioli, 3*s.* 6*d.*, 5*s.* 6*d.*, 7*s.* 6*d.* and 10*s.* 6*d.* per dozen. Finest Mixed Gladioli, per 100, 15*s.*; per dozen, 2*s.* 3*d.* Lemoine's Beautiful Butterfly Gladioli, mixed, per dozen, 4*s.* 6*d.* Lilium auratum, 7*s.* 6*d.* and 10*s.* 6*d.* per dozen. Anemone fulgens, per 100, 5*s.* 6*d.*; per dozen, 1*s.* Red Tiger Spotted Flower (Tigridia), White Tiger Spotted Flower, Yellow Tiger Spotted Flower, all at 15*s.* per 100; per dozen, 2*s.* 3*d.* Single Begonias, mixed, 3*s.* 6*d.* per dozen, &c.
BARR AND SON, 12, King Street, Covent Garden, W.C.

To the Trade.

IMPORTANT NOTICE.—When you are in London, it will be well worth your time to pay a visit to Albert Nurseries, Peckham Rye, S.E.; or Fleet, Hants. You can make your notes, and have a business look round, combined with an outing; you will NOT be worried to order.
E. D. SHUTTLEWORTH AND CO., LTD.
Awarded Silver-gilt Flora Medal by the Royal Horticultural Society; also Gold, Silver-gilt, Silver, and Bronze Medals, Prizes, and Certificates at other First-class Shows. Our specialty—really good stuff grown for the Trade.

"KILLMRIGHT,"
For Destruction of all Insect Pests and Mildew.
THE STOTT DISTRIBUTOR CO. (Lmtd.),
Barton House, Manchester.

HORTICULTURAL SHADINGS,
NETTINGS, TIFFANY, WADDINGS,
COTTON WOOL for Packing Flowers, CANVAS, TWINES, &c., manufactured and supplied wholesale by
JOSEPH COOKSON, 21, New Cannon Street, Manchester.

LAWN MOWERS.—The New Patent "EXCELSIOR" has the largest sale in the world, and is pronounced by all Gardeners to be the very best for saving labour. The Patent "NEW MODEL" is guaranteed to be the lightest working Mower ever made. Can be had of all Ironmongers and Seedsmen. Price Lists post-free from the Manufacturers, CHADBORN AND COLDWELL MANUFACTURING CO., 223, Upper Thames Street, London, E.C.
The Largest Makers of Lawn Mowers in the World.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings. Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W.

THOMSON'S MANURE.—The sale of this Manure is steadily increasing, and it can be had as formerly of all the leading Nursery and Seedsmen in the United Kingdom.
London Agent, Mr. JAS. GEORGE, 14, Redgrave Road, Putney.
Agent for Channel Islands, Mr. J. H. PARSONS, Guernsey.
Sole Makers, WILLIAM THOMSON AND SONS, Limited, Tweed Vineyard, Clovenfords.

SALES BY AUCTION.

Thursday Next, June 22.

BRAZILIAN, MEXICAN and COLUMBIAN ORCHIDS.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, June 22, at half-past 2 precisely, choice Importations of BRAZILIAN, MEXICAN, and COLUMBIAN ORCHIDS, and a small Collection of ORCHIDS IN FLOWER.

On view morning of Sale, and Catalogues had.

Thursday Next.

40,000 fresh Seeds of KENTIA BELMOREANA, just to hand; 15 000 FREESIA REFRACTA ALBA, 100 fine Bulbs of NERINE CORUSCA, 1000 AFRICAN AND PEARL TUBEROSES, Choice GLADIOLI, 3000 Mixed ANEMONES, 1000 Seedling PALMS, LILIUMS, ANEMONE SEED, DRIED GRASS for Decorative purposes.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, June 22.

On view morning of Sale, and Catalogues had.

Thursday Next.

1500 well-grown CLIMBING, TEA, HYBRID PERPETUALS, and other ROSES IN POTS, including many of the best sorts, from a reliable grower.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on THURSDAY NEXT, June 22.

On view morning of Sale, and Catalogues had.

Tuesday Next.

The COLLECTION of ORCHIDS formed by W. Houghton, Esq., Hoe Street, Walthamstow, who has sold his Estate, and is removing from the neighbourhood. To be sold without the least Reserve.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C. on TUESDAY, June 20, at half-past 12 o'Clock precisely, the above COLLECTION of ORCHIDS, amongst them being fine plants of Vanda tricolor, V. suavis, V. Amesiana, Cymbidium Lowianum, C. Devonianum, Phalænopsis amabilis, P. Schilleriana, P. grandiflora aurea, P. Stuartiana, Cypripedium Pearcei, — with forty growths, fifty C. Seedlings in variety, Cattleya Trianæ, C. Mossiæ, C. Mendelii, C. gigas, C. Gaskelliana, C. Warocqueana, Grammatophyllum Seegerianum, Cœlogyne cristata alba, Dendrobiums and Masdevallias in variety, &c.

On view morning of Sale, and Catalogues had.

Dyson's Lane Nurseries, Upper Edmonton.

About five minutes' walk from Angel Road, and three minutes' from Silver Street Railway Station, G.E.R.

IMPORTANT SALE of fine-foliaged Plants, consisting of specimen PALMS, CROTONS, FICUS ELASTICA VARIEGATA, FERNS, specimens of many rare and choice sorts, including Adiantums, Davallias, Gymnogrammas, Platycerium grande, Nephrolepis, &c., also large quantities of all most useful sorts for decoration.

BEGONIAS, GLOXINIAS, TREE CARNATIONS, BOUVARDIAS, CLEMATIS, including snow-white Jackmanii, and other leading sorts; TEA ROSES, Gloire de Dijon, Maréchal Niel, Climbing Perle des Jardins, and other leading sorts, fine healthy stuff.

CALADIUMS, ASPIDISTRAS, CYPERUS, and a great variety of other useful pot plants; also large quantities of young FERNS, PALMS, &c., for growing on.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, on the Premises, Dyson's Lane Nurseries, Upper Edmonton, on THURSDAY, June 29, 1893, at 12 for half-past 12 o'Clock punctually, by order of Mr. H. B. May.

May be viewed any day previous to the Sale. Catalogues may be obtained on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

Friday, June 23, 1893.

CATTLEYA SPECIES from BOLIVAR.

This is certainly a distinct-looking CATTLEYA, bearing a resemblance to C. Mossiæ, and also to C. Percivaliana, with not a few among them decidedly like C. Schroderæ. Never before have Cattleyas, or, indeed, any other Orchids been collected in this region, and we offer the importation with a great deal of confidence. The plants are in simply splendid order.

CYPRIPEDIUM INSIGNE VAR. MONTANUM.

A grand importation of this, the most superb form of insigne, fine masses, in superb order, being among them.

DENDROBIUM NOBILE,

FROM A NEW SOURCE, NORTH OF DARJEELING,

Among which many deep purple forms will be found; they are in simply grand condition, and will prove as rich in fine forms as the recent importations from the Lang-tang mountains. The plants have been collected at a great elevation, and present the appearance of a strong and vigorous-growing variety.

Also a NEW VANDA from NEW GUINEA.

This is quite a surprise to us, and was equally so to our Collector, who unfortunately did not see it in its flowering season. That it is a very free-growing and free-flowering variety is seen at once from the plants, which are in really wonderful order. It is a handsome foliage plant, the leaves being a clear bright green, somewhat like V. Sanderiana; the flower-spikes are very long, and appear to be very freely produced. This is the first importation from this part of the island, and is a truly unexpected surprise.

There will also be included in the Sale—

DENDROBIUM MOSCHATUM, D. CHRYSANTHUM, D. SUAVISSIMUM, D. FIMBRIATUM OCULATUM, &c.

Also a fine lot of the

GOLD and BRONZE ONCIDIUM GRAVESIANUM,

And many other ORCHIDS.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Rooms, on FRIDAY, June 23, the above New and Valuable Importations, by order of F. Sander & Co., St. Albans, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Ashford, Middlesex.—Withdrawal of Sale.

MESSRS. PROTHEROE AND MORRIS beg to announce, that the SALE of PLANTS advertised to take place at the Nurseries, Ashford, Middlesex, on WEDNESDAY NEXT, June 21, IS WITHDRAWN. The LEASE of the NURSERY, with several Greenhouses, is FOR SALE by PRIVATE TREATY. Any reasonable offer will be entertained.

Particulars of the Auctioneers, 67 and 68, Cheapside, E.C.

Friday Next.

30,000 SEEDS KENTIA BELMOREANA, in capital condition.

MESSRS. PROTHEROE AND MORRIS will include the above in their ORCHID SALE on FRIDAY NEXT, June 23.

On view morning of Sale, and Catalogues had.

Sale, Tuesday, June 27.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Rooms, on TUESDAY, June 27, at half-past 12 o'Clock, by order of Messrs. F. Horsman & Co., superb importations of CATTLEYA CRISPA, C. NOBILIOR, LÆLIA PRÆSTANS, L. DORMANIANA, ODONTOGLOSSUM ALEXANDRÆ, and numerous other ORCHIDS, all in superb condition and large masses.

On view morning of Sale, and Catalogues had.

Preliminary Notice.

EXTENSIVE CONSIGNMENT OF PALM SEEDS.

25,000 KENTIA BELMOREANA.
130,000 ,, FOSTERIANA.
8000 ,, CANTERBURYANA.
280,000 ARAUCARIA EXCELSA.
280 Clumps of TODEA MOOREANA.

MESSRS. PROTHEROE AND MORRIS beg to notify that they have every reason to believe the above will arrive in good time for SALE by AUCTION in the FIRST WEEK in JULY. The Date of Sale will appear in future announcements.

Under Distraint for Rent.

Short Notice and Absolute Sale. About 400 Lots, or so many as will satisfy Rent and expenses.

THE NURSERIES, ASHFORD, MIDDLESEX, about an equal distance from Feltham, Ashford, and Sunbury Stations.

TO FLORISTS, PRIVATE BUYERS, AND OTHERS.

MR. WOODS will SELL by AUCTION, on the Premises, as above, on MONDAY, June 19, 1893, at 12 o'Clock Noon, the entire Stock of GREENHOUSE PLANTS (about 108,000), consisting of Choice Scarlet Geraniums (Vesuvius, and others in variety), Pelargoniums, Ferns, Palms, Marguerites, Hydrangeas, Chrysanthemums, &c.; also a BAY MARE, DUN COB, 3 VANS, 2 CARTS, 2 Sets of Harness, Chaff Machine, Corn Bin, Barrows, Tools, Loose Lights, Boiler, Furnace, Steam Pump, Iron Shear Legs, Manure, and a quantity of Useful Effects.

May be Viewed Day Preceding and Morning of Sale, and Catalogues had of the Auctioneer, Hounslow.

Enfield.

TO LAND SPECULATORS, HORTICULTURISTS, BUILDERS, and OTHERS.

IMPORTANT FREEHOLD BUILDING LAND, an old-fashioned RESIDENCE with ORCHARD LAND, 14 newly-erected COTTAGES, and numerous enclosures of Land suitable for Horticultural Purposes, &c., well situated, with frontages upon the Enfield Highway and adjacent to Brimsdown Station, on the Great Eastern Railway, whence London is reached in 35 minutes. Payment (if desired) by instalments extending over five years.

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Full particulars of Messrs. R. S. TAYLOR, SON, AND HUMBERT, Solicitors, 4, Field Court, Gray's Inn, W.C.; at the Mart, E.C.; and of the Auctioneers, 11, Serle Street, Lincoln's Inn, W.C., and Watford, Herts.

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TO BE LET, with Immediate Possession, a capital Walled-in NURSERY, with Forcing-houses; all in excellent order. Stock at valuation. Nominal rent.

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BY ORDER OF THE LIQUIDATOR.

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	£	s.	d.
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T. Cordes	5	0	0
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F. Tress Barry ...	10	10	0
G. C. Raphael ...	5	0	0
J. Gaitskill	1	1	0
Lord Crewe	5	5	0
M. P. Grace	2	2	0
Lord Teynham ...	2	2	0
F. Ricardo	5	5	0
T. D. Crews	3	3	0
J. H. Sykes	10	10	0
W. Tothill	5	0	0
T. H. Wells... ...	1	1	0
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Henry Knight ...	1	8	0
F. Attrill	10	10	0
William Bull ...	6	6	0
L. Alma Tadema ...	5	5	0
F. C. Pawle... ...	1	1	0
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Bristol and Bath Auxiliary	37	16	0
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Lord Hay	1	0	0
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John Copson ...	10	10	0
B. Clout	2	0	0
J. Corbett, M.P. ...	0	10	6
S. C. Clay	1	1	0
W. Sturdy	10	10	0
N. L. Cohen	3	3	0
Jas. O'Brien	2	2	0
J. Hossack	1	1	0
Sir Lewis Cave ...	1	1	0
Hon. Walter Rothschild ...	10	0	0
T. B. Haywood ...	10	10	0
E. W. Cathie ...	2	2	0
A. Watkins	2	2	0
J. Wimsett	2	2	0
W. S. Deacon ...	10	0	0
W. L. Corry... ...	5	5	0
H. F. Tiarks... ...	10	0	0
L. Schlüos	1	1	0
J. Lane (col. card)...	3	6	0
C. R. Fielder ,, ...	10	10	0
James Lornie ,, ...	2	5	0
R. Wakeley ,, ...	0	15	0
R. Jordan ,, ...	2	2	0
R. Jones ,, ...	5	0	0
W. Buckland ,, ...	0	5	6
A. Scott ,, ...	0	9	0
J. Bishop ,, ...	0	10	0
W. Rowe ,, ...	1	3	0
T. Smith ,, ...	0	10	0
S. Smalley ,, ...	3	16	0
J. Church ,, ...	3	17	6
J. Russell ,, ...	1	3	6
J. Foster ,, ...	1	10	0
W. Lintott ,, ...	0	7	6
C. Ford ,, ...	2	0	0
G. Stephens ,, ...	0	7	0
G. Stephens ,, ...	0	7	0
R. Strand ,, ...	0	5	0
H. Swain ,, ...	0	8	6
C. Watkins	1	1	0
James Reiss	3	0	0
Sir Wm. Farmer ...	1	1	0
W. Houghton ...	5	5	0
R. B. White... ...	2	2	0
Sir Jas. Maitland ...	2	2	0
E. D. Stern	2	2	0
W. B. Latham ...	6	14	0
Dr. Robt. Hogg ...	10	10	0
W. J. Nutting ...	5	5	0
Watkins & Simpson	3	2	0
John Lee	3	3	0
Henry Jones ...	10	10	0
Henry E. Tillman ...	2	2	0
G. Lewis (coll. card.)	0	15	0
W. Tribbick ,, ...	0	10	0
R. Draper ,, ...	0	10	0
J. M. Young ,, ...	2	3	0
J. Farrington ,, ...	1	12	6
T. Lunt ,, ...	1	0	0
R. Baird ,, ...	2	13	6
H. Lever ,, ...	1	6	0
R. Watson ,, ...	2	4	0
Messrs. Protheroe & Morris	12	1	0

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FLORAL FÊTE and CHILDREN'S FLORAL PARADE, WEDNESDAY NEXT, June 21. Her Royal Highness Princess MARY, Duchess of TECK, has graciously promised to distribute the Prizes, at about 4 o'Clock.
Gates open at 2 o'Clock. The Bands of the 1st Life Guards and the Royal Horse Guards, by kind permission of their Commanding Officers, will play, from 2 to 7 o'Clock.
Tickets to be obtained at the Gardens only by Vouchers from Fellows of the Society, 5s. each, or on the day of the Fête, 7s. 6d. each.

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The SUMMER SHOW will be Held on WEDNESDAY, June 28.
THREE HUNDRED POUNDS OFFERED IN PRIZES.
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First Prizes, Nurserymen, 72 varieties £8 0 0
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Challenge Prize, 12 Tuberous Begonias £5 0 0
Several other Classes for Roses, Bouquets, Strawberries, Cut Flowers, and Plants. Tuberous Begonias, Plants, and Cut Blooms—43 Classes in all. Entries close Friday, June 30.
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Schedules on application to—
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WOLVERHAMPTON GREAT FLORAL FETE
July 11, 12, & 13, 1893. In the Public Park.
OPEN CLASSES for PLANTS, ROSES, FRUITS, &c.
GOLD, SILVER, and BRONZE MEDALS for PANSIES and VIOLAS.
OPEN AMATEUR CLASSES for ROSES.
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100,000 CELERY, Clayworth Pride, all transplanted and extra strong, 6s. per 1000. 200,000 Brussels Sprouts, Broccoli, Early Cabbage, Cauliflower, Kail, and Savoys, 5s. per 1000. Ox and Thousand-head Cabbage, 4s. per 1000. Strong stout plants. (Name paper). Cash with order. G. YORKE, Seedsman, Retford.

STRAWBERRIES.—All the best varieties for Forcing, including Noble, Vicomtesse, J. Ruskin, La Grosse Sucrée, Auguste Nicaise, President, British Queen, and the new ROYAL SOVEREIGN, First-class Certificates, Royal Horticultural Society and Earl's Court, are now being layered in small pots for Forcing, at reasonable prices, and early orders are solicited to secure good plants. Preliminary priced LIST for 1893-4 of all the best new and standard sorts now ready.
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THE following LARGE PLANTS to be disposed of immediately:—2 Acacia grandis, 12 to 13 feet high; 1 Orange, 8 feet; 1 Pink Oleander, 6 feet; 2 Sparmannia africana, 5 feet; 1 Pandanus Veitchii, 5 feet. No reasonable offer refused. Apply to—
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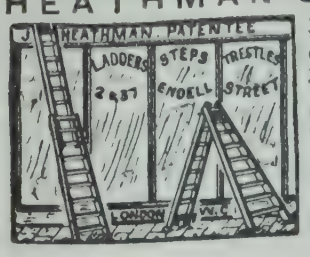

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9 ft. 9 in.	17 ft. 0 in.	26	6

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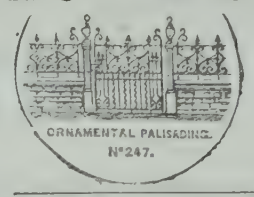

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		s.	d.
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12	,, ,, ,, Single Zonals (Choice)...	2	0
25	,, ,, ,, Single Zonals	3	0
25	,, ,, ,, Double Zonals	3	0
12	,, ,, ,, Double Ivy-leaf	1	6
25	COLEUS, in 12 distinct varieties	2	6
25	FUCHSIAS, in 12 distinct varieties	2	6
25	BEGONIAS, choice Seedlings	3	6

The following can be offered in quantity, and sent by rail, package free:—

Good Mixed Zonal PELARGONIUMS	8s.	per 100.
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AGERATUM, Swanley Blue (true from cuttings)	8s.	,,
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IRESINES in sorts (from stores)	4s.	,,
HELIOTROPE ,, ,, ...	4s.	,,

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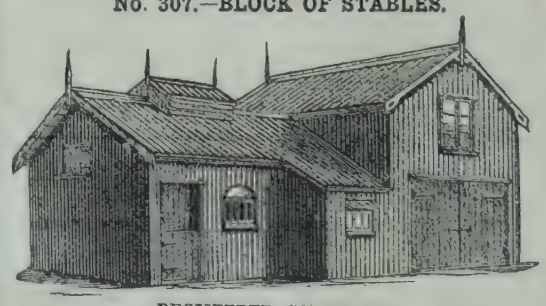

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Portrait of Mr. J. G. Baker, F.R.S.,
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This portrait is a reproduction of the painting, by Joseph W. Forster, exhibited in Royal Academy, Season 1893.

THE
Gardeners' Chronicle.

SATURDAY, JUNE 17, 1893.

AN IRISH GARDEN.

AFTER seeing and enjoying many gardens in many lands, there is one delightful old pleasaunce—Kilmacurragh, in county Wicklow—that ever and anon rises up before me as being an ideal garden in many ways, and those of the initiated—and they are many who have enjoyed the privilege of seeing it—will agree with me as to its beautiful reality, and as to the richness and variety of the object-lessons which it affords. It is an old garden to begin with, and its site is a fertile and sheltered vale not far from the sea. The very approach to the place itself is unique in its way, as you drive from the little station through tall hedges of golden Gorse, or milk-white Thorn trees, past woods shimmering with the green mists of the budding Larch trees, or sombre here and there with Spruce and Pines. Now and then you pass a cottage, or a rustic forge, or a rocky Furze-clad hill, and you get glimpses of goats or children in the leafy little lanes—or "boreens," as the Irish peasantry call them. The ditches are lined with enormous tufts of Lady Ferns, and the young Bracken and the great Horsetails cover the patches by the way; then a turn in the road brings you in sight of the entrance-gate, opening into a noble avenue of Silver Fir trees, with one giant trunk leaning half way over the drive. There is a pretty little lodge half-smothered in great Rhododendrons, but it is not inside the gate, but on the other side the road. The car is sent back, and we walk up under the great Fir trees, past one of two fine specimens of the Cedar of Goa (Cupressus lusitanica) growing here. There is a fine bush of Adam's changeable Laburnum in full bloom; and a startled squirrel scuttles across the gravel and up the nearest tree. Through a grassy meadow with a glimpse of arable land, and a man ploughing, then another stretch of grass, and past a couple of Ash trees, veteran sentinels beside the way; and then into a rock-fringed pass with trees on either side, and native Ferns on the moist stones, and here and there great masses of Gaultheria Shallon tossed up and covered with its faint rosy bells. Then another tree sentinel, a weeping Beech of weird form, and then a grassy opening near the house, with a group of giant Ash trees on one side, and a Beech tree copse and shrubbery hiding the stables on the other, and once again we are in arcady.

On three sides of the square-built grey mansion the lawns of greenest grass stretch away under the trees, and you get on fine clear days just a distant peep at the sea as it rolls in on the Wicklow shore. One great feature of the place

is its fine timber trees, Oak and Ash, Beech and Sycamore, Scots Pine, and giant Silver Firs, with Hawthorns and Maples, Rhododendrons and Kalmias, Tea trees (Thea) and Camellias, naturally and beautifully grouped beneath them. The Rhododendrons would alone make the reputation of any one good garden, and they include one of the most complete series of the Sikkim and Bhotan and Nepalese species that is known. There is rarely a day in the whole year that one or other of them is not in flower. Nowhere else, not even in Devon and Cornwall, have we seen these Himalayan Rhododendrons so luxuriant in the open air. Here you can wander on the lush grass in the warm sunshine, and gaze up at the rich blood-crimson bells of Royle's Rhododendron as they hang in great clusters among its leathery leaves, or admire the bouquet-like masses of R. Falconeri, or the moonlight effect of R. triflorum, or the splendour of R. kewense ×, R. Thompsoni, and a host of others all figured in Hooker's work *The Rhododendrons of the Sikkim Himalayas*, which lies ready indoors for reference should any doubt as to specific identity arise in the garden. A single bush of Falconer's Rhododendron has here borne ninety-three of its great trusses at the same time, and even when not in bloom, it is a pleasure to look on its healthy foliage and red-brown stems. R. Falconeri eximium, with blue-green leaves, rather smaller than those of the type, and covered with a rich foxy-red or brown tomentum beneath, is unique here, as are also some seedling forms of R. argenteum. But no words can convey more than the faintest impression of these noble shrubs as here growing and flowering, possibly even more happily and freely than if below the everlasting snows and heights of Kinchinjunga.

There are also fine bushes and groups of the best hybrid kinds, and seedlings from R. arboreum, R. barbatum, R. catawbiense, &c., and the best of all the productions of Waterer, Cutbush, Smith, Davis, and other growers of these noble flowers. Beside one of the main walks, there is a veritable avenue of hybrid Rhododendrons 10 feet or more in height, and 12 to 15 feet in diameter, and nothing less than a painter's brush and canvas could give a notion of their light, and shade, and colour, as seen at their best in April or May; and yet fine as are these specimens, some of them were cuttings or layers, lovingly rooted by the owner's sister only twenty years or so ago. The Rhododendrons strike the highest and richest colour-notes all over the place, but they have the advantage of being set singly or in groups, or in clusters like jewels under the shelter of some of the most noble of forest trees. The giant Sycamores here, with their dense green heads, are worth a long journey to see, and there are some Beech and Ash boles that would delight a tree-painter, and which in the ever-varying lights and gleams of sunshine and shadow, remind us of Corot and Daubigny, or of Diaz and Troyon. The sight of such noble trees in such a climate is enough to inspire even such tree lovers as were Constable and De Wint, or rather, their living successors, could they but see them in all their strength and beauty.

Down one side of the Deer Park is an old avenue of finely-grown Beech trees, beside what was once an old coach-road, but which is now a smooth and spreading grassy way leading from the garden to a high road also fringed and canopied with Beech and other trees. High overhead the rooks are busy with their household cares; and here and there through the tree trunks you get delightful glimpses of the fallow deer in the sunny park below, some displaying themselves on the short grass, while others more timid of the wandering stranger take shelter in the thickets of Gorse, or dive deep into the masses of luxuriant Brake Fern, or canter away through the groves of tall grey-barked Alders that are such a notable feature here.

But we must return to look at the quaint enclosed garden with its rare old Roses, and to see the choice climbers and old-fashioned plant treasures that are sheltered by its Lichen-tinted walls. This long narrow slip of an enclosed flower garden is one of the most delightful and old-time like I ever saw. It lies on a gentle slope to the sun, and drops down every now and then by terraces two or three steps at a time. On one side is the wall of the great square kitchen garden, and against this wall are the quaint lean-to greenhouses with their little panes, and gables jutting up at different heights as they rise from one terrace to another. From end to end is a broad walk, and at the lower end is the stone dial near an Irish Yew, held fast in the sweet embraces of a clambering white Rose; and as you stand at the dial and look up the walk at the tangled creepers and the bulbed flowers and the old Rose bushes, you instinctively think of Parkinson and his *Paradise*, which he dedicated to our "Rose and Lily Queen," Henrietta Maria (she whom Vandyke painted so exquisitely), and you think of all that Mrs. Ewing says of him and his delightful book in *Mary's Meadow*, and you look at the terraced walk as a breath of Sweet Briar or other subtle fragrance takes you back to older times, and you see coming towards you through the flowers a stately lady in ruff and farthingale, and behind her is the little dwarf, her page. Of course, it is all a fancy; but then, is not life itself sometimes a fantasia?

Just now a large form of Rosa spinosissima is flowery and fragrant with bloom; and there are, moreover, the rare single yellow variety now so seldom seen, R. cinnamomea, and such rarities as the single Tea Rose (R. indica), and the single China Rose, both exquisite in form and colour. Here the snowy Macartney Rose (R. bracteata) is at home in a sheltered corner, and in the kitchen garden is a great bush of R. microphylla plena, one of the Roses now extinct in most gardens, the beloved of our grandmothers since Elizabethan times.

In one corner on a wall is a fine specimen of the Algerian Karouba, or St. John's Bread (Ceratonia Siliqua), a leguminous tree that rarely thrives in the open air so far north, but which has here been luxuriant for many years; near a shady wall on a little peat-bed there is quite a little colony of Cassiope tetragona, and here also Philesia buxifolia is healthy and strong, spreading about through the black peat-earth, and thickly set with its fruit-like buds covered with a soft Plum-like bloom. A big tuft of the deep blue Lithospermum fruticosum on a grey water-worn boulder is exquisite in its harmony, and rarely flowerless all the year round.

We must peep into the greenhouses (heated by wood fires in winter) to see the Cape Gooseberry (Physalis edulis), heavily laden with fruit, and to get a delicious whiff of perfume from the Orange trees and the old scented Pelargoniums, and to find all the spices of Arabia in the buds of a great pot bush of Magnolia fuscata—a species far too seldom met with in gardens. One of these delightful and unconventional greenhouses is quite famous for the success which attends nearly all kinds of cuttings, so readily do they strike root therein; but the real "fetish" in the matter is no doubt that loving watchfulness and care, which good old George Herbert emphasised when he wrote so poetically of "the Master's Eye." Look where one may in this delightful paradise, one meets with rare and beautiful plants at every turn, every nook and corner is sacred to some little gem, and like all good gardens it is a changing kaleidoscope, never quite alike on any two days in the year. In March I have seen the Snowdrops here 16 inches high, with grass-like Narcissus leaves, but even earlier there had been a glowing carpet of Crocus on the grassy lawn before the drawing-room windows, and later on there was a blaze of Tulips and of Daffodils, and these again give place to Iris, and Pæonies, and Roses, and Clematis—in a word, from the earliest Snowdrop to the latest Japan Anemone or Christmas Rose, there is an ever constant procession of hardy flowers.

But there are some rare species of Indian Berberis, and one or two shrubs that we must not forget, and the rosy Water Lily from Sweden in its sheltered pool; and there are the great-leaved Gunneras, and the Bamboos, and the glowing yellow Welsh Poppies, and the wild flowers such as Foxgloves, Forget-me-Nots, Veronica, Buttercups, Woodruff, and Lychnis everywhere in the grass, and the great Lady Ferns, and the clumps and masses of Lastræa dilatata, and there is quite a garden of flowers from seed sown by a generous hand on the earthy butt-end of one of the giant Lime trees laid low by the gale. The Antarctic Beech here forms an elegant tree, 30 feet high, and trout-rods half as long can be cut from the Japanese Bambusa Metake at its feet.

And here, in a sheltered nook under the great Beech trees, is a jungle of lower shrub-growth; but above all is a healthy Embothrium coccineum from Chile, but here, on Irish soil, throwing high and wide its leafy shoots and branches wreathed with clusters of its vivid scarlet flowers—hundreds of bunches of a colour that would kill the hue of a scarlet zonal Pelargonium. What a regal beauty is this shrub, as thus seen healthy and perfect in a spot that reminds one of the Colonus of Sophocles, since, like that fair place, this South American rarity is set "In a covert of green glades, unvisited by scathing sun, unvexed by any storm." To see this glowing Embothrium thus set in green tracery, is a sight "fairer than rubies," and one but rarely enjoyed. But the sun is setting low, and gilding the Ash boles, and burnishing the silvery lustre of the swan who is fussing his wings on the lake below. The deer are wandering away to rest, and yet we are loth to part from this flowery paradise and its grassy glades and dells of feathery native Ferns There is just one last glimpse at the scarlet clusters of the Embothrium through the leafy Limes; there is still the blood-clustered Rhododendron Roylei gleaming above the tall grass below. A wood-pigeon starts from the blue Pine tree, while high above all, in the tallest Beech trees, the great grey herons are feeding their young ones—"none daring to make them afraid."

After seeing a broad and beautiful old garden and domain of this kind, one feels an exaltation of the mind, and a consciousness of its being a something more pleasant and satisfying than a jam tart-like garden of carpet beds, or a crowded flower show, or than an exhibition of painted pictures, because here the pictures are alive and real, and ever changing in the air and sunshine from hour to hour. To thus see the cool lush grass, and the flowers, and the noble trees against the sky, and to see the great herons wheeling slowly overhead laden with fish dinners for their nestlings, and to catch just one last glance at the dappled fawns and their young ones in the bracken, is to feel that Pan is not yet dead, and to be assured in one's heart that there is something Arcadian left to us in the world after all.

F. W. B.

New or Noteworthy Plants.

CHLOROPHYTUM BRACHYSTACHYUM,

*Baker, n. sp.**

This new Chlorophytum is nearly allied to the Indian and tropical African C. breviscapum of Dalzell, and the Angolan C. stenopetalum, Baker. It is remarkable for its Eucomis-like leaves, which have a very undulated and conspicuously ciliated margin. It was imported from Nyassaland by Mr. John Buchanan, C.M.G., and has just flowered for the first time, of course under cover, in the Royal Gardens, Kew.

Root fibres rather fleshy, cylindrical; leaves six to eight in a basal tuft, erecto-patent, lanceolate, moderately firm in texture, light green, glabrous on

* *Chlorophytum brachystachyum*, Baker, n. sp.—Fibris radicalibus cylindratis; foliis sessilibus lanceolatis utrinque glabris, margine crispis distincte ciliatis; pedunculo brevissimo; racemo denso furcato; bracteis lanceolatis ciliatis; pedicellis brevissimis sæpe geminis; perianthii albi segmentis oblongis reflexis; staminibus perianthio æquilongis, antheris parvis oblongis.

the surfaces, much crisped and conspicuously ciliated on the margin, reaching a length of 6 to 8 inches, 1 to 1½ inch broad at the middle, narrowed to apex, and sessile base; peduncle very short; raceme dense, oblong, compound at the base; lower bracts lanceolate, ciliated; pedicels very short, the lower in pairs; perianth white, ⅓-inch long; segments oblong, reflexing from a basal cup; stamens as long as the perianth; anthers small oblong, yellow; style overtopping the anthers. *J. G. Baker, Herbarium, Kew.*

Iris Athoa, *Foster, n. sp.**

Rhizome compact, short, and somewhat broad; leaves in dense heads, short, broad (25 cm. or less, by 3 cm. or more), pointed, with a tendency to be falcate; the scape more or less ancipitous, about 30 cm. high or less, with two pointed bracts, but otherwise naked bears a terminal bud of two or three flowers, and sometimes (but rarely) a lateral flower; spathe valves very navicular, keeled, and inflated, bright green, with a more or less purple edge, not at all scarious at flowering, leaving the upper part of the perianth-tube exserted; outer perianth segments spathulate, the blade sharply deflexed on the claw, and also on itself laterally; the blade of a thin red-purple, without conspicuous veins; the claw white in front, yellowish behind, marked with bold thick brown-purple veins, which end abruptly at the level of the front of the beard; beard dense, of white hairs tipped with purple; inner perianth-segment a long ellipse with a short claw, the blade of rich red-purple, the claw yellowish, with numerous brown-purple spots and veins; style narrow, pale in colour, with somewhat small pointed triangular crests; anthers short on long filament; pollen scanty; perianth-tube twice or three times as long as the ovary, which is rounded-trigonal with thick walls; ripe capsule not seen.

This Iris was sent to me by Mr. Burbidge, of Dublin, having been gathered by Professor Mahaffy, on Mount Athos, in 1889. It comes very near to I. subbiflora, Brotero, *Bot. Mag.*, t. 1130, and for some time I was inclined to regard it as a geographical variety of that species; but this year, Mr. Max Leichtlin has flowered specimens gathered by Bornmüller from the same locality. These are in better condition than my own specimens, and, I think, justify me in giving the plant a specific name. I propose to call it I. Athoa.

The Portugal plant, the true I. subbiflora of Brotero, is a very tender plant, difficult to cultivate in this country, and frequently bears one flower only, even under favourable conditions—hence the name. The Mount Athos plant is much more robust, and bears three flowers or more. The Portugal plant varies in colour, being sometimes a red-purple, sometimes a blue-purple, and, it is said, sometimes yellow. The Mount Athos flower has a peculiar colour, not unlike that of I. Balkana, a brownish-red-purple, which is conspicuous in many Asian Irises, which is absent from the western Europe forms, and which begins to make its appearance in the forms from eastern Europe; it is indeed in many ways an acceptable plant. Lastly, the true I. subbiflora is confined to Portugal, and though there are some allied forms on the Italian Riviera and in south Austria, these in no way connect the Portugal with the Mount Athos form, and the geographical separation between the two itself goes far to justify distinct names. At the same time it is certainly singular that two plants in many respects so much alike should be found in two places, so far apart, each with a restricted habitat, with no clear links between them. A small-flowered somewhat dwarf self-coloured variety of I. germanica, has been very widely but erroneously distributed as I. subbiflora. *M. F.*

* *Iris Athoa*, n. sp.—Rhizomate mediocriter crasso; scapo ancipite bracteato 1-, 2-, vel 3-floro, foliis ensiformibus acutis falcatis sublongiore; spathæ valvis navicularibus inflatis subanthesi herbaceis; perigonii tubo ovarium trigonum bis vel ter superante; perianthii segmentis externis spatulatis, lamina rubro-purpurea valde reflexa, ungue flavescente venis conspicuis brunneis, barba alba; segmentis internis ellipticis elongatis, rubro-purpureis subito in unguem brevem contractis; antheris filamentis longioribus. Capsulam maturam non vidi. Ab. I. subbiflora (Brotero) haud procul distat. Hab. Mons. Athos. Fl. Aprili vel Maio. *M. Foster*, *May 24*, 1893.

VINE ROOT-CLUBBING.

The clubbing of Turnip and Cabbage roots has long been known as a disease, and has been attributed to various causes; but it is only within a few years that it has been accurately determined, and attributed to a parasitic fungus of a peculiar character, possessing some of the features of the Myxomycetes, which some authors persist in associating with the animal kingdom. The name given to this somewhat aberrant genus of slime-fungi is Plasmodiophora, and only three species are recognized in the latest systematic work, that of Professor Saccardo. Of these, one attacks the roots of Cruciferæ, only too well-known in this country; another attaches itself to the roots of the Alder, and is also very common; whilst the third, upon roots of Elæagnus, seems to have been confined hitherto to Germany. Within the last few months a fourth species has been detected as causing a peculiar clubbing of Vine roots, of which examples were forwarded to this journal from a British locality, so that it may now be regarded as an unwelcome addition to our Vine diseases, of a pertinacious and rather dangerous character. In many features it more closely resembles the species found upon Alder roots than that of Turnips, and before we had seen the memoir in which it was characterised, we were inclined to regard it as a variety of that species, for some time inserted in our Flora as Schinzia alni. There is not the slighest doubt upon our minds that it is the Plasmodiophora vitis, which has appeared upon the continent of Europe, and that it has a tendency to diffuse itself like other species, so that unless counteracted at once, it may prove one of the most troublesome and universal of Vine diseases.

The Vine roots in question were swollen into large, somewhat globose nodules, as large as the fist, the surface being rough, or warted, with obtuse projections, and when cut, the cellular interior was found to contain a mucilaginous substance, not unlike the plasmodium of some species of Myxomycete. Doubtless it is allied, in some obscure manner, to that outside group of fungi, although for the present included with some other imperfectly-understood forms, in a separate family, called the Monadineæ. In all essential particulars the new parasite conforms to the Turnip club-root, or "fingers and toes." In its earlier stages a section of the distorted root will exhibit the ordinary cells, enlarged to very many times their original diameter, and filled with a slimy mucilaginous fluid of a yellowish colour, capable of being drawn out into slimy strings, but with no trace of the ordinary fungus threads, or mycelium, which usually accompanies fungoid parasites.

Later on, towards autumn and winter, the cells present a somewhat different appearance, being no longer filled with the structureless mucilage, but differentiated into a host of nearly spherical bodies with a distinct cell-wall, and possessing all the characteristics of conidia, or fungus-spores. These bodies are produced in enormous quantities, and of an extremely minute size, but without colour. This will be the most which can be seen, by an ordinary observer, of this low form of vegetable parasite, but by patient research and continued investigation it may be possible to trace the germination and development of these spores, which, we may presume, do not differ materially from those of the Turnip club-root.

We may remind our readers that, in the Myxomycetes, "the spores on germination give origin to one, two, or more naked cells (that is destitute of cell-wall), which possess the power of movement due to the protrusion of pseudopodia, or the presence of a cilium; these cells are known as swarm-cells. The swarm-cells possess a nucleus, multiply by bipartition, and eventually coalesce to form a plasmodium in the following manner. After the production of numerous swarm-spores by repeated bipartition, little groups are formed by the close approach of two or more of these bodies; these groups often disperse again, but eventually the components of a group coalesce, and lose their individuality. This coalescence and loss of individuality results in the formation of a small plasmodium, which, in some unknown way, possesses the power of attracting surrounding free swarm-cells; these at once coalesce and add to the bulk of the plasmodium."* This power of forming a plasmodium by the aggregation of the germinating spores originated the name of Plasmodiophora, or "Plasmodium bearer" for the genus now under consideration. The slimy mucilaginous condition first alluded to above being the Plasmodium condition of the parasite.

Mr. Worthington Smith has figured the motile germinating spores of the Turnip club-root,† which will convey an idea of the same process in the present species. By a series of gradations, it is shown how each atom of protoplasm creeps out of its envelope, and becomes a zoospore with a kind of hair-like tail. It may be conjectured how these creeping bodies, when released from an old clubbing, remain in the soil, progress to other and neighbouring roots, and thus continue to perpetuate and diffuse the species. Each club-root is, therefore, a centre from which the disease may spread. It is scarcely probable that any of the numerous fungicides will be of any avail to dislodge the parasite when once it has obtained possession, the only feasible remedy being to extirpate, by burning, every atom of infected roots, and not to plant again on the same spot, without removing the whole of the soil, and replacing it by fresh and unpolluted earth. This may seem to be a drastic measure, but with such a foe only measures which are thorough can be effective.

The experience which has been gained in connection with the Turnip club-root, should be remembered in dealing with the present disease, which is of precisely similar character. Practical men will at once see that every atom of club-root which remains, will be a source of danger, and that no cure can at present be suggested, except by "stamping out" the disease at once, wherever it appears. *M. C. Cooke.* [We have long been familiar with this excrescence on Vine stems as well as roots, and see a few specimens every year. As these do not increase in number, we are inclined to think the mischief done by the slime fungus in this case is not serious. Ed.]

* Massee's *Monograph of the Myxogastres*, p. 5 (1892).

† Germinating spores of the Plasmodiophora. See W. G. Smith's *Diseases of Field Crops*, fig. 39, p. 101.

ORCHID NOTES AND GLEANINGS.

VANDA TRICOLOR var. PLANILABRIS.

A beautiful variety of a beautiful species, characterised by the front lobe of the lip being broader and less convex than in the type, with the ridges of the disc less distinct at the apex, less deeply toothed. Sepals and petals white externally, internally yellow, richly blotched with brown, lip deep violet. It is well figured in the April number of the *Lindenia*, t. 369.

Cyrtopodium Aliciæ.

A very curious Orchid, with tall, erect, spindle-shaped pseudobulbs, from the base of which proceeds the scape, bearing at the summit a loosely-branched, many-flowered panicle. Each flower measures about 4 cm. across, the segments obovate, spatulate, greenish, marked with purple blotches, as also are the bracts. The lip is stalked, 3-lobed, the side-lobes obovate, oblong, erect, the central lobe shorter, roundish, with a somewhat hemispherical crest. It was introduced from the district of Pernambuco by L'Horticulture Internationale, and is figured in the *Lindenia*, t. 371.

Disa tripetaloides.

A coloured figure of the species figured in our

columns, 1890, p. 768. Flowers in racemes, spurred, white, with numerous purplish spots. *Orchid Album*, t. 462.

Maxillaria Sanderiana.

A noble species, with flowers 14 cm. across; sepals spreading oblong acuminate from a broad base; ivory-white, with deep purple blotch at the base; petals of the same form and colour, but half the size; lip trowel-shaped, rich purplish-brown, with a cream-coloured front-lobe. *Orchid Album*, t. 463.

Calanthe Oweniana ×.

A cross raised in Mr. Williams' nursery between C. vestita and C. Veitchii ×. The flowers measure 6 to 7 cm. in longest diameter; segments oblong lanceolate, rich violet; lip three-lobed, deep violet, with a central white patch; anterior lobe notched in the centre. *Orchid Album*, t. 464.

Orchids at Hazelbourne, Dorking.

The gardens of Welbore T. Ellis, Esq., afford an excellent selection of showy, well-cultivated Orchids, and, like other subjects in this garden, speak of the unremitting care of Mr. Masterton, the gardener. Two of the houses are at the present time attractive, viz., the warm Orchid show-house near the dwelling, which is kept gay all the year round, and the cool Odontoglossum-house in which are the established specimens. In the former is a fine show of Cattleya Warscewiczii, C. Mossiæ, C. labiata Warneri and C. Mendeli; well-flowered specimens of Vanda suavis, Dendrobium infundibulum, with many large heads of blooms; D. Dearei, and various Lælias, among which is a noble form of L. tenebrosa. And suspended overhead are plants of such species as best display their flowers in that manner, as Odontoglossum citrosmum, Cœlogyne Massangeana, &c.; not the least beautiful being the large bunches of flowers on the Acineta Humboldtii, an old but always admired species. In one corner is a plant of Lissochilus Krebsii, which has been in flower for several months, the spike elongating as each set of bright yellow and purple flowers succeeded those going off, until now, it is 8 feet in height—an extraordinary stature for this species. In the same house Dendrobium nobile nobilius grows with great vigour, and the plants of Cattleya Rex in sheaths are very strong, and might easily be mistaken for those of C. Mendeli.

In the largest Odontoglossum-house the plants are thriving marvellously well. They are strong, clean, and their bulbs and foliage are evidence of their good culture. About 250 grand spikes of bloom appear along the house on either hand, and the quality of the flowers is very fine, equal to the famed Pacho strain, although it is more than probable that they came from another district. The flowers have very broad segments, the petals usually much fringed, and the whole flower of the prescribed good form. The greater part are of the white class of Odontoglossums, with merely a spot or two on the labellum, while two or three are of the O. c. virginalis type, and have no marking whatever. Some again are prettily spotted, and a later batch will probably show even better spotted forms, judging by their buds.

The plants in bloom were imported in 1891, and another house holds the importations of 1892, which are growing well, but are not wanted to flower this year. The occupants of the Phalænopsis-house and the other Orchid-houses are thriving, and the gardens looking as well as can be expected, considering the long drought. Mr. Ellis says that about March 1 they had their last rain of any amount, and with the quantity which then fell, together with the registered rainfall since March 1, seven-tenths of an inch only have fallen.

Cattleya Warscewiczii, Sander's var. (*syn. C. gigas Sanderiana*).

A noble inflorescence of a grand form of this showy species comes from Mr. Jos. Barclay, gardener to H. Rowland, Esq., J.P., Buena Vista, Manchester. The spike, which, at its base, is nearly 1½ inch in circumference, is verging on 18 inches in height, and bears six grand flowers, forming a head of bloom 15 inches from outside to outside at the widest. Each flower is 8 inches across, and the petals are 2½ inches wide, and the whole flower very brightly and richly coloured, and truly a fine object to behold.

CULTURE AND GROWTH OF THE AZALEA INDICA.

(*Continued from p. 627.*)

With regard to the chemical composition of the soils quoted in our previous article, we may venture to say that:—

1. Ghent leaf-mould is richer than the French moulds in all useful elements of plant-food except potash.

2. The moulds from the neighbourhood of Versailles vary but little among themselves, and are richer in plant-food than the peat-moulds from the same district.

It will be helpful in the further study of this question to ascertain the amount of useful constituents contained in a square yard of these moulds. This is shown in the following Table:—

Amount of constituents contained in One Square Yard of four descriptions of Leaf-mould.

Constituents.	Leaf-mould from Rambouillet.	Leaf-mould from Maurepas.	Peat-mould from Maurepas.	Leaf-mould from Ghent.
	lb.	lb.	lb.	lb.
Total weight	200	137	123	143
Weight of sifted Dry Mould	115	89	91	113
	Grams.	Grams.	Grams.	Grams.
Nitrogen	305·2	189·8	205·1	598·2
Phosphoric acid	60·3	52·5	26·3	82·2
Potash	182·0	201·1	125·5	73·4
Lime	135·2	71·5	79·2	179·7
Iron oxide	...	68·6	108·3	...
Silica (sand)	43,472·0	32,526·1	32,428·3	17,510·4
Organic matter (humus) ...	4,955·6	684·6	7,711·8	32,966·7

Culture of Azalea indica at Versailles.—The variety selected for the purposes of this experiment, was that known as Madame Van der Cruyssen, and the investigations extended over three years. In the first year sixteen plants were taken, in the second year eight plants, and in the third year four plants. The results in each case are given for the average of the total number of plants.

The amount of dry substance accumulated by the plants from the soil during their early growth as cuttings may be stated as follows:—

Dry substance in leaves	... ...	52 per cent.
,, ,, stems	... ...	45 ,,
,, ,, roots	... ...	77 ,,

Reckoning 1960 cuttings upon each superficial yard, they would contain total dry substance of 1329 grammes, apportioned as follows:—leaves, 1065 grammes; stems, 264 grammes. These cuttings, having rooted, are planted in a soil containing equal parts of leaf and peat moulds.

One-year-old plants of Azalea contain in their different organs for each one hundred of dry substance accumulated the following amounts of nitrogen and mineral matter (ash):—

Parts of the Plant.	Nitrogen.	Mineral matter (ash).
	Per cent.	Per cent.
Flowers	2·62	...
Leaves	1·86	3·80
Stems	1·12	4.20
Roots	0·96	5·30

The following analysis shows the composition of the ashes of the different organs of Azalea plant:—

Constituents.	Leaves.	Stems.	Roots.
	Per cent.	Per cent.	Per cent.
Potash	8·88	14·20	8·29
Phosphoric acid ...	6·88	5·76	3·20
Lime	18·90	21·72	2·13
Iron oxide	0·12	0·12	0·10
Silica	46·00	27·20	78·00

These results teach us that the quantity of nitrogen contained in the leaf-mould used for these experiments was much beyond the requirements of the Azalea. But as this nitrogen exists in the mould in combination with other organic matters, it does not become soluble, and in a condition to be absorbed by the plant except by very slow degrees. Therefore, the actual amount of nitrogenous plant-food provided can only be reckoned by the nitric nitrogen, which is transformed and made assimilable by the process of nitrification, which takes place in the soil during growth.

From the average of many experiments, it was found that in the course of one year, a superficial yard of the moulds used would yield by nitrification the following amounts of nitric nitrogen:—

	Nitrogen.
Peat mould	10·88 grammes.
Leaf mould	37·01 ,,
Total	47·89 grammes.

Thus, during the first year of growth of the Azalea plants, there would be placed at their disposal in each one yard of mould, 47·89 grammes of soluble nitrogenous food, while the analysis of the different organs of the plants showed that they absorbed only 14·77 grammes. And it is tolerably certain that in leaf-moulds, where organic matter (humus) and lime exist in any quantity, the nitrification that goes on is most intense, and must provide abundance of the richest plant food.

Turning now to a consideration of the mineral ingredients placed at the disposal of the plants by Ghent leaf-mould, and the leaf-moulds from Versailles, during the period of one year, we find the following results:—

Constituents.	Ghent Leaf-mould.	Maurepas equal parts Leaf and Peat-moulds.
	Grammes.	Grammes.
Lime	107·07	56·54
Phosphoric Acid... ...	17·13	11·03
Potash	24·78	36·44

These figures show that the Ghent mould produces in an equal period of time, 35 per cent. more assimilable phosphoric acid, and about 48 per cent. more of lime. Therefore by adding a manurial mixture to the French leaf-moulds to supply the deficiency of phosphoric acid, it is possible to obtain a mould of equal value with the Ghent mould.

The conclusion is, that during the first year of growth of the Azalea, the French leaf-moulds are rich enough in nitrogen to supply all the requirements of the plant. The superiority of Ghent leaf-mould is due to its richness in nitrogen, in phosphoric acid and in lime. It is possible by adding to the French moulds a supply of phosphate of lime to obtain a soil of analogous chemical composition.

If we have to do with a soil which is naturally rich, like the Ghent leaf-mould, a soil which may contain in its upper layers, say 1000 lb. of phosphoric acid per acre, from which the plants may draw without stint the amount they require, then the demands on the solubility of the phosphoric acid are small. But if, on the other hand, the soil is deficient in phosphoric acid, or contains this constituent in comparatively small quantities, as the Maurepas leaf and peat-moulds, then the demands on the solubility of the phosphoric acid are naturally much greater. The mould rich in phosphoric acid, therefore, would only need to supply the plants with a phosphoric acid, of which, say, 5 per cent. was soluble; but the mould, poor in phosphoric acid, must contain a phosphate, of which not less than 10 per cent. is soluble, in order to obtain equal results. Hence, to raise the moulds of Versailles to a point of equal productiveness with the Ghent mould, even in the first year of growth of the Azalea, an application of bone-meal, Thomas' Phosphate-powder (basic slag), or superphosphate, must be applied. *J. J. Willis, Harpenden.*

(*To be continued.*)

FLORISTS' FLOWERS.

THE PANSY.

This old favourite flower is becoming very popular again. A dry season like the present is not favourable to Pansies, nor is a dry, light, gravelly soil; labour rightly applied, however, overcomes almost all difficulties, even of this kind. I obtain my best Pansy blooms in the months of April and May in a season like the present, from plants struck from cuttings put in during July of the previous year, good plants being ready to set out the first week in September. The time of planting is of much importance, plants not becoming well established if planting is delayed to a later date. The preparation of the soil is of consequence, and in light soils a heavy dressing of cow-dung 3 inches thick should be dug-in about 6 inches below the surface, but the soil itself dug to 18 inches deep. The plants root freely, and soon find their way to the manure. During hot weather the surface of the beds should be mulched, and water afforded freely. In June cuttings may be obtained, and if these be taken off early in the month they produce flowers in the autumn, and if planted in pots, in the winter and early spring, in an ordinary garden frame. The flowers of the Pansy are so rich in colours, and so sweetly scented that they are well worth the extra care necessary to produce the best results. Their culture may really be summed up in a few words: Rich moist soil to grow in, and a constant succession of young plants, for the plants speedily exhaust the soil in their immediate neighbourhood, and the flowers deteriorate, and are never good from old plants.

Fig. 107.—UTRICULARIA LONGIFOLIA: FLOWERS DEEP VIOLET.

The Phlox.

This is a charming late summer-flowering plant, but fails in a dry season, unless mulched with decayed manure, and well watered. It is even a more gross-feeding plant than the Pansy, and must have a deep soil, with plenty of rich manure. It, like the Pansy, requires to be propagated frequently. Young plants should be raised from cuttings annually, and if they are put in early in March will produce good flower-spikes the same season; but two-year-old plants produce the best spikes, and after that they may be thrown away, and a fresh batch of plants be put out in a new bed. Do not delay to put sticks to the plants, as the stems snap close to the ground in a high wind; even when the spikes are tied up loosely together, they will snap sometimes by the wind moving them to and fro. If the ground is in good condition, a good watering twice a week will be enough, even in hot weather.

If the plants suffer from drought the stem-leaves, decay, leaving them unsightly. The Phlox is easily raised from seed, and the plants produce their flowers the same season. Sow in shallow boxes or seed-pans in a hotbed about March 1, and when the plants have grown an inch in height, plant them singly in small pots, or about 3 or 4 inches asunder in boxes of good soil. Plant out in April. I planted a large quarter of Phloxes from seed in the kitchen garden one year, and thay made a grand display; but, unless the flowers are cross-fertilised, not a good one will be obtained in hundreds.

The Pentstemon.

The garden varieties of the Pentstemon are so useful for autumn flowering, that we can scarcely do without them, not only for furnishing the flower-borders very late, but also cut flowers. The plant is generally supposed to be hardy, and it will pass through the winter, in mild seasons, in the open border; but to risk a valuable collection of named varieties out-of-doors would be to court failure. My stock of plants is put out about the middle of May, except a few varieties which are not quite ready. Pentstemons do not all form roots equally free from cuttings; and the slow-rooting varieties have to be nursed up under glass, to get them equally forward with the more robust varieties. I give them rich deep soil to grow in, and plenty of decayed manure. The plants must also be neatly tied to sticks, and well watered through such a season as the present. Almost every flower will produce a seed-pod, and if seed is not wanted, the pods should be removed, for the plants will not produce flowers freely and seed at the same time; indeed, the only way to get them to flower late will be to remove the flowers as they fade, with the seed-pods. Cuttings put into fine soil, and covered with hand-lights, may be preserved through the winter. They need not be put in before the end of September, or early in October. The culture of such plants is very simple, and they may be grown in any garden—few give such good results for labour bestowed upon them. *J. Douglas.*

UTRICULARIA LONGIFOLIA.

Utricularias form a curious genus belonging to the natural order Lentibulariaceæ, and are so called from utriculus, a little bladder in allusion to the inflated appendages of the roots, which are semi-transparent. The plants grow best when suspended in baskets near the roof in a stove or warm Orchid-house, the treatment accorded the Orchids likewise suiting them. A plant of Utricularia longifolia, see fig. 107, was shown by Messrs. F. Sander & Co., St. Albans, at the Royal Horticultural Society's Meeting on May 9. The colour of the flowers is deep violet or plum colour, in that respect differing from any hitherto known species.

The plant being a small one, and only scantily furnished with blossoms, gave but a faint idea of what a good basketful of the plants would afford. The "lip" shows a deviation in shape from that of U. montana, in being almost circular in outline, and not voluted; and judging from the specimen shown at the Royal Horticultural Society's meeting, the plant will prove to be about equal in robustness to that species. It is a native of Mount Roraima, British Guiana.

Nursery Notes.

MR. W. BULL'S ORCHID EXHIBITION.

This annual affair is always looked forward to with pleasure by Orchid lovers; good things being not rare in the collection, especially in Cattleya, Lælia, Miltonia, and Cypripedium. It is a decided improvement to the old arrangement of the plants in one house, to find that the warm-house species are kept in a house to themselves, whilst Miltonia vexillaria, and Odontoglossum crispum, and others, succeeding under similar conditions, have separate houses set apart for their culture and exhibition. This is better in point of well-being for the plants; moreover, they are more readily seen by the visitors. In the long narrow house—we will call it "the house of multiplying mirrors"—were arranged in nicely undulating banks, the pick of Mr. Bull's plants that are at the present season in good bloom. The general good effect is maintained by the timely removal to other houses of those past their best, and by adding such as are about to flower. As a method of exhibiting the plants for a short time, it deserves nothing but praise, although no Orchid grower in his senses would so arrange them for continued cultivation. We must remember it is simply an exhibition. Premising that among the hundreds of plants observed there were numerous examples of well-tried favourite species and varieties, it will suffice if we jot down for the benefit of our readers, those that are the more novel or rare, and to which the highest prices are deservedly affixed. Cattleya labiata Gaskelliana delicata is a pale form of a variable species, near to C. labiata pallida, in regard to the colours of its sepal and petals. There is a medium-sized plant of this variety bearing a number of blossoms. Of Cattleya gigas var. Sanderiana, we noted a plant carrying twenty-two blooms and several unopened buds. This is naturally a free bloomer; the sepals and petals of pale rose, and the lip of deep magenta-purple. The plant is usually in flower at a somewhat later season, but the prevailing warmth has hastened flowering. The fine Cattleya labiata Mendelii Rex: we take the sub-varietal name to be a nurseryman's distinguishing addition! has flowers perhaps a little more gorgeous in the colours, and more marked in their contrasts than is the type. C. l. M. Victoriæ is another beautifully-marked variety. Of the Mossiæ species of Cattleya in flower were C. M. aurantiaca, in which there is much orange-colour at the opening of the throat, as is observed in C. M. flammea. C. M. grandiflora, with the word "gigantea" added [!], is an extra large form of a usually large-flowered variety; the sepals and petals are blush tinted, and the lip is marked with a bar and broken rays of rosy-violet, and with an orange stain at the base. C. M. marginata, a large plant, as its name shows is a bloom with an edging, which in this case is white. Others were C. M. rubra and C. M. venosa, the latter with lip beautifully marked with what appear like veins of colour. A plant of Cattleya Schilleriana Regnelli carried three flowers, the sepals and petals of a green tint, suffused with olive-green, and spotted with dull purple-brown; the lip three-lobed, the centre lobe crimson-purple, bordered with white—this is a very desirable species, blooming as it does in July and again in September. The beautiful Cattleya superba had several open flowers on one plant; it is yet early for the flowering of this agreeably fragrant South American species.

Aërides Fieldingi rubrum, with short racemes of flowers, is a fine object; as also A. Houlletianum, with buff-coloured petals and sepals tipped with a blotch of magenta; the lip creamy-white, with a magenta-coloured patch in front of the middle lobe. A plant of the pure white, waxy-looking A. mitratum, with rosy-purple lip, was observed in bloom; the spikes are erect, 6 to 10 inches long—it is still a rare plant in collections. A. Picotianum is another notable species, with short flower-spikes of pale coloured flowers. In A. Savageanum we have a species with a raceme of flowers as long as the leaves, 7 to 10 inches; the sepals one-half white, the other half purplish-crimson; petals the same, but not so wide; lip of purplish-crimson, and straight green spur. We observed one plant in flower of the summer-flowering variety of Angræcum sesquipedale.

A plant of Bulbophyllum Lobbii, another of Cochlioda Noezliana were in flower, and several of the best variety of Cymbidium Lowianum named eximium, in which, instead of the greenish-yellow of the sepals and petals, as seen in the type, the colouring approaches more nearly to clear yellow, and the lip is of a more intense maroon tint. Another Cymbidium in bloom is tigrinum, a plant differing in general appearance from any of the other species.

A few Cypripediums were noted, viz., C. Exul, a useful species; C. Io grande, and C. œnanthum superbum. In Dendrobes, there were clavatum, D. infundibulum, D. japonicum—otherwise moniliforme, D. lituiflorum, and several of the richly-coloured favourite, D. suavissimum. The handsome Galeandra devoniana, which blooms several times in the year, was in flower; the highly-coloured flowers arranged in nodding, pendent racemes at the top of the new growths. Eulophia pulchella is another rarity that was observed in flower. Lælia purpurata, in variety, which have always been strongly represented at this nursery, were noted in many examples. We may mention L. p. alba, L. p. Chelsoni, L. p. rubicunda, and L. p. versicolor, the latter a very fine variety. Lycaste cruenta major, and several Masdevallias were in flower, notably M. Chimæra Backhousiana, M. infracta purpurata, M. peristeria, M. radiosa, and M. severa. In Oncidiums, O. pulvinatum major, O. stelligerum, a fine thing; O. s. Ernsti, O. æmulum (superbiens), and the true O. Weltoni were observed in bloom.

In the cool-house, where the plants of Odontoglossum crispum are this year located, we counted on one side of the house 123 spikes in flower or bud, and on the other 101, the whole forming a remarkable sight, and one that it would be impossible to excel anywhere. The flowers seem, with scarcely an exception, to be of the finer type, thick in substance, pure in colour, and of the approved shape. Scattered amongst these were plants of O. Andersonianum luteo-purpureum, O. polyxanthum grande, and O. illustre.

Opposite to this house was one filled chiefly with plants of Miltonia vexillaria, in much variety, and beautifully flowered. Other plants in this house consisted, in part, of Brassia Keiliana, Odontoglossum citrosmum in several varieties, O. Harryanum, the pretty O. cordatum Kienastianum, O. hastilabium, O. maculatum, and its variety, triumphans; and O. Pescatorei oculatum.

Cultural Memoranda.

SUMMER TREATMENT OF BOUVARDIAS.

The chief points to be observed in the successful culture of Bouvardias are (1), the thorough ripening of the wood after the plants are gone out of flower, by gradually withholding water from the roots; and (2) by keeping the plants out of the reach of frost in a cool pit at rest after they have shed their leaves until the middle of May, when they should be pruned hard back, stood out-of-doors on gravel or coal-ashes, and watered. As soon as they begin to make growth, shake the soil off the roots and shorten them, and then plant out in an open situation, affording them a compost consisting of three-parts sound loam, and one of short dung, leaf-mould, and sharp sand to grow in, making this firm about the roots, finishing off with a slight basin-like hollow around the stem of each plant. Water should be afforded as soon as planting is done, and whenever it is considered to be necessary, and syringing the plants in the afternoon after sunny days until well established.

In order to secure a bushy habit, the new shoots should have the points nipped off up to the end of the month of July, or in fine, warm years, even later. The aspect should be a warm one, sufficient space being afforded, so as to admit of good-sized heads of short-jointed wood being developed. The plants should be mulched with short-dung, laid on 2 inches thick, which will have the effect of keeping the soil uniformly moist. Liquid manure may be supplied to the plants during the next two months. At the end of the month of July, ring the plants round with a spade to its full depth, at a distance from the stems in accordance with the dimensions of the pots to be used.

The potting-up of planted-out Bouvardias may be performed early in the month of September; and about the methods which I employ at that time, I may have something further to say at a later part of the season. *H. W. Ward.*

MARKET GARDENING UNDER GLASS.

(*Continued from p.* 599.)

Mr. Thomas Rochford, Turnford.

About two miles from Cheshunt Station, on the Great Eastern Railway, is the Turnford Hall Nursery, of Mr. Thomas Rochford. Market gardening is here carried out on an exceeding large scale, as will readily be conceded when we say that the area already covered by glass is about 22 acres, and that as many as 200 hands are employed during the summer months. A good number of the houses seem new, indeed, we believe that Mr. Rochford has put up the greater part of them during the last few years. The Vines are, for the greater part of them at least, young canes in span-roofed divisions, only at present fruiting about three-parts up the roof. Consequently, the output of Grapes will be much larger this year than last, and will be greater still next year, other circumstances being favourable. Last year it was about 30 tons, no small amount to be yearly increased upon under glass; but about 50 tons are expected during the present season. The varieties grown are Black Alicante, Gros Colmar, Muscat of Alexandria, and Canon Hall Muscat. Of course, there is much difference in the stage at which the various houses of Grapes are found. In some of them the process of thinning is only just completed, but they are, for the most part, past this stage, and the bulk of them have set a heavy crop. One house of Muscats that we noticed, however, had set rather badly. If we except one or two of the houses, where spider has made its appearance, the Vines are clean and very healthy. One house alone furnished 7¾ tons of Grapes last year. It is a very large one—on the ridge and furrow principle—and the Vines have been planted originally in much the same manner that Tomatos are generally seen, and cropped between the border and the roof, but many of these will be taken out, and others encouraged on to the roof, so that a system approaching the usual one will soon be arrived at. There are at present 1600 rods in the house, and the varieties are Black Alicante and Gros Colmar. Cucumbers are grown in span-roofed houses with a very steep slope, the only variety grown being an unnamed seedling, but which appears to be a very good market variety. It is not over large, and has just sufficient spines to indicate good flavour. We understand that during last season the average output was about 250 dozen in one day, but upon certain occasions as many as 500 dozen have been cut. More houses have been built since then, and the output will be about doubled in the present season, and in figures the number expected is about 748,000. Two years ago the amount of Tomatos grown was 85½ tons, but the bulk of the Grape Vines were not bearing then, and a great quantity was grown in these houses. Last year the output was something over 40 tons, and perhaps this will be something like the yield of the present season. Most of the stock is looking wonderfully well, and the variety grown is extremely fruitful, and produces a good even-sized smooth fruit in very large clusters.

The largest item of all, perhaps, is the Palms. House after house is devoted to their growth, and it would be idle to attempt an estimate of the number. The species grown are much the

same as those found in other collections for market, such as Cocos Weddeliana, Geonoma gracilis, Livistona chinensis (Latania borbonica), Kentia Belmoreana, &c., Seaforthia elegans, and Areca Baueri. These are present in any quantity, and in first-rate condition. A number of seedling plants of Macrozamia spiralis are in one of the houses, and form a very uncommon feature in a garden of this kind. Before turning our attention from the Palms, it is worth noting that Mr. Rochford has commenced to build another house for their growth, and it will cover fully 1 acre of land. This work will be carried out by men permanently engaged at the establishment, for unlike many similar places, a good number of mechanics forms part of the regular staff.

Dracænas form another feature of the establishment. They are present in three varieties—D. amabilis, D. stricta, and D. terminalis. Respecting these, it is sufficient to say that we have never seen a better lot of these plants.

A fine batch of Hydrangeas are just now in bloom, and are in the market. Most of them are last year's cuttings, and carry one large head of bloom; others are plants that have been cut back, but are still in pots no larger than 5 or 6 inches, and carry six or eight smaller heads than are on the single stems. A large house packed with these in full bloom is quite a sight. The white variety, Thomas Hogg, was present also in good quantity, with flower-heads as large as the type. Several hundreds of plants of Spiræa palmata were in full bloom, and reminded us again what an effective plant this is, when a thorough good colour as we saw it here.

In a portion of the nursery devoted principally to Ferns, were houses full of Lomarias, Pteris serrulata densa, and the usual marketable kinds; also a batch of Anthuriums, although the spathes but seldom find a ready market. Thousands of plants of Lilium longiflorum var. Harrisii were in bloom, and these are sold both as plants and cut blooms.

A railway-siding has been conceded to the establishment for the supply of coke, the consumption of which exceeds 4000 tons a year. All produce, intended for the London markets, is sent in Mr. Rochford's own vans by road, but considerable quantities for Manchester, and other large towns in the North, are necessarily sent by rail. A large consignment of Palms was being prepared at the time of our visit, in fulfilment of an order in America.

(To be continued.)

Fig. 108.—LÆLIO-CATTLEYA × MAYNARDII = L. PUMILA DAYANA × CATTLEYA DOLOSA.

Perianth segments purple; front lobe of lip very dark bright purple, white at the base; side lobes dark purple above, paler below.

LÆLIO-CATTLEYA × MAYNARDII.

We are now able to lay before our readers an illustration (fig. 108) of the hybrid to which a Silver Flora Medal was awarded for the best hybrid Orchid at the last meeting of the Royal Horticultural Society. It is the result of a cross between Lælia pumila Dayana ♀ and Cattleya dolosa ♂, and is described in our report of the Orchid Committee in another column of this issue. The hybrid origin of the plant is shown in the mode of growth to which our attention has been drawn by the artist, the growths or shoots having alternately one or two leaves on them; thus, the first shoot has one leaf, the next two, the third one, the fourth two, and so on. Now, Lælia Dayana, the female parent, has usually, but not invariably, one leaf to each pseudobulb, and Cattleya dolosa has generally two leaves.

TREES AND SHRUBS.

Cupressus (retinospora) obtusa.—This fine obtuse-leaved species is indigenous to parts of Japan, where it is said to attain the height of from 70 to 100 feet, with a straight uniform stem, capable of being utilised for a great many purposes. Since its introduction into this country in 1850, it has not only proved to be quite hardy in most situations, but likewise capable of growing in a great variety of soils, including reclaimed peat-bog mixed with a little soil or pulverized clay at the spots where the trees are planted. It, however, prefers a moderately-sheltered situation, not confined, otherwise it is apt to assume a bare lanky habit of growth. In cases where the soil is of a poor thin character, resting upon hard ferraginous matter, it should not only be well broken up with a pick, but I have likewise found it to be an advantage to mix a little soft bog-earth or leaf-mould with the staple at the spots where the trees are to be planted. The following varieties are all highly ornamental, and well worthy of the attention of the planter:—

Var. obtusa nana (Hort.), *syn. Thuja pygmæa* (Veitch), *and obtusa pygmæa* (Gordon).—In order to prevent confusion regarding the name of this dwarf variety, I have given the authorities. This beautiful and compact plant seldom attains a height of more than 12 inches, but spreads out its side branches in a regular and uniform manner from the stem all round to about twice that distance, on which account it has a very singular and odd appearance. It makes a fine little specimen plant for a rockery, or small garden where space is limited, and it may likewise be grown in a flower pot, and mixed with other plants to furnish a balcony or hall. In all cases particular attention should be paid to efficient drainage, as it is very impatient of stagnant water at the roots, and it is likewise an advantage to mix a little well-decomposed leaf-mould with the soil at the time of planting, as given for the species.

Var. obtusa aurea (Fortune) differs from the species in having its leaves and twigs intermixed with others of a yellowish or golden colour, which presents a fine contrast with its normal green foliage. It makes a very attractive specimen, and if allowed plenty of space, it is generally well furnished with branches and spray.

Var. obtusa compacta (Hort.), as its name denotes,

is a compact variety, well furnished with leaves of a lesser size than that of the species, and when well established, it exhibits a close, dense habit of growth, and makes a fine bushy specimen.

Var. obtusa Keteleeri (Standish) has a strong resemblance to that of the species, with this difference, that many of the branches and twigs are clothed with leaves of a yellow or golden colour; it is very attractive as a specimen, and presents contrast and variety.

Amateurs should use these small evergreen trees and shrubs when planting their gardens and grounds at suburban villas, where space is but limited; and as they are all remarkably hardy, they bear shifting and a little pruning with impunity. They either do to plant in groups by themselves, or mixed with others, and as they can be bought from nurserymen at a reasonable rate, they have much to recommend them to the notice of the planter. *J. B. Webster.*

VEGETABLES.

ENGLISH WONDER PEA.

THIS new variety, introduced by Messrs. Cannell & Sons, of Swanley, Kent, was raised at Kenilworth by a Mr. Tipping, a gardener, and I saw it growing before Messrs. Cannell & Sons bought up the stock and introduced it; and there is an excellent lot of this variety now to be seen in the gardens of Stoneleigh Abbey, near Kenilworth. On one border are a quantity of short rows of English Wonder and Chelsea Gem Peas, half of each, sown on March 6, all in very fine condition of growth, and of the same height, just about 18 inches. English Wonder has a more robust growth, and Mr. Beddard says that of the two it is the better flavoured, and is preferred by him; but Chelsea Gem has the advantage of being from a week to ten days earlier, and that is a point gained. Both varieties crop exceedingly well, but English Wonder is so great a favourite for early work that on another border there are about fifty short rows of this variety sown two days later (March 8), which are fully equal in crop and earliness. *W. D.*

LILY-WHITE SEAKALE.

Mr. Beddard, gardener at Stoneleigh Abbey, cultivates this variety very extensively for forcing as superior to the old kind. Two large quarters in one of the kitchen-gardens have been planted with sets for forcing in the winter, and look most promising. Seakale is an important item at Stoneleigh, 3 cwt. being cut last winter for the family requirements, and the White Lily variety produces short sturdy crowns of growth, is easily blanched, and its quality is excellent. *W. D.*

THE BULB GARDEN.

SCILLA CAMPANULATA VARS.

THESE have been very beautiful during the past spring in the Royal Gardens, Kew. Few bulbous plants are more easily grown, and few are finer in effect when disposed in large clumps, or a mass of one distinct variety. The pure white form named alba is as vigorous as any, the flowers of the purest white, and useful to cut for the house. A charming decoration could be formed with the flowers of S. campanulata in variety, as there are deep blue, pure white, red, and quite a pink kind. One does not see much of the white and pink forms in gardens, but they are as free-growing as the type. They add to the interest of the plant-house in March, when grown in pots. This species of Scilla and its varieties may be planted in spots upon which the sun seldom shines, and will even succeed well in quite suburban districts. At Kew they are used largely, the beautiful white variety in particular, and the flowers remain in perfection over a long season comparatively. *V.*

THE WEEK'S WORK.

FRUITS UNDER GLASS.

By M. TEMPLE, *Gardener, Carron House, Falkirk, N.B.*

FIGS.—Trees ripening fruit should be kept rather dry, and have plenty of air admitted to the house; many Figs are rendered useless by crowding the foliage, thus shutting out light and air, therefore rigorously thin out all shoots which are not required, and stop the gross ones. Thin the fruits on late trees, leaving each fruit about 6 inches apart; as soon as the early crops of Figs are gathered, let the next succeeding be afforded liberal applications of manure-water at the roots, and well wash the leaves with the garden-engine. The mulching of the roots may be advisable in very shallow soils.

STRAWBERRIES.—There should be no delay in getting the stock of next season's fruiting-plants rooted, freely supplying the runners with water, also the soil on which the pots stand. Stop all runners beyond the one that is layered, and as soon as the runners are well rooted remove them to a shady position, and pot them firmly without much delay. As a potting soil employ good loam, with two quarts of bonemeal and one of soot to each barrowful. Old melon soil is used by some gardeners after clearing the surface an inch or two. When potted, the plants should be placed in the full sun, watered overhead at first, and at the roots, likewise when growth has become active. If the plants are to fruit early, 5-inch pots are large enough. For mid-season and late forcing, 6-inch and 7-inch pots are suitable.

INARCHING VINES.—If it is desirable to inarch other varieties on old Vines, select a vigorous shoot near the base of the Vine which is to be the stock, and cut clean away a slice of bark and wood 3 or 4 inches long, which should not be longer or broader than it is prudent to remove a piece from the scion. Fit the two surfaces and barks exactly together, put ties above and below the junction to keep the two shoots from twisting, then wrap soft matting neatly round the barks which have been joined. Over-tight tying is apt to do injury. Young Vines in pots, for early forcing next year, should be kept closely stopped, the shoots exposed to sunshine, and a drier atmosphere, with plenty of air, afforded them. If the shoots are gross, fire-heat, with a circulation of dry air, will ripen them. The unripe state of the wood of pot Vines is a common cause of failure. Vines recently planted may be assisted to vigorous growth by shutting up the vinery early in the afternoon, and maintaining a moist air. While abundant growth is very desirable, the lateral shoots should not be allowed to get crowded. Examine the soil, and if it be dry, afford water liberally. Young Vines should not require liquid manure till they bear fruit. Muscat of Alexandria ripens easily at this season, but a cool temperature should not be kept, as it is adverse to fine colour, and fire-heat—at least, in cool weather— may be a necessity; in fact, it cannot be dispensed with in northern parts.

MELONS.—These set freely during June, but it is well to fertilise the blossoms. Liberal treatment should now be afforded. Thin the bines often, and afford plenty of air to fruit that is ripening, keeping the structure somewhat drier. Plant out for succession before the plants become pot-bound, and keep a moist, high temperature till growth is active.

TOMATOS.—Plants fruiting should have the crop thinned, and lateral growths removed before they become crowded. They do well with plenty of liquid manure when fruiting. Sow for later supplies, and plant any which are strong enough.

THE ORCHID HOUSES.

By W. HOLMES, *Gardener, Pickering Lodge, Timperley.*

HINTS ON THE CULTIVATION OF THE COOL-GROWING ONCIDIUMS.—The species of Oncidium which are suitable for cool treatment are mostly well worth the attention of the Orchid cultivator. The worst that may be said of them is the difficulties that beset their cultivation. The chief cause of disappointment with the plants is permitting the flower-spikes to remain on the plants for long periods of time—a pardonable mistake, but one that is fraught with danger. Most Oncids flower on the small pseudobulbs, as well as the larger one, and the former are soon exhausted. Oncidium macranthum is a plant that has large supplies of nutriment in its pseudobulbs, and suffers less in proportion than others. Oncidium Marshallianum is one which should be grown at the cooler part of the house in which the Odontoglossums are grown. The reason why some growers fail with this species is because they allow the spikes of flowers, which are usually large, to remain on the plant for long periods, when a fortnight or three weeks would be quite long enough. I find that this plant does very satisfactorily when placed in shallow baskets of Teak wood in a small quantity of peat and living sphagnum moss about the roots, affording water plentifully during growth—and in fact, never allowing it to become dry. The species will be found to grow the more thriftily when the sphagnum moss is kept alive. If after basketing the moss should fail to grow, take a few good heads of living moss and prick in on the top of the basket, and use means to get it to live. Oncidium crispum and O. c. grandiflorum do well under the same kind of treatment, but they require a few degrees more warmth, which may usually be afforded them in some part of the Odontoglossum-house. Oncidium concolor succeeds with me here either grown on a raft or in a shallow pan or basket. Another pretty Oncid is cucullatum, which is often neglected nowadays, but it is one that is well worth growing; it requires to be grown in a pot or pan, and in the same house as the other cool Oncids. O. varicosum and its fine variety Rogersii will now be making up their growths, and when in vigorous health it should not be neglected in the matter of watering, and an occasional overhead syringing—once or twice in a day. Oncidiums macranthum, hastiferum, lamelligerum, undulatum, superbiens, loxense, serratum, and leucochilum will, in most cases, be passing out of flower, and any of them which may need repotting or top-dressing should receive attention. The proper materials for them are living sphagnum moss and peat in about equal parts. The pots must contain plenty of crocks, and the plants be washed with soft-soap and warm water. The above-mentioned species grow finely in a well-ventilated house with plenty of water afforded them at the roots and overhead, the house being maintained in a moist state. Some plants of O. macranthum, which were exhibited recently at Manchester by Messrs. Charlesworth & Shuttleworth of Heaton, Bradford, were, I think, the finest specimens which I have ever observed shown in numbers, although larger single specimens have been noted before. The house in which our plants of this species are grown is so well ventilated, that the leaves of the plants are kept constantly in motion. O. cheirophorum, O. incurvum, O. i. album, O. ornithorrhynchum, O. o. album, all do well in this house. The warm-house section, consisting of O. ampliatum, and its variety majus, thrive best in the intermediate-house; O. fuscatum (Miltonia Warscewiczi), O. splendidum, and O. sphacelatum should have the same kind of potting-material as those of the cool-house, but the watering after repotting should be very carefully performed until such time the roots begin to run. A few Oncidiums, which do better in the stove than elsewhere, are O. Lanceanum, which should now be about to flower, O. sarcodes, O. sessile, and O. Kramerianum, which last two do well on blocks of wood or shallow pans, as little material is needed about their roots.

PLANTS UNDER GLASS.

By BAILEY WADDS, *Gardener, Birdsall Gardens, York.*

PRIMULA SINENSIS.—The early seedling plants of the above should be pricked into pans filled with good loam and peat in about equal proportions, with plenty of sand. For the first potting, small 60's are the best. After potting, place the plants in a shady rather close house or cold frame till they are established, then afford them more air and light, but shading them from bright sunshine, and only at such times, or the leaf-stalks will become drawn. Pot off cuttings of the double varieties of Primula, which strike freely in heat; the cuttings require to be kept rather dry until rooted. Sow seed for late flowering, these being most useful for table decoration if grown in small 60's.

CINERARIAS.—The early sowings of these plants should be potted and kept in a cool shady frame for a time, and then placed on a layer of coal-ashes on the north side of a wall, which will be the best place for them until frost is imminent. Continue to repot them as they require it, and on no account let them get pot-bound whilst in small pots. As a compost, use good loam and leaf-mould, and sand, and see that the pots are well-drained. Sow another lot of seed, placing the seed-pans in a cool shady house or outside, where they will be shaded from midday sun. For greenfly, syringe Cinerarias with Quassia water, and dust soot over the coal ashes to keep away the destructive garden slugs.

PELARGONIUMS.—The show, French, and fancy varieties of these are this year three weeks earlier than usual in flowering, and at the present time the plants are exceptionally brilliant, and to continue the show as long as possible, we shall remove the old flower-stems, and keep the plants well watered, and the house well ventilated night and day, and shaded in bright weather. To keep the plants free from green-fly, they must be fumigated. The removal of the fallen petals from the foliage must be carried out daily, or the latter will soon be disfigured. Avoid syringing or damping the plants overhead. Plants which are gone out of flower should be removed to the outside, and plunged in a bed of coal-ashes till such time as the wood is ripe, affording water for a fortnight, then gradually withhold it until the soil is quite dry. Among good decorative varieties are The Bard, Prince of Wales, Jubilee, Mabel, Sir J. Lawrence, Radiant, Maid of Kent, Stentor, Formosa, Prince of Pelargoniums, Dorothy, Sultana, Prince George, Princess of Wales, Madame Thibaut, Madame Steffen, Blonde, Captain Raikes, Dr. Andry, Essex Rival, Kingston Beauty, Prince of Orange.

THE FLOWER GARDEN.

THE LAWNS.—In almost all parts of these islands rain is sadly wanted, and no part of a garden suffers in appearance, at least, as much as the lawn, especially if it be of large area, and its supply of moisture drawn on by deciduous trees of large size. To keep the grass growing, and the turf therefore of a good colour, is not difficult if there is a water supply laid on, with hydrants placed here and there, or other means are available for watering with a hose from a reservoir or pond. Failing these, the gardener must rely on the watering-pot and the water-barrow, with small and doubtful results from a great amount of labour. Whatever watering is done should be in the evening, the moisture finding its way to the roots of the grasses before sunrise. Mowing burnt-up lawns will not call for much attention, and if mowing has become necessary owing to the unsightliness of flowering stems, the scythe should be used by preference for the present, unless the mower can be set at a good height, so as in cutting not to expose the roots of the grasses.

SHRUBS AND YOUNG TREES.—The watering of these must not be forgotten, be they evergreen or deciduous, the former suffering from drought more than the latter. Much may be done to hinder evaporation from the soil by putting down mulches of half-rotted leaf-mould, short dung, Cocoa-nut fibre, sea-weed, and last year's fronds of bracken. In watering trees and shrubs, loosen up the soil for a distance round the tree or shrub equal to the spread of the branches, and at this distance draw some mould into a confining ridge (do not scrape out a basin) to keep the water from spreading beyond the required limit.

THE FLOWER BEDS.—Here daily attention must be given to watering, more or less, according to the nature of the soil. A mulch is in some cases desirable, but it is more needed on the score of neatness before the plants touch each other. Freshly-planted stuff had better have some shade from evergreen twigs stuck into the soil amongst the plants, which will preserve the freshness of the plants, and save some amount of labour. The necessary laying-down of the plants, pegging them into their places with pegs of fern, wood, or wire, should have attention; and the affording supports to Zinnias, Calceolarias, Begonias, solitary plants of all kinds in flower-beds, Stocks, Asters, Canterbury Bells, Phloxes, Dahlias, Sweet Peas, Nasturtiums, Carnations, Pinks, &c., must be looked to in time, or damage will be done.

THE SUB-TROPICAL BEDS.—These will require considerable quantities of water at times, and almost daily syringings, and all of the taller subjects will stand in need of early staking. These include Giant Hemp, Ricinus, the larger-growing Solanums, Nicotiana Tabacum, Polymnia grandis, Heracleum, Blue Gum, &c.

ANNUALS.—Thin out, and stir the soil around the patches, and alongside the lines of these plants. Let the thinning be done in accordance with the dimensions that the plants will reach, and such of the thinnings as may be required for filling vacant spaces elsewhere should be lifted with all their roots, and some of the soil. After the thinning, water the patches, &c., with a fine rose-pot. Set traps for slugs, or the smaller-growing plants will disappear as fast almost as they push through the soil.

THE KITCHEN GARDEN.

By H. C. PRINSEP, *Gardener, Buxted Park, Uckfield.*

HINTS ON SEASONABLE OPERATIONS.—It is always a prudent course to take notes for future guidance of the various crops grown before they pass away, as to the adaptability of the varieties to the locality, for though the varieties may be good in themselves, they may, owing to peculiar circumstances of soil, &c., not be suited to the place. Where the kitchen garden is limited in extent, it must generally carry a succession of crops annually, and the gardener is often at a loss to find sufficient space for each succeeding crop. On looking round, it may be noticed that a Strawberry plantation in the open quarters may be done away with, and the land dug as soon as the fruit is gathered. Such land may be planted with Broccoli for late supplies. Another border at the north side of a wall may be at present occupied with late Strawberries, but these being of no further service may give place to a crop of Kale to come in late, as in such a position the plants will continue to afford good greens long after others in more sunny positions have run to seed, and will last till the spring Cabbages are ready for use.

COLEWORT.—A sowing should now be made on a north border or in some other shady position. It is a mistake to sow such seeds during the heat of the summer months on a dry border. Dust the plants over with lime or spent hops as soon as they appear above the soil, to ward off the Turnip-flea.

TOMATOS.—Strong plants which were planted against south walls at the end of last month make rapid progress, and timely attention must be paid to keeping the side-shoots pinched off and the leading ones nailed to the wall. Give the flower-stalks a sharp tap in the middle of the day, when the sun is bright, which will distribute the pollen and fertilise the flowers. The formation of stout, short-jointed shoots should be induced by making the soil moderately firm about the roots, as from such the finest fruits and the heaviest crops are gathered. Do not water too abundantly, as that only induces sappy growth that seldom produces strong trusses of bloom. Where large fruit is required, thinning should be done while the fruit is still of small size, selecting the largest and best shaped fruits on each truss.

CAPSICUMS.—Those planted out should be kept well supplied with water at the root, and kept clear of aphis. Should these insects make their appearance, use tobacco-powder, and repeat the application till all traces of them have disappeared.

CELERY.—All Celery except that for the latest supply should now be planted, taking care to lift the plants with a solid ball of earth, watering and shading them as soon as planted. Those previously planted should be well watered with soot-water and liquid manure.

RIDGE CUCUMBERS.—The plants should now be planted on the ridges or mounds, which may be situated on a south border, from which an early crop of Peas or Potatos may have been taken. Keep the plants well supplied with water after they are established, and shade them from the bright sun till then, but afterwards let them have full sunshine.

THE HARDY FRUIT GARDEN.

By T. TURTON, *Gardener, Maiden Erlegh, Reading.*

STRAWBERRIES.—By the time these lines appear in print, the glut of the Strawberry crop—at least, in the South, and excepting late varieties—will be over, although heavy rain falling shortly would prolong the season, by enabling the plants to swell off and ripen small fruits, which, from lack of moisture, they are at present unable to do. Where old plantations have been depended upon for supplying a crop, these will have been disappointing, and hence any intentions which may have held of making new plantations of Strawberries should be carried out this season. Layering should be at once commenced, using large 60's filled with loam two-thirds, and Mushroom-bed dung one-third, then pressed moderately firm. Steps should be taken betimes to have the ground the plantations will occupy quite ready for planting before the roots become matted in the pots. The runners can be kept in place with pegs made from worn-out birchbrooms, or the like, which are preferable to using pebbles, &c. Sir Joseph Paxton is a variety which has withstood the dry weather better than any other grown in these gardens, and in other respects been the most satisfactory. Indeed, taking it in all respects, it is, I consider the best variety grown, valuable alike for dessert and preserving. It also bears for a longer time than any other variety that I know of, and those who have it not, should obtain good rooted runners this season.

APRICOTS.—The trees should now have the shoots which were left at former disbuddings, laid in where they are most required. Foreright shoots still soft should be pinched back, and where the crop is still considered to be too heavy for the trees, thin off still more fruits, in numbers according to the condition of the trees, always retaining those fruits for the crop which are the best placed as regards exposure, &c. Continue to afford liberal root-waterings, at least once a week, and occasional drenching overhead with the hose or garden engine.

DESSERT GOOSEBERRIES.—Early Gooseberries will be much appreciated as dessert fruit to succeed Strawberries, and fill up the gap till Apricots and other kinds of fruit are ripe. The bushes should be netted without delay; and the fruit being for so long a time in use, it repays the labour incurred by protecting them. Our dessert Gooseberries are planted in a walled-garden on a border with an eastern aspect. It is 24 feet wide, and along the edge of the walk, at 10 feet apart, iron posts are let into blocks of wood; from the top of the wall which is 7 feet high; to these wires are stretched, to carry bird netting. The posts and wires are permanent, and the labour, therefore, of covering the bushes is but small. The plan is as well adapted, with obvious modifications, for fruit bushes in the open quarter, wood being used in place of the iron standards.

THE APIARY.

By EXPERT.

PROSPECTS OF THE SEASON.—Owing to the long-continued dry weather, it is too much to hope that the present will be a good season for honey. White Clover has completely died out in places for lack of moisture, and the blossoms that are now appearing in more favoured localities are so dwarfed and stunted that they do not appear to be capable of yielding much nectar. Lime trees, however, are showing well for bloom, and it will be some consolation if the weather is favourable for honey-gathering at the time of their flowering, albeit that this honey is of second-rate quality.

MAKING NUCLEI.—The present is the proper season for making nucleus colonies, by splitting up stocks which have swarmed, giving three frames of brood and bees and a queen cell to each, afterwards returning the swarm to the old hive on full sheets of foundation. These small colonies are very useful to have in the apiary for the purpose of rearing and keeping spare queens. They may be disposed of in the autumn by being united to established stocks, first of all taking the old queen away, or two of them joined together will by that time make a good colony of themselves, which will safely go through the winter. If it is intended to unite nuclei to old stocks in autumn, the hives that contain them should be stood at the side, and be constructed to hold six frames. In the absence of swarms, it is a very good plan to make up nuclei by taking a frame of hatching-brood and adhering bees from every strong colony, and giving to each a purchased virgin queen. The bees will unite without fighting if they are first dusted over with flour, and the queen may be put with them at the same time.

REMEDY FOR BEE STINGS.—Iodide of potassium has been recommended as a remedy for bee stings. The method of applying it is by holding a crystal of the iodide to the wound. The cost of it is not much, 3*d*. per drachm, and it must be kept dry.

A NEW DEPARTURE IN COMB FOUNDATION.—An idea has been put into practice for the economising of wax in the manufacture of brood foundation by means of which more sheets to the pound can be obtained. On the principle that bees commence naturally to build comb from above, and gradually reduce it in strength and thickness as they progress downwards, the new foundation is made after the same fashion. It is the thickness of ordinary brood foundation on the side that is affixed to the top of the frame, and is gradually thinned-out towards the other side to the thickness of super foundation. The probability is that this arrangement will, to a great extent, lead to the building of straighter and more perfect combs in the frames, as the wax will not be so likely to stretch and sag as it does with the foundation of the same thickness throughout now in use. The new foundation is at present made with flat-bottomed cells, but it is intended to make it of the natural-base pattern.

EDITORIAL NOTICES.

LETTERS FOR PUBLICATION.—*All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for contributions, or to return unused communications, or illustrations, unless by special arrangement.*

PLANTS, &c., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be carefully packed and numbered, and not more than six should be sent at one time.*

LOCAL NEWS.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

ILLUSTRATIONS.—*Photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c., are particularly solicited; but the Editor cannot be responsible for loss or injury.*

NEWSPAPERS.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Advertisements should be sent to the PUBLISHER.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY,	JUNE 20	Royal Horticultural Society: Committees, at Drill Hall, James Street, Westminster. National Rose Society: Annual Dinner at the Hotel Windsor.
WEDNESDAY,	JUNE 21	Royal Botanic Society; Floral Fête.
THURSDAY,	JUNE 22	Gardeners' Royal Benevolent Institution: Annual Dinner, at the Hôtel Métropole, at 6 P.M.
FRIDAY,	JUNE 23	Royal Botanic Society: Lecture, at 4 P.M.
SATURDAY,	JUNE 24—Royal Botanic Society.	

SHOWS.

TUESDAY,	JUNE 20	National Rose Society, in connection with the Royal Horticultural Society, at Westminster.
WEDNESDAY,	JUNE 21—Dursley Rose Society.	
SATURDAY,	JUNE 24—Reigate Rose Society.	

SALES.

TUESDAY,	JUNE 20	Collection of Orchids formed by W. Houghton, Esq., at Protheroe & Morris' Rooms.
FRIDAY,	JUNE 23	Imported Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—61°.6.

*Les Orchidées Rustiques.**

STIMULATED by the success of his little treatise on hardy Ferns, M. CORREVON now gives us a similar booklet relating to terrestrial Orchids. He tells his readers what are the main characteristics of the order, gives a sketch of their classification, a description of the various species hardy in the climate of Geneva or Paris, together with woodcut-illustrations, and devotes one chapter in particular to their cultivation

As far as regards classification, M. CORREVON adopt the views of PFITZER, but it is obvious that the European representatives of the order are too few in number to illustrate, save in a very imperfect manner, any system of classification whatever. It would have been preferable for cultural purposes, if not to have given fewer details respecting the minute structure of the flower, at any rate to have given more particulars as to the organs of vegetation and their mode of growth—matters of cardinal importance to the cultivator. The peculiarities of growth of the tubers, as studied long since by IRMISCH, PRILLIEUX, and others, are of much greater importance to the cultivator than are the highly curious floral details connected with the inter-dependence of flower and insect. Moreover, PFITZER himself attached much significance to them in his scheme of classification, though this does not appear from M. CORREVON's summary. Cultivators who are disappointed at the non-appearance of their cherished pets, or at the non-production of flowers, will find the reasons in the mode of life of these singular plants, and botanists who may in one season reap a harvest of rare and beautiful blossoms on our Kentish hills, and in another scarcely find a solitary Bee Orchis, will have their disappointment tempered by the study of the mode of growth which permits such fluctuations. Wholesale extermination is also happily in a measure frustrated by these peculiarities in the life-history of terrestrial Orchids. The risk of extermination may also be lessened by raising these plants from seed. It is not in all cases that this can be done. M. CORREVON has accordingly rendered great service by reproducing the directions laid down by M. MOË, the curator of the Botanic Garden, Christiania. These are so interesting that we are induced to repeat them here:—

"A mixture is made of one part peat, one of leaf-mould, and one of Fir-wood or Pine, decomposed but not too much crumbled, and to this is added a little dry moss broken into small pieces (Hypnum by preference), a little swampy peat broken up, and a very small quantity of Pine-needles. A little of this mixture is pressed into the pots where seeds are to be sown, and in them are planted three or four living mosses (small species by preference, such as Dicranum, Mnium, Bryum argenteum, &c.). Then the seeds are sown on and between these plants of Moss, and the pots placed in a case or frame containing a little water, so that the earth in the pots becomes thoroughly moist. Whilst moisture is thus always ensured, at the same time, the soil is prevented from becoming saturated. Then the case is put on a hot-bed of moderate temperature, with no ventilation for a fortnight, and with slight shade from the sun.

"In this manner, M. MOË has raised almost all the Orchids indigenous in Scandinavia, including the Epipactis.

"The Comte du BUYSSON proceeds in a simpler way, and imitates Nature closely.

"The plan that I have adopted, says he, for managing these Orchids is very simple. Besides the tubers that I transplant just when their leaves begin to turn yellow (unfailing mark of their maturity), I moisten the stems bearing the capsules, and place them in my conservatory in pots full of sand, and so the seeds ripen. I scatter them over the lawn, removing the stem, among my clumps of trees, choosing as far as possible a soil and situation similar to the spots whence I gathered them.

"M. ALEXANDRE WÜRTENBERGER in a little *brochure* recently published on this subject (*Unser heimischen Orchideen*, Munich, 1892), speaks of the seeds of Bavarian Orchids, and says as follows:—'Although the various genera of Orchids generally manifest different requirements with regard to the soil, all the species may be sown in the same composition; it may be in a mixture of one part leaf-mould, one of sand, and two of loam. Sowing must be done in early spring, in small well-drained cases, which are filled with this compost, properly proportioned and sifted. The earth is smoothed down with a small board, then covered all over with 2 inches of snow, and it is on this that the Orchid seed is sown. Then the cases are moved into a place where the snow melts rapidly, after which on the surface of the soil a light layer of chopped moss is spread, and a plate of glass put over the box. Finally, the seeds are placed on a hot bed. At the end of some weeks, the seedlings appear; the moss covering is then carefully raised, and shade given. If the cold is to be maintained, and the seed left to germinate, as it does in Nature, this takes a longer time. When the plants can be taken hold of with the tweezers, they must be pricked-out into other boxes, and in a similar mixture of earth to the former, but with the addition now of a little lime.

"'Then the growth and development of the seedlings is hastened by placing the pricking-out boxes on a hot-bed, and, at the end of some weeks, they can be transported into borders specially prepared to receive them. They must then be drawn from the box where they were pricked-out, care being taken to keep a little ball of earth round them, and to place them near enough to each other to afford mutual protection.

"'The earth in which Orchids are planted should not be rich, and should contain as little organic matter as possible; if the soil of the garden is too light good fresh earth must be added. In any case, it is important to be sure that the earth has received no dung or other manure, as Orchids much object to it. It is stated that Orchid plants thus raised from seed are much more healthy and succeed better than those which are transplanted from their natural habitats. Seed sowing also affords an opportunity for obtaining new forms and varieties.'"

As to the mode of culture recommended by M. CORREVON, that naturally varies according to the species, and we can but refer the reader to M. CORREVON's chapter on the subject, wherein he has embodied the experience of such cultivators as Count DU BUYSSON, M. MANTIN, M. VAN TUBERGEN, M. WÜRTENBERGER, and others. M. CORREVON dedicates his work to Sir JOHN LUBBOCK, and we can safely recommend it as agreeably written, and full of useful information to the would-be cultivator of these delightful plants.

* Hardy Orchids. (Geneva: Chemin Dancet, 2; Paris: Doin.)

DIOON PECTINATUM ♂. — Our Supplementary Illustration represents one of the group of Cycads which occupies one end of the great Palm-house at Kew. No nobler plants as to form can be named than Cycads, nor do they offer much difficulty to the cultivator, beyond the necessity for keeping them free from scale. Considerations of space alone prevent these plants from being more grown than they are. D. pectinatum has pinnately-divided leaves, of leathery texture, and rich deep green colour. The pinnæ are very numerous, and closely set, wider than those of its near ally, D. edule. The terminal bud in both cases is covered with silvery-grey tomentum. The plant now figured has a trunk of about 20 inches in height, its circumference at the level of the ground being about 2 feet 10 inches. The leaves measure about 5 feet in length by 1 foot in breadth. Both D. edule and D. pectinatum are natives of Mexico. The fruit or seed of the former is used in Mexico as a food, the abundant starch in the seed rendering it useful for this purpose.

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the society will be held at the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday, June 20. Besides the special prizes offered for Pæonies by Messrs. KELWAY & SON, of Langport, and for lace and border Pinks by Messrs. TURNER, of Slough, there will also be numerous prizes for competition among members of the National Rose Society. It has been definitely fixed that the National Carnation and Picotee Society's show, which was to have taken place on July 25 in the Drill Hall, will now be held at Chiswick Gardens on July 11 in conjunction with the special show which has been promoted by the council of the Royal Horticultural Society.

GARDCHRON.

MR. J. G. BAKER, F.R.S.—In our next number we hope to lay before our readers a portrait taken from the painting by Mr. Jos. W. FORSTER, in the Exhibition of the Royal Academy, of a botanist to whom gardeners are under no ordinary obligations.

LINNEAN SOCIETY.—At the meeting of this Society on June 1, Professor STEWART, President, in the chair, Mr. F. W. Leslie was admitted, and Messrs. R. Assheton, W. G. Axford, J. Gabriel, and W. H. Mayer were elected. Mr. A. B. Rendle gave an abstract of a paper on "Fossil Palms," in which his remarks were directed to a revision of the genus Nipadites, *Bowerbank*, and were illustrated by drawings of specimens from the London clay, Sheppey, from the Sussex coast, Selsey, Brussels, N.E. Italy, and elsewhere. The paper was commented on by Mr. Carruthers, and by Mr. Clement Reid, who described the finding of specimens *in situ* at Selsey. The Secretary then read a paper by Dr. Baur on the "Temperature of Trees," from observations taken in Colorado. Mr. W. M. Webb gave an abstract of a paper on the "Mode of Feeding in Testacella," illustrated by lantern-slides, prepared from original drawings of the living animal, in various attitudes.

THE ROYAL GARDENERS' ORPHAN FUND.—A meeting of the Committee took place on Friday evening, the 9th inst., when the Hon. Secretary announced the following special receipts:—From Mr. F. M. Mould, Birmingham, life subscription of 5 guineas, in place of an annual subscription; Mr. John Wells, Onslow Crescent, annual birthday gift, £10 10*s.*; Messrs. W. Thomson & Sons, Clovenfords, Galashiels, donation, £1 10*s.*; Mr. H. J. Jones, Ryecroft Nursery, Lewisham, donation, £1; young men at the Gardens, Ruxley Lodge, Surrey, per Mr. J. Miller, 10*s.*; and Mr. J. Perry, Crystal Palace Park, donation, £1.

THE LAW WITH REGARD TO THE SALE OF FERTILISERS.—Mr. GARDNER has in hand a Bill to amend the law with respect to the sale of agricultural fertilisers and feeding stuffs. With respect to the former, the Bill provides that every person who sells for use as a fertiliser of the soil any article manufactured in the United Kingdom, or imported from abroad, shall give to the purchaser an invoice, stating, as nearly as he can, the percentage of the nitrogen, soluble and insoluble phosphates, and potash, if any, contained in the article. The invoice is to have effect as a warranty by the seller of the statements therein. With respect to food for cattle, there shall be implied a warranty by the seller that the article is suitable for feeding purposes. Heavy penalties are provided for breach of these regulations.

THE GREENWICH OBSERVATORY.—Numerous interesting particulars are given in the annual report of the Greenwich Observatory with respect to the present spell of fine weather, the sunshine records showing that April was the brightest month ever observed at Greenwich. For the seventy-two days from March 5 to May 15, the total amount of rain measured at the Observatory was under a quarter of an inch, no such period of drought having been observed since the commencement of the register in 1841. The fine weather, which has been so detrimental to the interests of the farmer, has been highly appreciated at Greenwich, the number of astronomical observations during the last three months having been unusually large. In March and April no fewer than 2600 transits and 2300 circle observations were made, the average corresponding numbers for the seven previous years being 945 and 877 respectively. Twenty-four groups of clock stars, extending over twelve hours, were also obtained, the mean for March and April for the ten preceding years being only 2 6.

PHENOLOGICAL OBSERVATIONS, 1892.—Mr. EDWARD MAWLEY has published a reprint of his paper in the *Journal of the Royal Meteorological Society*, on the relations of climate to the progress of vegetation during the year 1892. Such reports are of interest now, and will be of supreme importance for reference in future years. What an interesting contrast, for example, will be found between the records of this year, when the time comes to complete them, and those of 1892. Last year, says Mr. MAWLEY, the year on the whole was very cold and backward. All the early wild flowers were late in coming into blossom. Things were adjusted at the beginning of June, but a cold autumn again retarded the progress of vegetation.

CHRYSANTHEMUM EXHIBITION IN VIENNA.—The programme of an open exhibition of Chrysanthemums, intended to be held by the Royal and Imperial Horticultural Society, on November 5—11, 1893, is published, and may be obtained post-free on application to the Society's Secretary, I., Parkring, No. 12, Vienna. Exhibitors must notify their intention to exhibit not later than October 15. The exhibits will not be entirely confined to Chrysanthemums, but may consist of separate groups of Orchids, Irids, Lilies, Amaryllis, Eucharis, Vallota, Erica, Primula, Cyclamen, Gloxinia, Bouvardia, and others.

MANCHESTER ROSE SHOW.—In consequence of the peculiar season, the date of the above show is changed, and will take place in the gardens, Old Trafford, on Thursday, July 6.

"BOTANICAL MAGAZINE."—The plants figured in the June number are:—

Anthurium Chamberlaini, t. 7297, figured and described in the *Gardeners' Chronicle*, 1888, i., 462, fig. 66.—The specimen now depicted seems to have been less brilliant in its coloration than that which we saw.

Symphyandra Hofmanni, t. 7298.—A Campanula-like plant, with panicles of drooping bell-shaped white flowers, each about 4 cm. long. It is a native of Bosnia, and, as grown at Kew, has decumbent stems a foot in height, with coarsely-toothed, oblong-acute, broadly-stalked leaves.

Tacca pinnatifida, t. 7299, 7300.—The Polynesian plant now figured, and which is the type of the species, differs materially from the Indian plant cultivated in this country, and affords an opportunity to Sir JOSEPH HOOKER to give an interesting account of the history of the plant:—"The root of Tacca pinnatifida attains the size of a large Turnip; that of the wild plant is described by FORSTER as the most bitter and acrid of roots, but rendered milder by cultivation, it yielding, after pounding, maceration, and many washings, a starch equal to the best. The latter forms a favourite food in many tropical countries of the Old World, and has been imported into Europe. PANCHER, in *Cuzent's Tahiti*, describes the root as yielding 30 to 60 per cent. of fecula, the glucose from which yields 42 per cent. of alcohol, and adds that the natives make it into cakes called 'poe pea,' and that the flower-stems afford a wide shining straw, used for plaiting."

Rhododendron racemosum, t. 7301.—The hardy Chinese Rhododendron introduced to this country by Messrs. J. Veitch & Sons.

"ILLUSTRIERTE MONATSHEFTE."—This well-known and highly appreciated journal, the organ of the Bavarian, Cologne, Würtzburg, and Gelnhauser horticultural societies, is from the present month to be issued in a new and improved series, and will now appear three times a month, viz.:—1st, 10th, and 20th, a coloured supplementary illustration being attached to the first number in each month. The cost of advertisements is essentially reduced. The coloured illustration this month excellently depicts a fringed variety of Cyclamen persicum.

THE HORTICULTURAL COLLEGE, SWANLEY.—The experiments' committee of the Kent County Council held a meeting at the Horticultural College, Swanley, on Thursday, June 9, the subject of discussion being a continuation of that of last meeting, viz., "Injurious Insects." Professor CHESHIRE gave the life history and possible prevention and destruction of several moths. He spoke of a small red mite which bores through the shell of the Apple-scale and eats the young under this cover. He said, for wireworms and crickets in glasshouses, they had successfully used at the college a mixture of flour, linseed-oil, and arsenic made into a ball, and put into a perforated zinc box, then placed in the soil. The linseed-oil attracts the insects, the arsenic kills them, and the box prevents animals from taking poison. The next meeting after the vacation was fixed for Thursday, July 27, at 5.30 P.M. Subject: "Causes of Canker."

COPPERAS IN PLANT MANURES.—Since the successful application of copperas or ferrous sulphate in the treatment of plant disease has become known, manure manufacturers have been in the habit of mixing this salt with the other ingredients of a manure, more especially in the case of phosphates. The advisability of this practise has recently been investigated by P. CASENEUVE and A. NICOLLE (vide *Mon. Sci.*, 1892, pp. 334—337). From a number of experiments, they have drawn the conclusion that the addition of copperas has a deleterious effect upon superphosphates, that is to say, on mono- and bi-calcium phosphates; but when tri-calcium phosphate is treated with copperas, a considerable portion of the phosphoric acid is rendered soluble in ammonium citrate, hence the action is beneficial.

NEW PLANTS.—The *Illustration Horticole* for May 15, 1893, contains a coloured plate of the six new plants exhibited by L'Horticulture Internationale at Ghent in April last. The plants are Hæmanthus Lindeni, Eulophiella Elisabethæ, Tradescantia reginæ, Stenandrium Lindeni, Smilax argyrea, and Tradescantia superba. Most of these were described in our columns at the time, and of some we gave figures.

LYONS.—We learn that the Association Horticole Lyonnaise proposes to hold on the 14th to 18th of September next, on the Cours du Midi, Perrache, an exhibition of horticulture, viticulture, and objects of art and industry connected with them. Foreign horticulturists are invited to compete. Programmes will be sent on application to the secretary of the association, Cours Lafayette prolongé 66, à Villeurbanne, Lyons.

EARLY FRUITS IN WESTMORELAND.—"The oldest inhabitant" hereabouts, remarks the *Westmoreland Gazette*, would be unable to tell of a year when ripe Cherries and Strawberries grown in the open air in the neighbourhood were sold in Kendal market in the month of May, as was the case on Saturday, May 27. A first picking of Cherries were shown which had been grown at Hincaster, and Strawberries also were shown which had been grown by Mrs. EARL, close to Underbarrow Church. Mr. WILSON, of Durham Bridge, Lyth, picked some meadow Mushrooms, both "buttons" and fully opened, off one of his fields, on Friday.

THE ORANGE TRADE OF JAFFA.—Jaffa Oranges, which have appeared in the English markets of late in increasing quantities, seem to have become such an important item of export in the trade returns of Jerusalem, that a new system of steam communication has been established for their rapid transit to this country. This was established last autumn, with the object of shipping the Oranges direct to Liverpool. According to the report of Mr. Consul DICKSON on the trade and commerce of Palestine for the year 1892, one firm sent on an average a steamer every ten days from the commencement of the Orange crop, each vessel loading from 15,000 to 20,000 boxes at a time, the freight varying from 1*s.* 8*d.* to 3*s.* or 5*s.* per box. This system of conveying Oranges direct to the United Kingdom has not only proved a profitable business to the steamship companies, but great service has been rendered to the shippers, as the fruit reaches its destination in a shorter time and in better condition than if sent *viâ* Egypt. In former years the Oranges were forwarded to Port Said in the coasting steamers, and then transhipped in vessels sailing for the United Kingdom, but by this method much damage was occasioned as well as delay. Nearly three-fifths of the whole Orange crop of Jaffa is now shipped to Liverpool, the rest being exported, for the most part, to Austria and Egypt.

DUNDEE HORTICULTURAL ASSOCIATION.—The monthly meeting of the Dundee Horticultural Association was held in the Y.M.C.A. Rooms on Friday evening. The chair was occupied by the President, Mr. WILKIE, Duncarse. A paper on "Early Forcing of Vegetables" was read by Mr. M. TEMPLE, Carron House Gardens, Falkirk. At the close, Mr. TEMPLE was accorded a hearty vote of thanks.

HORTICULTURAL HALL, PHILADELPHIA.—The Hall of the Pennsylvania Horticultural Society was destroyed by fire on May 27. The library has been much damaged.

THE ACTION OF LIGHTNING ON THE VINE.—A memoir, having the above title, has just been presented by E. RATHAY to the Academy of Science at Vienna, in which the following affirmations are made:—

1. COLLADON's statement with regard to the reddening of the Vine-leaves during thunder-weather is confirmed. It had been impugned by CASPARY, but RATHAY finds that it is common amongst all Vines, the leaves of which redden in the autumn.

2. The reddening of the leaves occurs in Vitis sylvestris; it does not affect some of the American Vines.

3. The phenomena are comparable to those which result from various mechanical injuries.

4. The colouring is an immediate consequence of the lightning, and is followed by troubles in the cambium, and by decortication.

5. The fruit suffers, and appears to wither.

A number of statements of less importance are also made.

SALE OF GROWING PEAS: HIGH PRICES.—Messrs. NOCK & JOSELAND, write Messrs. JAMES CARTER & Co., under date of June 8, held the first sale of this season's crop at the Swan Hotel, Stourbridge, when they offered about 55 acres. There was a very large attendance of buyers, and the highest prices ever made in this district were realised on this occasion. Nine and a quarter acres of CARTER'S Lightning, grown by Mr. A. TOUGH, on the Kidderminster Corporation farm at Oldington, made the remarkable price of £18 10*s.* per acre; whilst 9 acres 2 rods 20 poles of Leicester Defiance, on the same farm, made £13 5*s.* per acre; and 7½ acres of Eclipse and Leicester Defiance, also on the same farm, made £10 per acre; 17 acres of Eclipse, on the Hoo Farm belonging to Mr. T. TIMMIS, made £11 5*s.* per acre.

A WELL-STOCKED GLASSHOUSE.—We have received from Mr. ALFRED KING, the gardener to W. B. SMITH, Esq., Trevarno, Helston, a photograph which depicts an abundant and unusual mixture of plants growing in one and the same house. In the front of the house is seen a number of Melon plants fruiting most abundantly, which the artist has succeeded in taking in truer perspective than is generally the case. At the back part of the house Bananas are cultivated, probably Musa Cavendishi; and in a bed of tanner's bark, midway between the Melon and the Banana plants, are Pine-apples, fruiters. The house, a lean-to, is 21 feet long, and the box in which grow the Melon plants, stands on the hot-water pipes, and is 15 inches in width, and 8 inches in depth. We think that our correspondent could scarcely improve on his management of this house, from which, by the way, he tells us, his first ripe Melon, 4½ lb. weight, was cut on May 27 this year, and there are fifty more to follow.

RETIREMENT FROM SERVICE.—Mr. L. BAILEY, who for the past thirty-nine years has been Gardener and Bailiff at Wembury House, Plymouth, Devonshire, has, through age, resigned that position.

STOCK-TAKING: MAY.—Pleasant is it to once more chronicle an increase in the imports and exports, as compared with May in 1892: in the imports the increase is £1,801,213—the exports £38,491; and this, too, notwithstanding the Whitsun holidays which we had not to record in May last year. The following table is reduced from the "summary" in the Board of Trade Returns for last month:—

IMPORTS.	1892.	1893.	Difference.
	£.	£.	£.
Total value for month	£35,035,738	£36,836,951	+1,801,213
§II.—(A.) Articles of food and drink—duty free	12,211,860	12,992,838	+780,978
(B.) — do., dutiable	1,565,872	1,923,138	+357,266
§VI.—Raw materials for textile manufactures (including Flax, Hemp, and Jute)...	6,378,593	7,096,936	+718,343
§VII.—Raw materials for sundry industries and manufactures (including wood and timber, hewn, sawn, split, dressed; vegetable materials, for paper-making, &c.)	3,609,729	3,825,123	+215,394
§IX. — Miscellaneous articles (including Clover, Grass, Flax, Rape, Linseed) ...	1,381,901	1,293,135	—88,766
(B.)—Parcel Post ...	49,849	53,176	+3,327

Jam and preserve-makers have been attended to in the matter of sugar, so has the cotton industry. With respect to the imports of tea, it may be mentioned that the Chinese are getting thoroughly alarmed at the falling off in other exports to this country, and a proclamation has been issued against the exportation of "lie" tea—a long term of imprisonment being proclaimed for maker and vendor, when caught. An assurance is appended for the benefit of outside barbarians, to the effect that the proclamation cannot fail to put a stop to the trade, and therefore Chinese tea may be purchased without fear of a swindle! There is promise of a falling off in the imports of silk from the East owing to the disastrous effects of exceedingly cold weather in Japan; and it is worth noting in regard to Russian corn, that Russian firms are making contracts for the supply of immense quantities of foreign produce, extending over a period of twelve months. As we have long since remarked, the home trade of the south of Russia can only be saved from foreign competition by the construction of light commercial railways as distinct from military lines, reaching away to Tashkent, and other semi-barbaric localities. The figures in the accompanying excerpt from the general mass in the Returns for May, are certainly astonishing. They are as follows:—

IMPORTS.	1892.	1893.	Difference.
Fruits, raw:—			
Apples ... ... bush.	91,608	98,442	+6,834
Cherries ... ... ,,	8,613	92,126	+83,513
Plums ... ... ,,	125	1,036	+911
Pears ... ... ,,	143	3	—140
Grapes ... ... ,,	1,720	2,672	+952
Unenumerated, ,,	39,710	79,217	+39,507
Onions ... ... ,,	417,299	624,821	+207,522
Potatos ... ... cwt.	160,787	479,902	+319,115
Vegetables, unenumerated, raw, ... value	£89,270	£95,711	+£6,441

France has been sending in a large quantity of vegetables, as well as fruit, during the past month, which has been eagerly purchased in our markets. By the way, it is worth noting here that more of the foreign supplies go north and west by coasting vessels than have been sent by rail. For a long time railway charges interfered so seriously with some departments of the trade, that recourse was had to the idle shipping, with the result that the tonnage used coastwise has been increased by one-fifth! Some years since, the Kent fruit-growers threw over the rail for the river. These tactics are to-day being improved upon. Despite the foreign commercial and political outlook, our—

EXPORTS,

as above briefly noted, have recovered and increased, the great metal industries coming well to the front in this improvement. Should Sir H. D. WOLFF succeed in his proposed revision of the Spanish tariff, an increased business may be looked for there. Altogether, the outlook just now seems very fair, though several branches of trade at home need improving.

POLYANTHA ROSE CRIMSON RAMBLER.—This fine introduction from Japan, which is being exhibited by Mr. C. TURNER, Royal Nursery, Slough, appears to be finding the same favour abroad as at home. On the occasion of the recent Exhibition of the National Horticultural Society of France at the end of May, it was awarded the Gold Medal of the Society for a new plant, in or out of flower, lately introduced into Europe. The plant was packed and despatched in a matted basket by rail in the ordinary way on May 22, to M. MARGOTTIN FILS, and when unpacked, not a petal had fallen. This may be taken as a proof of its persistence; and flowers when cut in proper condition will remain fresh in water for a fortnight.

FAGUS MOOREI.—Baron Sir FERD. MUELLER informs us of the discovery of this species on the mountains of Southern Queensland at an elevation of 3000 to 4000 feet. This is the most northerly limit of Beech trees yet ascertained in the Southern hemisphere.

THE STRAWBERRY CROP IN CORNWALL.—Strawberry picking was in full swing in Perranwell and neighbourhood (June 3). It began about three weeks ago, and the crop is a good one considering the drought. With a few showers earlier in the season, there would have been an abnormally large yield. The district is noted for its Strawberry gardens, and they are well worth a visit. They are not far from Perranwell Station on the Falmouth branch of the Great Western Railway.

COTTAGE GARDENING.—We are glad to see that Mr. E. W. BADGER's essay on *Cottage Gardening*, premiated by the Royal Horticultural Society, has reappeared in a new edition, published by HOULSTON & SONS, Paternoster Buildings.

PRACTICAL FRUIT-GROWING.—Mr. J. CHEAL has reprinted a portion of his larger volume on *Fruit Culture*, so as to adapt it for use in the technical education classes now organised throughout the country. It is admirably adapted for the purpose, and may be had of BELL & SONS.

BEGONIA LANSBERGÆ, LINDEN AND RODIGAS.—This newly-introduced Begonia hails, it is said, from Brazil. It is dedicated to Madame VAN LANSBERGE, the wife of the ex-govenor of Netherlands India, and formed one of the most remarkable of the new plants shown at Ghent by L'Horticulture Internationale. The whole surface is covered with long soft white hairs. The leaves are given off from a creeping rootstock, and have long cylindrical stalks. The blade of the leaf is of a rich deep-green colour, obliquely cordate, with roundish lobes, oblong acuminate. The flowers have not as yet been seen, so that the determination is uncertain. Would it not be better in such cases to use the vernacular tongue, and say Begonia Madame Van Lansberge, adding the Latin epithet when the plant is fully known, if it prove to be previously undescribed?

THE WANT OF RAIN.—The recent marked deficiency in the rainfall is regarded as a source of anxiety from a sanitary as well as from an agricultural point of view. The amount of rain measured at the Royal Observatory, Greenwich, during the first five months of this year, ending with May, was 5·2 inches, and was 3·6 below the average amount recorded in the same period of sixty-one years. Of the 5·2 inches recorded during the past five months, 2·7 fell in February, whilst the amount in March, April, and May was but 1 inch, the average amount for those three months being 5·4 inches. It is true that the rainfall was considerably above the average during last autumn, especially in August and October, but it is also true that the amount of rain measured during the twelve months of 1892 was nearly 3 inches below the average. It is, moreover, worthy of note that during the eleven years, 1882 to

1892, the annual amount of rain recorded was below the average in each year, except in 1888, when 27·6 inches were measured; the deficiency of rainfall in the eleven years was 25·8 inches, or rather more than an average year's amount. If we go further back, we find, however, that in five of the ten preceding years the amount of rain measured considerably exceeded the average, especially in the three consecutive years, 1878, 1879, and 1880, in which more than 90 inches were measured, showing an average excess of nearly 5 inches in each year. With regard to the recent deficiency, it is noteworthy that the measured rainfall of the first four months of 1891, 1892, and 1893 were nearly equally deficient, being 4·5, 4·6, and 4·7 inches respectively, against an average of 6·7 inches. The continued drought during the past month has, however, no parallel in 1891 or 1892, when 2·7 and 1·7 inches of rain were measured, whilst the amount in May, 1893, was only half an inch. *Pall Mall Gazette.*

A Trade Dispute.—A singular case was heard at Bow Street Police Court recently. A dealer bought seventy-two boxes of Tomatos in Covent Garden Market on the strength of a sample-box opened in his presence. Nearly all the fruit turned out to be rotten, and the seller was summoned for selling fruit which was unfit for food. For the defence it was contended that, according to the rules of the market, the buyer took his chance of the quality of the bulk after seeing the sample goods; and that if some of the fruit, as in this instance, was found to be bad, he should have made his profit out of that which was good. Mr. Lushington fined the defendant £20, or a month's imprisonment.

Catalpa speciosa.—"Perhaps it is worth while," writes our honoured correspondent, Mr. Max Leichtlin, "to record the flowering, for the first time in Europe, of this new Catalpa. The trees planted here in 1879 were received from the director of the Arnold Arboretum, Professor C. S. Sargent. They are now 4 to 5 inches through at 3 feet from the soil, and are in good thriving condition. The individual flowers are much larger and finer than those of Catalpa syringæfolia, and are arranged in compact heads, much resembling those of a white-flowered Rhododendron. The wood is said to be nearly indestructible, fence-posts having stood in their place for 120 years without notable decay. Here (Baden Baden) C. syringæfolia is occasionally cut down by severe frosts, whilst C. speciosa stands well." (See *Gardeners' Chronicle*, November 1 and December 6, 1879, and May 22, 1880.)

The Golden Elder as a Town Plant.—Manchester is just now attempting an interesting experiment. The Parks Committee of the City Council have just placed in Albert Square in front of the City Hall, also in Infirmary Square, and on the steps of the Art Gallery, a number of plants of the Golden-leaved Elder, about seventy of them being in Albert Square. The plants are placed in tubs, and the pattern of these is an improvement upon that employed last year. It is calculated that the trees will be effective for three months, at the end of which time they will be returned to the Corporation Nurseries at Withington, for such change as may be necessary. The *Manchester City News* thinks the grouping somewhat formal, and capable of improvement, but at the same time holds that the Parks Committee, by their choice and foresight, have deserved well of the town, and all the more so, as the work, well and quietly done, has come as a pleasant surprise.

Roses at Kew.—The Roses in the Royal Gardens are in full beauty, more especially such kinds as Rosa mundi, usually mistaken for the true York and Lancaster Rose, R. rugosa, and the Noisettes and Chinas. There is a full collection of Hybrid Perpetual and Tea-scented varieties, but the greatest charm is the mass of colour gained by planting the old crimson China and the Noisette Fellenberg in distinct beds, several plants in each. The margin of the pond facing the Palm-house is made gay and interesting by this system, a large bed of R. rugosa being in full beauty; whilst hard by, the kind named Fellenberg is a sheet of bloom. These will continue in beauty for many weeks, and there is certainly greater advantage in thus grouping them than having merely one or two solitary examples. By the margin of water they were remarkably effective.

Publications Received.—*The Protection of Woodlands*, by Dr. Hermann Furst, D. Œc. Translated by John Nisbet, D. Œc. (Published by David Douglas, Edinburgh. 9*s*.).—*A Dictionary of Birds.* By Alfred Newton, and others. Part I. (Adam Black & Co.)

PLANT PORTRAITS.

Ascyrum crux-Andreæ (Hypericaceæ), *Meehan's Monthly*, May.

Boronia heterophylla (Rutaceæ), *Illustrierte Monatshefte, &c.*, May.

Cattleya labiata, vars., *Lindenia*, t. 370.

Cattleya Mossiæ Reineckiana, a noble variety with white segments, the lip also is white, with an orange blotch in the throat, in front of which is a deep violet patch, with lines of the same colour radiating towards the frilled margin. Hort. Smee, *Orchid Album*, t. 461.

Colax jugosus, *Lindenia*, t. 372.

Cyrtopodium Alicæ, *Lindenia*, t. 371.

Cypripedium Spicerianum var. Mercatellianum, *Bulletino della R. Societa Toscana di Orticultura*, t. 5, 1893.

Habenaria militaris, *Garden*, May 6.

Lathræa clandestina, *Revue Horticole*, May 1.

Philodendron verrucosum (Aroideæ), *Garten Flora*, t. 1390.

Rudbeckia purpurea, *Garden*, April 29.

Tricyrtis nana (Liliaceæ), *Botanical Magazine of Tokyo*, t. 3.

Triteleia uniflora cœrulea, *Revue Horticole*, June 1.—Flowers porcelain blue. Introduced from Montevideo by M. André.

Vanda tricolor var. planilabris, *Lindenia*, t. 369.

Vriesia (hybrida) Pommer Escherana, *Garten Flora*, March 1.—A Bromeliad with tufts of broad strap-shaped leaves, from the centre of which rises a scape, bearing at the extremity two rows of crimson bracts. It is a cross between V. psittacina and V. splendens.

BOOK NOTICE.

The Country Gentlemen's Catalogue. (Eden Fisher & Co, 50, Lombard Street, E.C.)

This publication includes a reference and address-book, but its principal feature appears to be the many illustrative and descriptive advertisements of farm and field requisites. There is also some useful information given concerning the composition and use of manures, the management of crops, cattle, poultry, &c. The language is simple and concise, and the print and paper are good. Altogether a handy volume for the table of a country gentleman.

ASCOTT, LEIGHTON BUZZARD.

A beautiful connecting-link between the present and the past is seen in the residence of Leopold de Rothschild, Esq., a substantial part of an old residence dating back as far as the year 1606, being incorporated with what is new, and with which the extensive additions of some twenty years ago harmonize extremely well. The quaint climber-clad mansion has a home-like appearance when seen from any point, and the several beautiful gardens all in one which surround it, seem to have been planned more with a view to display the beautiful and, in a great measure, "old-fashioned" flowers with which they are planted, than to exhibit the elaborate effort of the landscape gardener.

On one side a dell, which formed part of the old gardens, is retained, the beauty of the display of the flowers on the Apple-trees therein giving a good excuse for their retention among the more modern subjects. On higher ground than this one, a Dutch-garden, the principal features of which are the curious objects into which the Box-bushes and Yews are trimmed. Among these pieces of vegetable sculpture are swans, peacocks, and other creatures and on one side is a design cut in several bushes, the central objects being a table with bottle and glasses, while beside it are chairs and a representation of a dog. It is not in many cases that this style of gardening can be commended as anything more than a grotesque conceit; but, at Ascott, the designs are not too large for the place, and placed as they are, the Dutch-garden is certainly quaint.

On the other side of the mansion a rosery has been made, in which the paths, and, indeed, the whole of the main walks of the garden are furnished with arches of iron, and these are clothed with climbing species of Roses in variety. The whole being resplendent with flowers at the present time. The beds beneath these arches are filled with Pæonies, Pyrethrums, Irises, Old Clove Carnations, Pinks, Phloxes, &c., and the beauty of the flowers, with the richness of their mingled odours, is a thing not readily forgotten. In one part of the garden Rhododendrons form the chief objects, and a grand display is made by them; and passing on the golden garden is arrived at, terraced in the front, and from which a fine view can be obtained. Here the terrace-wall is covered with Roses in bloom, and the yellow tints of the golden variegated Yews and the Cupressus Lawsoni lutea have a dazzling effect, and are as telling, even when viewed from a distance, as the brightest flowers. Passing on, a sunken parterre is observed, with a fountain and an Ivy-edged basin in the centre, and a great profusion of Tea Roses blooming all around. These flowers are grown in great quantity at Ascott, and on a plan whereby their heads are kept uniformly dwarf and bushy.

Passing through the wild garden, with its ponds planted with aquatics, and wild profusion of Roses and other flowers, we cross the flower garden and note everywhere showy, and for the greater part, sweet-smelling flowers all around, the beautiful but not formal style of gardening being aimed at and attained in every direction. In bringing about this satisfactory state of things Mr. John Jennings, the gardener at Ascott, has had a heavy amount of work to do and he has done it well and thoroughly.

In the Glass Houses.

Flowers for cutting or for use for indoor decoration are chiefly grown, and among these the Carnations take the lead. There are several large houses filled with splendid plants of C. Souvenir de la Malmaison, a small number of the best rose-coloured form of it known as Princess of Wales being also cultivated. These plants form a grand sight, staged as they are in their neat houses, with an edging of Isolepis gracilis. Among perpetual flowering Tree Carnations, C. Gloire de Dijon, a special novelty at Ascott, is one of the most striking, as it seems to possess all the requisites to make it as great a general favourite as it is a local one. It is very profuse flowering, the individual flowers are large and well-formed, and the rich copper-tinted yellow of its blooms, which exactly resemble in tint that of a full-blown Gloire de Dijon Rose, is unique. Other fine pot Carnations now in bloom here are President Carnot, the colour of the old Clove Carnation, and prettily fringed; Madame Thérèse France, of the same form, but like a darker Miss Joliffe; Mrs. Reynolds Hole, reddish-yellow; Niphetos, a fine pure white; Selby, a grand yellow; Elmira, yellow, with a slight rose flake; Romulus, ruby-red, striped; and that old favourite, Mary Morris, which seems to be as good in pots as in the open ground. Begonia Gloire de Sceaux (of which we hope in due time to give an illustration), which was so much admired when a group of it was exhibited by Mr. Jennings in London last winter, is being largely grown for decoration in winter. It is

good either as a foliage or a flowering plant. Pelargoniums, both for present and for winter flowering, are fine; Eucharis grandiflora and flowering bulbs of that class are well done, and so also are foliage plants for table decoration; indeed, everything that is attempted seems to be grown to perfection. Some specimens of the beautiful blue Exacum macranthum, covered with flowers, in one of the houses, are beautiful objects, and it is intended to grow it on a larger scale.

THE KITCHEN GARDENS

are as neatly kept as the flower gardens, but rain, of course, is badly wanted by the crops. With regard to fruits, we observe that the Gooseberries and other bush-fruits have good and very heavy crops, and Mr. Jennings says that, so far as he can yet say, there is a fine prospect of good crops of other fruits, and especially that most useful of all, the Apple.

HOME CORRESPONDENCE.

AN OLD PEACH TREE.—Mr. Lunt has been gardener at Ardgowan, Renfrew, forty years. When he first went there, he had the planting of the Peach-houses. One of the original trees he planted is still in existence. The chief evidence of its age is the junction of the stock and the scion, which is greatly swollen, and must be more than 3 feet in circumference. The tree shows no other signs of old age, and it covers the same expanse of glass with luxuriant foliage as formerly; in fact, it is so vigorous, that it will probably last for many more years. The old tree never fails, I believe, to ripen every year heavy crops of fine fruit, and the quantity that has been gathered from it all this length of time must be enormous. The variety is Royal George. *Vagabond.*

ROBINIA HISPIDA, DAHLIA GRACILIS, ETC.—Amongst the attractive subjects I recently saw exhibited on the Market Hall stall of Mr. John Pope, of the King's Norton Nurseries, were bunches of the beautiful and elegant Wistaria-like flowers and foliage of the Rose Acacia (Robinia hispida), a tree eminently suited for large towns, though too seldom seen. It appears to flourish equally well grafted and on its own roots. Upon the same stall were, in small pots, plants in flower of the old Dahlia gracilis, well meriting the specified appellation, both from its small bright scarlet flowers and elegantly cut foliage. Mr. Pope informed me that he introduced the first plant of it into the nursery about twenty-five years since from M. Victor Lemoine, and who, it is said, imported it from Mexico as a species. Is it Cervantesii, the date of introduction of which into Europe appears to be uncertain? The variety is question has been kept continuously by Mr. Pope, who predicted for it a prominent future as a decorative flower, though by some others it was looked upon at that time as a mere weed, and not worthy of cultivation. I can hardly conclude these few rough notes without reference to another decorative flower, lately freely sold in the same Market Hall, viz., bunches of one of the Ladies' Mantles—Alchemilla vulgaris. Its elegantly-disposed greenish-yellow flowers acted as a pleasing foil to the gorgeous array of other flowers by which it was surrounded. Evidently it proved to be a great favourite with the ladies. *W. G.*

HARDINESS OF SYMPHYANDRA HOFMANNI.—In the *Botanical Magazine* of this month, I see it is stated that Symphyandra Hofmanni is "doubtfully hardy." Here, I find that it survives the hardest winters, provided that the plants are self-sown. I leave the stalks until they are dry and the seed sheds itself, and it springs the next year. Spring-sown plants do not seem to thrive nearly so well. The flowers with me are of ivory-whiteness, and have not the Lilac shade shown in the plate, *Bot. Mag.*, tab. 7298. It is distinctly a biennial. *R. Milne-Redhead, Clitheroe.*

THE PROOF OF THE PUDDING.—When an admirable paper was read last week before the members of the Kingston Gardeners' Association by Mr. Tibble on the Tomato, in the course of the discussion which followed very much stress was laid upon flavour in divers sorts, some members preferring one sort, some another. A suggestion was made that the most practical course to take to determine the matter was to have a general tasting of the divers sorts grown by the members, and it was agreed to have such at the ordinary meeting in the month of August. So diverse seems to be tastes or fancies in relation to sorts, that some twenty or more under various names are grown by the members, and in diverse ways. The chief difficulty to be found in entering upon a tasting experiment, is to satisfactorily determine what really is flavour in the Tomato, as opinions in that respect seem to be diverse. With some it seems to be enough that there be a certain amount of acidity, with others of sweetness, with others merely of freshness, and so on. Practically, the Tomato is not at all a markedly-flavoured fruit, in the same way that so many of our best fruits are. Its quality generally is even, without being special or distinctive. It is a long way below that of any high-class fruit. It is much above that of some others, especially of poor Melons. The Tomato at least is fairly constant and reliable, if far from being brilliant. There is yet a wide field open to raisers in the direction of superior flavour, but in such factors as beauty, solidity, or productiveness, it will be very hard to excel what we have. Tomatos need little feeding, and what they have should rather be directed to the endeavour by certain compounds to operate upon the fruits, and so, if possible, favourably affect or improve flavour. *D.*

BORDER POLYANTHUSES — I saw the other day at Hampton Court Gardens about the biggest seed-bed of Polyanthus I have yet met with. I should think there could not have been less than 100,000 plants, all strong, ready to dibble out, enough to plant pretty well an acre of ground. Since Polyanthuses have been employed to fill many of the beds at that favourite place of resort, they have become very popular; and although, so far, the bulk of the plants have flowers of white, cream, and yellow hues, yet did they seem to be greatly admired. An abundant supply of water enabled them to be kept blooming profusely for a long spring season, and then, when lifted and transplanted in the private gardens, they again got such soakings of water, that every plant was in luxuriant health. The strain is not of the very best; indeed, not up to the fine strains I used to grow at Bedfont, but like all plants of this class, it can rapidly be improved by selection. I observed a number of plants carrying dark-coloured flowers had been specially set apart for the production of a strain of deep-coloured flowers; that will be eventually great gain. The public, always full of enthusiasm for spring flowers, have not yet had a chance to see what beautiful forms in deep hues there are in Polyanthuses. I hope some day they will have a good chance in that direction at Hampton Court, for the gardens are open to all, and every effort is made to furnish that which is in bedding or flowers beautiful for the delectation of the masses. Because so well into the country, it is possible to present hardy spring flowers there in much finer form than is seen in London. *A. D.*

OLD KINDS OF INSECTICIDES AND THE BORDEAUX MIXTURE.—Under the above heading, a note appeared in the *Gardeners' Chronicle*, p. 666 from a correspondent signing himself "W. E. G.," chronicling his success and failures with the above. Amongst the subjects treated with it, he names Peach and Nectarine trees, which, after the dressing, are losing their leaves wholesale. At the outset, I may say that I have not used the Bordeaux Mixture on Peach or Nectarine trees, knowing their great sensitiveness to strong insecticides, believing in the old adage, "Once bit, twice shy." In former years, certain trees in this garden suffered from this cause, and this simply by reason of the trees being syringed with an insecticide which was strongly recommended as being equal to destroying all insect pests in gardens, also mildew on fruit trees, without causing the least injury to the foliage. On some kinds of fruits this might be as stated, but not Peach and Nectarine. I have come to the conclusion that these substances must be used with great caution. The safest remedy I know of for the destruction of insects on Peach trees is a decoction of Quassia-chips and soft-soap; tobacco-water in a weak solution, and Gishurst Compound-soap, not stronger than 2 oz. to the gallon of water, the safest in use being Quassia and soft-soap and soft-water. This is cheap, harmless to the leaves, and efficient. Of course no good gardener will allow trees to become badly infested before applying a remedy, or suppose that when applied, it will clear the trees of every one of the insects with one dressing, or that the trees will at once regain health, for this they will not do, even through the whole of the season. But the time and trouble which it takes to prepare an insecticide and to apply it on a few trees is so infinitesimal that no amount of other kinds of work should be put forward as a plea for not dressing the trees. Syringing should commence on wall trees as soon as they pass out of flower, and at intervals afterwards, and then insects will give but little trouble. For 18 gals. of water add 3 lb. of Quassia-chips, tied up in a bag, and nearly the same quantity of soft soap. Boil for twenty minutes. If used in the evening, no syringing off in the morning is needed. It is excellent for Roses infested with aphides. *A. Young, Abberley Gardens, Stourport.* [Those who use the Bordeaux Mixture (*Bouillie Bordelaise*) for the clearing trees of aphis, put it to an improper use, it being intended for the prevention and destruction of fungi, mainly the former. Quassia water, tobacco water, soft soap and petroleum, and Gishurst Soap, are suitable insecticides. ED.]

RICHARDIA LUTWYCHEI.—In the article by Mr. Brown on this new Richardia, p. 568, he says, in describing it, that "it is abundantly and easily distinguished from every other known species except R. melanoleuca by its setose petioles;" and after that follows a description of the plant. Now there are at Kew plants of R. hastata which have decidedly setose petioles, and it appears to me that this variety is the same as R. Lutwychei, while the plant of R. melanoleuca at Kew has green leaves, those of the melanoleuca of the *Botanical Magazine* are very much spotted. This conflict of testimony is very puzzling; and if Mr. Brown, with his large experience of Aroids, would throw some light on this matter, I should be much obliged. *An Enquirer.*

ROSE AUSTRIAN YELLOW. — It may interest "Wild Rose" (see *Gardeners' Chronicle*, June 10, p. 681, to learn that in Shropshire this variety does well, and is to be seen in large quantities in many districts in which I have been lecturing on horticulture, and I have often been struck with its fine soft yellow colour. I have noticed it in the cottage garden as well as the villa garden, and also in shrubberies of the mansions. The Austrian Copper is much more rare here. I was fortunate enough to get a sucker the other day from the head gardener at Onslow Hall, Shrewsbury, of the Copper variety; this I sent away into Kent, to introduce it there, with the yellow and white varieties. *Robt. Smith, F.R.H.S.*

PEAS.—In the period between the present and the 20th of June, most gardeners make the last sowing of Peas for the season. This may consist of late Peas like Ne Plus Ultra, British Queen, &c., which in fair seasons produce good pods till the plants get cut down with frost. Some gardeners sow instead of these varieties some of the earlier Peas so late as the first week of July, but the produce is never so much liked as Marrowfat Peas of the large types. Instead of sowing any of the early round-seeded kinds, such as Ringleader, Extra Early, Veitch's, &c., William Hurst, Chelsea Gem, and American Wonder should be sown, these being finer Peas, and the lines need not be more than 3 feet apart, choosing for them a warm border. Whatever variety is made use of, suitable preparations should be made for them by heavily manuring the land, or making trenches as for Celery. Tall Peas should be sown in drills 7 feet apart, as the haulms usually attain their full height, and sometimes exceed the height they are generally supposed to grow. If the soil is dry, thoroughly water it, and soak the seed for a few hours in water before sowing. In very dry weather it is advisable to apply water to the plants, so as to secure vigorous growth. Besides the varieties of late growers mentioned above, I have found Telephone a fine cropper as a late Pea or as a second early, but at midseason it does not pod so well here as Champion of England, Ne Plus Ultra, and Criterion. When dwarf Peas are made use of for late supplies, the ground should be in good heart, although trenches are scarcely required. In cold districts, Chelsea Gem and William Hurst would be found very valuable for late cropping. Of the Pea called Extra Early, we gathered fine well-filled pods on May 15. These were followed by William I., both of which were sown early in December. In common with other gardeners, I thought my Peas very early, but I read Mr. Squelch gathered on April 22, from plants the seed of which were sown February 7. Are we to take this as being correct, or was it May 22? Chelsea Gem and Exonian, two valuable sorts, I sowed in February, taking advantage of the weather and condition of the soil generally. From these we gathered on

May 22, but owing to extreme drought, the crops of all sorts are light, while the later kinds at present do not look so well as one would wish. Autocrat, however, looks strong and sturdy, and I shall anxiously await the results of this Pea. As I have not grown it before, Cannell's English Wonder is to my mind rightly named, as it has proved here simply perfection. *H. Markham, Mereworth Castle.*

SUMMER-PINCHING OF FRUIT TREES.—I will take the question which "W. L. C." asks in his closing remark anent this subject, p. 695, first. In quoting from what I previously said as to cultivators entirely cutting away some of the growths as being useless, he asks, "Why do they waste time in doing this?" The answer is simple, "Because the removal of these surplus shoots affords more light, air, and sun to the fruit-buds borne on the same branches as those shoots." "W. L. C." here again misconstrues this paragraph. I did not write that the action of cutting away these shoots was an unnecessary proceeding—the inference he makes is exactly that which I said, viz., that the shoots themselves were unnecessary for one purpose or the other, not that the action of removing them was unnecessary. "W. L. C." may be much surprised to hear it is possible to make an exceedingly vigorous-growing tree fruitful in a few years without interfering with its roots at all, but not by closely summer-pinching every shoot, leader and all. Too much root-pruning and checking the growth of the leading shoots on Apple trees, for instance, has been done in the past, where space admits of the trees extending. The old-fashioned plan of pruning them to a given radius is fast becoming obsolete. What we want is freer growth and moderate extension, which give more and finer fruit than we are accustomed to find in ordinary orchards, where the trees have been kept in close shape by summer pinching of the strong-growing leaders in the vain idea of inducing the formation of numerous fruit buds, but which often resulted in a thicket of unfruitful shoots and injurious effects on the roots. If "W. L. C." will allow the trees to "have their heads" a little more, he would soon discover that root-pruning was nearly always unnecessary for the production of crops of fine fruit, assuming, of course, there is space for the continued extension of the branches. I imagine that "W. L. C.'s" reply to my quotation, "that good crops are found on orchard trees without summer pinching," is all in my favour, but he then goes on to argue that these trees would yield heavier crops were the growths summer pinched. "W. L. C." says, "I summer-prune my trees for the sole purpose of letting light and air reach the fruit buds," which is exactly what I do it for. I know little of the science, &c., that some persons profess, but I can obtain heavy crops of Apples, but not by the constant stopping and pinching of the leading shoots. If "W. L. C." will allow the strongest of leading shoots in a bush or standard Apple tree to extend at will, and give up the idea of obtaining fruit by pinching the points, he will, I venture to say, have little cause for regret. I must impress upon him, though, the necessity of space for extension for a year or two. *E. M.*

FLOWERING OF LATANIA BORBONICA.—About a month ago, when visiting Mr. Clarke's gardens at Bossington, I saw a good specimen of this Palm in flower growing in the open garden. I was informed that it had been planted out several years ago, and no protection afforded it, even in severe weather. Bossington claims to have the largest Walnut tree in the country, which is a remarkably fine specimen, close to the road in the centre of the village. West Somerset supplies a great portion of the Walnuts sold in England; Selworthy, Luccombe, and Porlock being famed for them. Porlock and the immediate neighbourhood is admirably adapted for Tea Roses, which grow and flower luxuriantly; while Benthamia fragifera, Choisya ternata, Pittosporum, and Eucalyptus grow and flourish amazingly. *T. H. Slade.* [Can the Palm really be Latania? Is it not more probably Chamærops?]

IXORA WESTII.—When large quantities of choice cut flowers are required, a good batch of this useful plant would be a great acquisition. At the Drill Hall meeting on June 6, a splendid box of blooms was shown by Mr. Hudson, of Gunnersbury, who has evidently found out the secret of how to grow it to perfection, the trusses being of immense size, and the leaves dark green. Owing to the free growth of the variety, it does not suffer from cutting, Mr. Hudson informing me that he was cutting numbers of flowers three times a week. To ensure free growth, the plant should be grown in strong heat, dry heat. Ixora Prince of Orange, and several other bright-coloured varieties, are well worth cultivating for their blooms, which are especially useful for the decoration of the dinner-table. *W. B. G.*

HARDY PERENNIALS FROM SEED. — Having lately sent a friend some choice seed just gathered, with instructions to sow it at once, but not to expect to see it up until next spring, I received a reply saying that he should keep my seed safe till spring, because if it was not to come up till spring, what was the use of sowing it now? I assured him, and assure all those who read this, that there are very many hardy plants of which the seed comes up easily and plentifully, on condition that it is preserved in the bosom of mother earth until it chooses to germinate; but the same seed, if stored dry, will either not come up at all, or come up sparingly months, or even years, later than it would have done in abundance if committed to the ground. The large stock of hardy perennials in this garden has been raised almost entirely at home from seed, and the capricious habits of seed and seedlings have been from time to time noticed. Some seed I gathered of Primula rosea, and sowed as soon as gathered, a week ago, when almost green, is sprouting already. If I made another gathering now, and sowed it, perhaps it would not sprout till next February, and if I kept it till spring before sowing, perhaps it would not sprout until the following spring. If I were to give a list of seeds which generally fail if stored till spring, and generally come up the following spring if sown at once, I daresay it would not agree with the experience of other gardeners; but I find seeds of the genera Ranunculus, Narcissus, and Scilla, are

Fig. 109.—Show Pansy.

amongst those which have the habit. There are, it is true, some objections to sowing seed as soon as ripe, such as the growth of Lichens on the soil, or the difficulty of wintering small miffy seedlings which damp off. I generally adopt with choice seeds the plan of dividing them into several sowings, and I sow at intervals. Three successive sowings may fail to produce any result, and a fourth, out of the same packet, may come up like Mustard and Cress. What are the causes of the things I have mentioned, I leave to those more learned in vegetable physiology to determine, but I am certain of the facts. *C. Wolley Dod, Edge Hall, Malpas.*

PANSIES.

In differentiating the various sections of Pansies, the English show varieties are divided into selfs of various shades of black, white or yellow, including cream and primrose. Bedding Pansies include any of the foregoing that are of a close-habited growth, and are free and continuous of bloom; also varieties of Show Pansies, which may be regarded as below exhibition quality, but which are of decided value for garden ornamentation. Selfs having shades of blue, claret, violet, mauve, crimson, &c., are generally included among the bedding Pansies, but any good Show or English Pansy is suitable for the purpose.

Fancy Pansies, with their vigorous growth and large vari-coloured rich or delicate blossoms, readily form themselves into a group.

The "*Violas*" are practically small-flowered Pansies, of dwarf, close growth, and give a profusion of bloom. They are a race by themselves, and probably originated in the first instance by using the pollen of Viola cornuta and V. lutea. Many of them are practically bedding Pansies, and as they stand hot dry weather well, they have come to be largely employed for bedding purposes.

New Invention.

PAPER VENETIAN BLINDS.

Twenty years since, an International Exhibition — one of a series — was held at South Kensington, under the auspices of the Commissioners for the Exhibition of 1851, the chief objects of interest in which were paper, and the machinery employed therein. The display was of a most interesting nature, the paper curtains dividing several of the "courts" being of a high class, and commanding much interest. Something was shown from which much more was unquestionably to be expected, the so-called paper Venetian blinds now under notice being one of those things. The blind is not quite Venetian in character, but the word is possibly the one most nearly descriptive of the invention. A sheet of specially-prepared paper is taken, and so folded over and over that when opened it presents a series of regularly-shaped ridges and furrows, aptly represented by the paper fans often made by children. It will readily be understood that this is compressible into very small bulk, and through what may be termed the "ridge" portion, at a suitable distance from either end, perforations are made which result in holes of a flattened-oval in shape. Two tapes are attached by means of fine soft wire, to what we may term the "furrow" section of the blind, backing, as it were, the apertures for the cords, and keep the paper from being over-distended when in operation. The blind is simple in construction, and readily attached to a window. Many situations suitable for this blind will readily suggest themselves to the horticultural reader, who may like to be informed that the patentees and manufacturers are the Messrs. Shingleton & Co., of Kensington High Street. Willesdon paper, or some translucent paper, might also be used.

Societies.

ROYAL HORTICULTURAL.

Orchid Committee.

June 6. — Present: Harry J. Veitch, Esq., in the chair; and Messrs. J. O'Brien (Sec.), Sydney Courtauld, Rev. E. Handley, De B. Crawshay, Dr. M. T. Masters, T. B. Haywood, E. Hill, J. Douglas, and H. M. Pollett.

After the great display of Orchids at the Temple Show, the next meeting is generally lacking in objects of interest, and so it was on the above date; still, good Orchids were shown in sufficient numbers to form an attraction to those interested in these beautiful plants.

A good group of showy species was shown by Messrs. Hugh Low & Co., among which Cattleyas were prominent. One form of C. Warscewiczii, with very richly-tinted dark flowers, was especially noticeable; and the varieties of C. Mossiæ were of great merit. Lælia purpurata, L. grandis tenebrosa, the showy Masdevallias, Oncidium macranthum, Cypripediums, and Odontoglossums were well represented in this group, among the latter being the neat little C. crinitum sapphiratum, of Reich. f. (Silver Flora Medal).

Messrs. W. L. Lewis & Co., Southgate, N., staged a group of Orchids—to which a Silver Banksian Medal was awarded — which comprised Cattleyas, Lælias, Miltonia vexillaria, Thunia Marshalliæ, Masdevallias, Epidendrum vitellinum majus, &c.

Messrs. F. Sander & Co., St. Albans, showed Zygopetalum Burtii, Cypripedium × macrocheilum, Lælia × Oweniana, Physosiphon Loddigesii, and Dendrobium hercoglossum.

A. H. Smee, Esq., The Grange, Wallington (gr., Mr. W. H. Cummins), showed a fine plant of a singular emerald-green sepaled form of Lycaste Deppei, named L. D. viridis, and a stand of cut flowers of his superb varieties of Cattleya Mossiæ, for which a Silver Banksian Medal was the award made.

T. Statter, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson), showed cut flower-spikes of Cattleya Warscewiczii, Stand Hall variety, a very large and good form; Lælia grandis tenebrosa, L. purpurata gigantea, with an extraordinary development of the labellum; Cattleya Warscewiczii delicata, C. granulosa superba, and Cypripedium superbiens, Demidoff variety.

Captain Hincks, Terrace House, Richmond, Yorks, sent Masdevallia × Veitchiano-Estradæ, a pretty variety with Apricot-coloured flowers.

For the best seedling Orchid not exhibited previous to January 1, 1893, Messrs. F. Sander & Co., St. Albans, for the third year in succession, secured the Silver-gilt Flora Medal with Lælio-Cattleya × Maynardii (L. pumila Dayana ♀, Cattleya dolosa ♂). The plant had the dwarf habit of Lælia pumila, but the flowers are larger than in that species, the labellum being expanded as in Cattleya dolosa, and not enfolding the column, the sepals and petals are of a rosy-lilac tint; the labellum of bright purplish-crimson; the column white with a purple cap. The form of the labellum is attractive and the colouring effective (see fig. 108, p. 715).

Scientific Committee.

Present: Dr. M. T. Masters, in the chair; Mr. McLachlan, Dr. Müller, Mr. Wilson, and Rev. G. Henslow, Hon. Sec.

Clematis, double and single.—Flowers were received of the variety Proteus, which is remarkable for bearing double flowers on the old wood of the previous year, which are the first to appear, while the present year's wood subsequently bears single blossoms in the autumn.

Cereus, photograph of.—Dr. Masters exhibited a photograph, taken by magnesium light, of a blossom of the Night-flowering Cereus, growing at Quorn House, Loughborough.

Abies balsamea.—He also showed drawings of this species, exhibiting great variations in the characters of the bracts, scales, colour of the cone, &c.

Cupressus guadaloupensis and C. macrocarpa.—Dr. Masters showed dried specimens of these two forms. The former grows on the island of Guadaloupe, off South California, and the latter on the mainland on a very limited area. They appear to be only varieties of one another, the island form being more glaucous, a common feature of maritime plants. Dr. Masters also observed that a variety of Pinus insignis with two "needles" instead of three, the usual number in this species, together with a Fan Palm, Erythea edulis, grew on the same island.

Calochortus vars.—Mr. Wilson exhibited blossoms showing great variety of colouring in C. venustus citrinus and C. v. oculatus. They were grown in open borders at Weybridge and Wisley.

Aquilegia and Clematis Hybrids (?).—A communication was received from Mr. E. J. Lowe of Shirenewton, Chepstow, describing some supposed hybrids, accompanied by specimens of Clematis montana and a drawing of the hybrid Aquilegia exhibited at the last meeting. It was the opinion of the committee that the evidence of its being a true hybrid was not satisfactorily established.

Lecture

ON HARDY RHODODENDRONS AND AZALEAS.

In the afternoon a lecture on these plants was delivered by Sir J. T. D. Llewelyn, Bt., Penllergare, Swansea. The lecturer commenced by saying that the two species chiefly responsible for the wonderful varieties and hybrids of the hardy Rhododendrons, were R. ponticum (Asia Minor), and R. catawbiense (N. America). These two species and most others flowered here about May and June, and if it was desired to prolong the season, such must be done by obtaining varieties that bloom exceptionally early. Those from the Himalayas will be found to be useful in this respect, and might be considered hardy if taken from an altitude in the Himalayas of 9000 feet or upwards. These were sufficiently hardy to withstand the winter frosts, but in some springs they might be caught by frost, just at the time the sap is rising. Sir J. Llewelyn then gave Sir Joseph Hooker's description of the genus, and afterwards spoke upon their geographical distribution, and alluded to the opinion that it will be found that the Celestial Empire contains more species than all the world beside. The lecturer then described some of the leading species and varieties, commencing with R barbatum, which he said might be distinguished by the hairy character of the petioles. The flowers are glowing crimson. It had stood 12° of frost in February at Penllergare without injury. R. Thomsoni has a lax truss, each flower a bell of deepest crimson, with five honey spots at its base, which add greatly to the attractiveness of the bloom. During its flowering period it was overtaken by frost, and became quite stationary, but afterwards bloomed very freely. The Indian R. arboreum is interesting, because it perhaps is the only one that will bloom in three years from seed. The type is glowing scarlet, but varieties of it seen here are nearly or quite white. R. Falconeri was worth growing, if only for its bold fine foliage; the leaves are 17 inches in length without the petioles, and have a rich brown under-surface. R. eximium, which is regarded by some as synonymous with R. Falconeri, the lecturer suggested is a natural hybrid between R. campanulatum and Falconeri. It is very useful with its handsome lax truss, and the white variety has been used much in hybridising. R. campylocarpum is an especially neat little gem; the flowers are primrose-yellow. Sir Jno. Llewelyn then referred to R. glaucum, R. niveum, R. Aucklandi, and some others, and thought that probably R. Fortunei was the Chinese form of Aucklandi.

If dead bracken leaves of the previous year were forked into the soil, they would be found to be very beneficial. They liked to drop their lower branches, and to shade their own roots. The lecturer has one of the original Ponticums about 349 feet in circumference. Sir John Llewelyn said that it had been pointed out by botanists that Azalea can no longer be looked upon as a separate genus, but merely as a section of Rhododendron, and referred to the Rhododendron, or Azaleo-dendron, figured in our columns on June 3, p. 663. The Ghent Azaleas, the lecturer reminded us, were derived from American species, and had been called by their name because they had been raised by the Ghent nurserymen. Azalea mollis was usually seen as a pot-plant, but was nevertheless perfectly hardy. It is easily raised from seeds, and is therefore useful for hybridising.

ROSE SHOW AT EARL'S COURT.

June 14, 15.—Owing to the unusual earliness of the present season, it was resolved by the authorities of the Gardening and Forestry Exhibition, a week or two ago, to hold an extra early show on the 14th and 15th inst.—a fortnight before the first Rose show advertised in the season schedule. This proved to be a success, a very nice exhibition being the result. The classes were not numerous, but except that for thirty-six Roses in pots, there were entries in all of them, and in most, notably in the class for twenty-four distinct Roses, three trusses of each, there were many competitors. In respect of the Roses in pots, there had been several entries, but the weather of the previous week proved too much for them, and the intending exhibitors were forced to become defaulters. For thirty-six Roses distinct, single trusses, the 1st prize was secured by Mr. B. R. Cant, of Colchester. The blooms were fresh, of good colour, and many of them of fair size. The following, perhaps, were the most noteworthy, Duke of Wellington, Chas. Lefebvre (very full and good size), A. K. Williams, Sultan of Zanzibar, intensely coloured; Pride of Waltham, Countess of Oxford, Marie Verdier, Marie Baumann, Comtesse de Nadaillac, Comte de Raimbaud, and Madame Hippolyte Jamain.

Messrs. D. Prior & Son, Myland Nurseries, Colchester, were 1st in the class for twenty-four, and showed some pretty blooms of fair merit, but the flowers in this class generally were not equal to those in that just noticed.

The next class was for twenty-four Roses, distinct, but three trusses of each, and here the same competitor, who was successful in the class for thirty-six, Mr. B. R. Cant, was again 1st. There were very fine trusses of Marie Baumann, Heinrich Schultheiss, Maurice Bernardin, and Madame Gabrielle Luizet. The competition in this and the following class was very keen.

For eighteen Roses, Teas or Noisettes, three trusses of each, Messrs. D. Prior & Son were 1st, the most noticeable of a very creditable stand being Innocente Pirola, Ernest Metz, Souvenir d'Elise Vardon, Maréchal Niel, and Catherine Mermet.

Messrs. D. Prior & Son were again to the front for eighteen Roses, distinct, and single trusses. The best twelve trusses of any dark H.P. were shown by Mr. Frank Cant, the variety being Horace Vernet, good in colour, but not large. Mr. B. R. Cant took 1st position for the best light H.P., with Gabrielle Luizet; and Messrs. D. Prior & Son were 1st in the class for twelve blooms of any Tea or Noisette, with Marie Van Houtte.

The only remaining class in the open section was for twelve bunches of garden Roses, distinct, of not less than three trusses each, and this brought a very fine collection from Mr. Chas. Turner, Royal Nurseries, Slough. The whole of the specimens were beautifully fresh, and of good quality, and included bunches of the now well-known new Polyantha Rose, Turner's Crimson Rambler; Celine Forestier, White Bath Moss, Moschata alba, Boule de Neige, Perle des Panachés, white Provence, common Moss, Rosa Mundi, R. macrantha, W. A. Richardson, and Lamarque. The garden Roses are just now at their best.

The leading class in the amateur section was for twenty-four Roses, distinct, single trusses, and the 1st prize went to the Rev. J. H. Pemberton, Havering-atte-Bower, Essex, who showed extremely well. The best were Duchess of Bedford, Marie Baumann, Jean Ducher, and A. K. Williams.

For twelve varieties, C. J. Graham, Esq., Coombe Road, Croydon, was 1st; and for the same number of varieties, with three trusses of each, Mr. J. Bradbury, gr. to S. P. Budd, Esq., Bath, was placed in the premier position.

Teas and Noisettes were well represented, the best twelve coming from R. L. Knight, Esq., Bobbing, Sittingbourne.

The best twelve trusses of any H.P. were from J. Gurney Fowler, Esq., Woodford, Essex, who showed Mrs. John Laing; and C. J. Graham, Esq., Croydon, was equally successful with the Tea and Noisette section, showing Hon. Edith Gifford.

There were two entries for twelve bunches of garden Roses, three trusses in each, and the best was from Mr. W. Mease, gr. to A. Tate, Esq., Leatherhead.

Prominent among the non-competitive groups was that from Messrs. Wm. Paul & Son, Waltham Cross, Herts, which consisted of cut Roses of all descriptions, and a few plants in pots. Baskets made up of varieties, such as L'Idéale, Corinna, a lovely Tea; Boule de Neige, common Moss Roses, Marie Van Houtte, a Tea, the colour of which is a mixture of lemon and rose—very pretty. Madame Moreau is a very pretty Climbing Tea variety of yellow-bronze, the colour of good depth.

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, had a fine group of Pelargoniums in flower, including a few plants of the new Ivy-leaved variety, Ryecroft Surprise.

A large group of miscellaneous plants, consisting of Palms, Ficus elastica variegata, Clematis Jackmanni, C. J. Snow White, and C. J. coccinea, Spiræas, Ferns, and other foliage plants, were from Mr. H. B. May, Dyson's Lane Nursery, Upper Edmonton.

Messrs. P. Barr & Sons, King Street, Covent Garden, had two small corner groups of hardy flowers, including a few very fine English Irises, which are just commencing to bloom, several of which we noticed were of a pretty flesh-colour, not common.

A large collection of Melons, Cucumbers and Tomatos, all well grown, were exhibited by Mr. S. Mortimer, Rowledge, Farnham, Surrey. In the main building there were very fine herbaceous and hardy flowers from Mr. Thos. Ware, Hale Farm Nurseries, Tottenham; hardy flowers and Violas from Mr. E. F. Such, The Nurseries, Maidenhead; some Begonia blooms from Messrs. H. Cannell & Sons, Swanley; and a collection of Roses from Mr. Wm. Rumsey, Joyning's nursery, Waltham Cross.

THE GREAT YORK GALA.

June 14, 15, and 16.—In the most favourable weather the thirty-fifth Annual Horticultural Exhibition was held. Undoubtedly it was one of the best of the series, and visitors were present in immense numbers.

Plants, Stove and Greenhouse.

A large tent was devoted to stove and greenhouse plants, and to Tree and other Ferns, a raised central staging being filled with three groups of sixteen stove and greenhouse plants, six of them of ornamental foliage, and here Mr. Letts (gr., to the Marquis of Zetland), as usual, took the 1st award with a grand lot of plants, Anthurium Scherzerianum, Dipladenia amabilis, Croton angustifolius, and Erica depressa, being models of what good cultivation should be; Mr. J. Cypher, nurseryman, Cheltenham, was a good 2nd, and in his lot were fine examples of Aphelexis macrantha purpurea, Erica ventricosa hirsuta alba, and Pimelia diosmæfolia.

For *Six stove and greenhouse plants*, three superb lots were staged, the finest ever seen at York. Mr.

Cypher was 1st with Erica Cavendishii and Aphelexis prolifera Barnesii, Darwinia tulipifera, Dracophyllum gracile, Ixora Williamsi, and Bougainvillea glabra; 2nd, Mr. J. F. Mould, with a grand plant of Erica tricolor Wilsoni, a small Erica ventricosa Bothwelliana, a very fine Aphelexis prolifera Barnesii, but not well-flowered; a very fine Erica Cavendishii and Francisea calycina major, but they were an uneven lot.

Three stove and greenhouse plants.—In this class there were some exhibits of all-round excellence. Ferns in all the classes, tree, exotic, and hardy, were in great force, of fine quality, and the classes were filled, as were likewise the classes for ornamental and fine foliage plants. Some very fine Crotons were staged, the 1st prize lot of four being of special excellence. These were staged by Mr. Letts, the varieties being Queen Victoria, Thomsoni, Aigburthiana, and Chelsoni, all grandly coloured. Dracænas, Cape Heaths, Coleus, and other plants were up to the mark, as were also table decorative plants.

One large tent was devoted to groups of plants occupying a space not exceeding 300 square feet, and here were some very fine examples of artistic work. Mr. J. McIntyre, gr. to Mrs. Gurney Pease, Darlington, scored heavily, as he usually does, with a most artistic and elaborately-arranged group.

There was a fine bank of Gloxinias of more than average merit, and the Orchids were a special feature of the exhibition. In the class for ten, the competition betwixt S. Hardy, Esq., of Manchester, and Mr. J. Cypher, of Cheltenham, was keenly-contested, and only after a great deal of consideration was the 1st prize awarded to Mr. Cypher. They were two grand lots, and in Mr. Cypher's were very fine examples of Dendrobium suavissimum, Thunia Marshalli, Anguloa Ruckeri, Cattleya Sanderiana, Oncidium macranthum, and Cypripedium Stoneii; 2nd, G. Hardy, Esq., in whose lot were a fine Dendrobium Dearii, a very fine Cymbidium Lowianum, superb masses of Cattleya Mossiæ and C. Warnerii, Cypripedium Curtisii, Epidendrum vitellinum majus, Lælia tenebrosa, and Oncidium macranthum.

For Three Orchids.—1st, Mr. W. Cypher, with Dendrobium infundibuliforme, Lælia purpurata, and Odontoglossum vexillarium.

Two very fine non-competing groups of Orchids, to which Gold Medals were awarded, were staged by Messrs. F. Sander & Co., St. Albans, and Messrs. Charlesworth, Shuttleworth, & Co., Heaton, Bradford. In Messrs. Sander's group were Cypripedium Wallisii, and Sobralia xantholeuca, to which Certificates were awarded. In this group, Certificates were awarded to Arisæma fimbriatum, Aristolochia gigas var. Sturtevantiana, and Dracæna Sanderiana. Other very noticable Orchids in this collection were Odontoglossum Schillerianum, the curious Mormodes citrina, and Cypripedium superbiens.

In Messrs. Charlesworth & Shuttleworth's collection were very fine examples of Oncidium macranthum, Cattleya Mossiæ versicolor, a very lovely variety, of which there was a fine display; Gramangis Ellisii, Odontoglossum Wilckeanum, Oncidium Lanceanum, Cattleya gigas imperialis, a very fine type. The other classes for Orchids were also well filled.

York is famous for its annual display of Pelargoniums, and at no other exhibition can such a magnificent display be seen. In the class for twelve show Pelargoniums, there were three superb lots. The 1st prize was well won by Miss Steward, Bishopthorpe.

The zonals in the two exhibits of twelve plants were perfect specimens of high-class cultivation. Plants averaging, in the 1st prize lot of Mr. H. Pybus, quite 4 feet in diameter, and were masses of flower. Mrs. Titley was a good 2nd, with very fine plants.

For six plants, 1st, Mrs. Titley; also for eight doubles, grand plants, from 2½ to 3 feet in diameter, and superbly grown.

Other classes were also well filled, and the double-flowered Ivy-leaved Pelargoniums were wonderful plants, averaging 3 feet high, and as much through; and in this class, Mr. Pybus was 1st.

In the class for six tuberous-rooted Begonias, there were ten exhibits, and Messrs. T. Bailey & Co. were 1st, with fine plants of five varieties.

Excellent Fuchsias and a fine bank of Gloxinias and Calceolarias were staged. Good prizes are always offered for Roses in pots, but there was not a marked advantage on previous years, and there is plenty of room for improvement.

In the Cut Rose division there was a good display, and for seventy-two blooms Mr. H. J. May, Bedale, was 1st. For forty-eight Roses, 1st, Mr. Mount, Canterbury. For thirty-six Roses, 1st, Mr. Mount. For twenty-four Roses, 1st, Mr. E. B. Lindsell, Hitchin. For eighteen Roses, 1st, Mr. E. B. Lindsell. For eighteen Roses, amateur, 1st, Mr. E. B. Lindsell. For twelve white and yellow Roses, 1st, Rev. F. H. Burnside.

For twelve bunches of stove and greenhouse flowers, 1st, Mr. Letts, with a fine lot.

For bouquets, in three classes, and for a basket of flowers, Messrs. Perkins & Son, Coventry, was well 1st in each class.

Fruit.—An excellent display of fruits, generally in fine condition, but one exhibitor staged very unripe Grapes. For ten varieties, Mr. McIndoe was 1st, with Black Hamburgh and Foster's Seedling Grapes, Early Transparent Gage Plum, Goshawk and Violette Hative Peaches, Stanwick Elruge Nectarines, High Cross Hybrid Melon, and a very fine well ripened bunch of Musa Cavendishii. 2nd, Mr. R. Parker, gr. to J. Corbett, Esq., Impney, Droitwich, with a fine lot of Foster's Seedling and Black Hamburgh Grapes, two very fine Melons, Pitmaston Orange and Lord Napier Nectarines, and Brown Turkey Figs. 3rd, Mr. J. Edmonds, gr. to the Duke of St. Albans, in whose lot were well-coloured Black Hamburgh Grapes and Lord Napier Nectarines.

For six varieties of fruit, 1st, Mr. Bannerman, gr. to Lord Bagot, with Black Hamburgh and Foster's Seedling Grapes, a very fine Golden Perfection Melon, very fine Royal George Peaches, Lord Napier Nectarines, and Brown Turkey Figs.

For four varieties of fruit, 1st, Mr. Bannerman.

There was an excellent display of well-coloured Peaches and Nectarines, and Melons, all being plentiful, and the 1st prize for three bunches of Black Hamburgh Grapes, was won by Mr. Jas. Johnson, Wharfedale Nursery, Bolton, there being nine exhibitors in this class.

There were, besides the above, plants which received Certificates of Merit, which time forbids any further mention of on this occasion.

ENQUIRIES.

"He that questioneth much shall learn much."—BACON.

THE PRIMULACEOUS GENUS, "CORIS."—Is this pretty little plant from the Mediterranean region at all common in English gardens? I see it mentioned in several books, but I never yet saw the plant alive. The plant is rather ornamental at its best, and is found in herbaria as collected in Spain and South France. Dr. Ed. Perceval Wright, Secretary R.I.A., and professor of botany in the University of Dublin, recently met with it growing in Algeria, and kindly drew my attention to it amongst his extensive series of dried specimens. If it is in cultivation, I shall be very glad to meet with either seeds or plants. *F. W. Burbidge, Dublin.*

A CORRESPONDENT.—"Ulmus" would be glad to be informed where picturesque avenues of Elms are to be found within a distance of thirty miles from the metropolis.

MARKETS.

COVENT GARDEN, June 15.

HEAVY supplies to hand with a good trade, all classes of goods making fair values. *James Webber, Wholesale Apple Market.*

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arum, per doz. bl.	2 0	4 0
Bouvardias, per bun.	0 6	1 0
Calceolaria, doz. bun.	4 0	6 0
Carnation, doz. bun.	4 0	9 0
Cornflower, 12 bun.	1 0	3 0
Eucharis, per dozen	3 0	4 0
Gardenia, per dozen	1 0	3 0
Heliotrope, per doz. sprays	0 4	0 6
Iris, doz. bunches	6 0	12 0
Lilium candidum, p. bunch	1 6	4 0
Lilium Harrisii, doz.	2 0	4 0
Maiden Hair Fern, 12 bunches	4 0	6 0
Marguerite, p. doz. bunches	1 6	3 0
Mignonette, 12 bun.	3 0	6 0
Myosotis, 12 bunches	2 0	3 0
Pæony, per doz. bun.	9 0	18 0
Pansy, per doz. bun.	1 0	2 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blms.	2 0	6 0
Pelargoniums, scarlet, p. 12 bun.	4 0	6 0
— 12 sprays	0 6	0 9
Pink, various, 12 bun.	2 0	6 0
Poppy, doz. bunches	1 6	6 0
Primula, dble. p. bun.	0 6	1 0
Pyrethrum, 12 bun.	2 0	6 0
Roses, doz. bunches	3 0	8 0
— Tea, per dozen	0 6	2 0
— coloured, dozen	2 0	4 0
— yellow (Maréchals), per doz.	1 6	6 0
— red, per dozen	1 0	1 6
Spiræa, 12 bunches	3 0	6 0
Stocks, per bunch	0 4	0 6
Sweet Sultan, 12 bun.	2 0	4 0
Tuberose, 12 blms.	0 6	1 0

ORCHID-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arum, dozen pots	8 0	12 0
Adiantum, per doz.	6 0	12 0
Aspidistra, per doz.	15 0	30 0
— specimen, each	7 6	21 0
Calceolaria, per doz.	4 0	6 0
Crassula, per doz.	18 0	42 0
Cyperus, per dozen	4 0	10 0
Dracæna, each	1 0	5 0
Erica, various, doz.	9 0	21 0
Ferns, various, doz.	4 0	9 0
Ferns, small, per 100	5 0	8 0
Ficus elastica, each	1 6	7 6
Foliage plants, doz.	13 0	42 0
Fuchsia, per doz.	6 0	9 0
Genista, per doz.	6 0	9 0
Ivy Geranium, doz.	4 0	6 0
Lilium Harrisii	18 0	30 0
Lobelia, per doz.	3 0	6 0
Marguerite, per doz.	6 0	12 0
Mignonette, per doz. pots	4 0	6 0
Musk, per doz.	2 0	4 0
Nasturtiums, p. doz.	4 0	6 0
Palms, various, each	2 0	10 0
— specimens, each	10 6	84 0
Pelargonium, p. doz.	8 0	12 0
— scarlet, p. doz.	3 0	6 0
Saxifrage, per doz.	12 0	18 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Apples, Tasmanian, per case	2 6	8 6
Cherries, half-sieve,	4 0	7 0
Currants, black, ½ sve	5 6	
— red, do.	3 0	3 6
Cobs, per 100 lb.		
Gooseberries, half-sve.	1 6	2 0
Grapes, per lb.	1 0	2 6
Lemons, per case	12 0	20 0
Peaches, per doz.	3 0	12 0
Pine-apples, St. Michael	2 0	5 0
Oranges, per case	20 0	30 0
Strawberries, per lb.	0 3	1 0

VEGETABLES. — AVERAGE RETAIL PRICES.

	s. d.	s. d.
Beans, French, lb.	1 6	2 0
Beet, red, per dozen	2 0	3 0
Carrots, per bunch	0 4	0 6
Cauliflowers, each	0 3	0 6
Cucumbers, each	0 4	0 8
Endive, per dozen	2 0	3 0
Herbs, per bunch	0 9	1 0
Lettuces, per doz.	1 6	2 0
Mushrooms, punnet	2 0	
Mustard and Cress, punnet	0 4	
Parsley per bunch	0 3	0 6
Shallots, per lb.	0 6	
Tomatos, per lb.	0 6	1 0
Turnips, per bunch	0 4	0 6

POTATOS.

OLD POTATOS.—Demand for is virtually over for the season, except for cattle-food.

NEW POTATOS.—Jerseys easier, 7*s.* to 9*s.* per cwt.; French, 5*s.* to 7*s.*; Caucasians, 3*s.* to 7*s.* Dutch and Belgians in bags expected this week. *J. B. Thomas.*

SEEDS.

LONDON: *June* 14.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that the present abnormally protracted Clover seed season is now at last at an end. For Spring Tares, however, there is still an active enquiry, but Stocks are as nearly as possible exhausted. New French Trifolium keeps steady in value. This droughty weather will, as is always the case, create without doubt a great demand for this article. Rape-seed is in improved request. Mustard continues dear. There is no change in Peas. More money is asked for Haricot Beans. As regards Canary seed, some heavy shipping orders coming to hand on the back of very meagre supplies have driven up prices still further. New Turkish Canary seed for delivery next October is now offering for what appears to be tempting rates. Higher rates are asked for Hempseed. Linseed is firm.

FRUITS AND VEGETABLES.

BOROUGH: *June* 13.—Quotations:—Peas, 4*s.* 6*d.* to 6*s.* per bushel; Cauliflowers, 1*s.* 6*d.* to 2*s.* 6*d.* per dozen; Cabbages, 4*s.* to 5*s.* per tally; Parsley, 3*s.* to 4*s.* per dozen bunches; Egyptian Onions, 5*s.* to 6*s.* per cwt.; Horseradish, 2*s.* 6*d.* to 2*s.* 9*d.* per bundle.

SPITALFIELDS: *June* 13.—Quotations:—Peas, 4*s.* 6*d.* to 6*s.* per bushel; Cabbages, 4*s.* to 5*s.* per tally; Cauliflowers, 1*s.* 6*d.* to 2*s.* 6*d.* per dozen; Egyptian Onions, 5*s.* to 6*s.* per cwt.; Horseradish, 2*s.* 6*d.* to 2*s.* 9*d.* per bundle; Cherries, 4*s.* 6*d.* to 6*s.*; Gooseberries, 1*s.* 6*d.* to 2*s.* 6*d.* per half-sieve.

STRATFORD: *June* 14.—There has been a good supply of all kinds of produce at the above market during the past week, and a brisk trade was done at the undermentioned prices:—Cabbages, 3*s.* to 7*s.* per tally; Greens, 2*s.* to 4*s.* per bag; do., 3*s.* to 4*s.* per dozen; Onions, Egyptian, 80*s.* to 120*s.* per ton; Apples, Tasmanian, 9*s.* to 12*s.* per box; do., American, 18*s.* to 24*s.* per barrel; Green Peas, 4*s.* to 5*s.* per sieve; do., 10*s.* to 11*s.* per bag; Cucumbers, frame, 2*s.* to 3*s.* 6*d.* per dozen; do., Dutch, 2*s.* to 2*s.* 6*d.* per dozen; Gooseberries, 1*s.* 9*d.* to 2*s.* 6*d.* per half-sieve; do., 3*s.* to 4*s.* per flat; black Currants, 4*s.* 6*d.* to 5*s.* 6*d.* per half-sieve; red Currants, 4*s.* to 4*s.* 6*d.* do.; Cherries, 5*s.* to 6*s.* do.; Horseradish, 2*s.* to 2*s.* 6*d.* per bundle.

FARRINGDON: *June* 15.—Quotations:—Carrots, 1*s.* 6*d.* per dozen bunches; Peas, 4*s.* to 6*s.* per bushel; Cauliflowers, 1*s.* to 1*s.* 3*d.* per doz.; Cherries, English, 4*s.* 6*d.* to 5*s.* 6*d.* per half-bushel; Currants, Black and Red, 6*s.* per bushel; Tomatos, 6*s.* per dozen pounds; Gooseberries, 2*s.* 6*d.* per half-sieve; Pine-apples, 2*s.* 6*d.* to 3*s.* each.

POTATOS.

BOROUGH: *June* 13.—Quotations:—Old: 30*s.* to 60*s.* per ton; New: 7*s.* to 10*s.* per cwt.

SPITALFIELDS: *June* 15.—Quotations:—Old: 30*s.* to 65*s.* per ton. New: 7*s.* to 10*s.* per cwt.

STRATFORD: *June* 14.—Quotations:—Old: 25*s.* to 30*s* per ton. New: Jersey, 8*s.* to 9*s.*; do., St. Malo, 6*s.* to 8*s.*; do., 6*s.* to 8*s.* per ton.

FARRINGDON: *June* 15.—Quotations:—New, Flukes, 7*s.* 6*d.* to 8*s.*; Kidneys, 7*s.* to 7*s.* 6*d.* per cwt. Old: Bruces, 45*s.* to 50*s.*; Main Crop, 60*s.* to 65*s.* per ton.

LONDON AVERAGES: *June* 14.—New: English, 2*d.* to 3*d.* per pound; Jersey Kidneys, 8*s.* to 9*s.*; Canary do., 8*s.* to 10*s.*; Lisbon, 4*s.* to 5*s.* per cwt. Old: 30*s* to 60*s.* per ton.

THE WEATHER

[BY the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.

Districts.	Temperature. Above (+) or below (−) the Mean for the week ending June 10.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1893.	Below 42°, difference from Mean since January 1, 1893.	Rainfall. More (+) or less (−) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1893.	Total Fall since Jan. 1, 1893.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1893.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	3 +	88	0	+ 277	− 57	4 —	98	17·4	33	25
1	3 +	92	0	+ 221	− 21	0 aver	79	8 8	29	32
2	1 +	90	0	+ 246	− 62	2 —	65	7·0	41	37
3	1 +	103	0	+ 289	− 37	1 —	64	6·6	47	44
4	3 +	111	0	+ 337	− 47	3 —	64	7·0	40	41
5	2 +	113	0	+ 323	− 43	3 —	60	7·0	48	45
6	4 +	107	0	+ 303	− 63	3 —	81	14·2	38	35
7	4 +	115	0	+ 382	− 91	3 —	68	9·0	44	36
8	3 +	117	0	+ 413	− 70	4 —	63	10·7	67	48
9	4 +	112	0	+ 329	− 104	0 aver	83	11·3	36	29
10	4 +	122	0	+ 369	− 100	1 —	72	12·2	40	35
*	5 +	131	0	+ 476	− 52	4 —	68	8·8	75	55

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; * Channel Islands.

Answers to Correspondents

BRANCHED STRAWBERRY: *T. L.* As the fleshy part of the Strawberry is the termination of the flower stalk, and as this is of the nature of a stem, its branching or subdivision is not to be wondered at. We do not remember to have seen one so regularly branched as yours. We should regard it as an overgrowth, rather than as an arrest of growth

CARNATION SOUVENIR DE LA MALMAISON: *Carnation.* The most successful cultivators keep their plants in low pits or cold frames during the summer months, but fully exposed night and day, unless heavy rain-storms are apprehended, when the lights would be placed over them. The plant is hardy, therefore coddling is very undesirable.

CARNATIONS: *E. W. A.* Your plants are affected with the eel-worm, so often described and figured in our columns. Burn all the affected plants and turn out the soil.

CLOCHES: *J. A.* Scan our advertising columns. Some of the glass merchants sell them.

CUCUMBERS: *J. S.* There were not any insects to be found when shoots arrived here. Send some badly-infested specimens.

FRAGRANT TULIPS: *R. M.* The Van Tholl varieties are said to be scented.

GRAPES DISEASED: *A. Mohr* and *A. Williams.* The berries are affected by a fungus, Glæosporium læticolor, figured and described in the *Gardeners' Chronicle*, December 6, 1890. The Bordeaux Mixture might be used in the early period of growth with safety, up to the time of colouring. Flowers-of-sulphur on pipes and flues would tend to keep these minute funguses in check.

INSECTS: *X. Y. Z.* The fly found on the Pansies is Agromyza violæ, see fig. 110. It is usually abundant in May, increasing in numbers to August, and disappearing when frosty nights occur in September. The fly punctures the flowers, discharging the colours, and causing minute spotting. The insect is shining black, and slightly bristly, the eyes of a beautiful green when alive, the head and antennæ of a bright orange colour, the simple bristles of the antennæ are black, wings ample, iridescent, and transparent. The males are rather smaller than the

FIG. 110.—PANSY-FLY.
1, natural size; 2, the female; 3, the same, flying.

females.—*J. Baylis.* The beetle attacking Strawberries is Phyllopertha horticola, a small chafer allied to the cockchafer. The grubs live underground, and are said to take three years to complete full growth, but this is perhaps exaggerated. It is probable that not much good can be done as regards the perfect beetle, except by hand-picking. The ground might be dressed with gas-lime. The beetle destroying Turnips and Cauliflowers is Phædon cochleariæ, a near relative of the Turnip-flea. A dressing of gas-lime, fresh lime from the kiln, and sulphur, ground up together to a fine powder, and applied when the dew is on the plants, has been strongly recommended. *R. McL.*

INSECT INJURING ORCHIDS: *W. E.* The Longicorn beetle that is occasioning so much damage to imported Dendrobium nobile, is the same as the one noticed in Answers to Correspondents (*W. N.*), in our issue of May 20. It appears to belong to the genus Diaxenes, Waterhouse, but the species seems to be as yet undescribed. If it is proved that the beetles breed in Orchid-houses in this country it is likely to be a formidable pest. *R. McL.*

KEW GUILD: *One Anxious to Learn.* Apply to Mr. W. Watson, Royal Gardens, Kew.

NAMES OF PLANTS: *Amateur.* 1, Asplenium bulbiferum; 2, Pteris argyræa; 3, Davallia canariensis; 4, Pteris serrulata cristata; 5, Adiantum cuneatum; 6, Gymnogramma calomelanos.—*W. E. G.* The red species is Allium cardiostemma (P. & M.); the other, Allium cœruleum (Pall.). Eucomis species cannot be identified from flower alone; many of the species have flowers like this one.—*X. Y. Z.* Rubus odoratus.—*R. MacFee.* Yes, Dendrobium Dalhousieanum.—*C. W.* Astrantia major.—*M. C.* Tradescantia virginica, Virginian Spider-wort.—*H. A.* a Polygonum, P. Sieboldi, so far as we can tell from the leaf only.—*J. J. M.* 1, Nephrodium Filix-mas, var.; 2, Cystopteris fragilis; 3, Asplenium Filix-fœmina; 4, Aspidium aculeatum; 5, Nephrodium Filix-mas; 6, not recognised; 7, Aspidium angulare; 8, A. angulare, var.—*H. F. G.* 1, Philadelphus coronarius, var.; 2, Spiræa Douglasi; 3, Jasminum revolutum; 4, Sempervivum tortuosum, var.; Ground Elder is Sambucus Ebulus.—*J. B. R.* Cattleya Forbesi.—*Honorable Mrs. F.* Cattleya Mendeli and Brassavola Perrini.—*W. S. W.* Lomaria alpina.—*E. H. C.* Zephyranthes carinata, an Amaryllid, not a Lily.—*C. W. D.* (Gentian-like plant) Swertia Hookeri.—*X.* (No name) Papaver pilosum.—*H. V. S.* 1, Anthyllis Barba Jovis; 2, Pulicaria odora.—*F. Clarke.* Dianthus plumarius.

NOTICE OF QUITTING EMPLOYMENT: *Gardener.* You cannot leave your employment on giving a week's notice to your employer. Gardeners are usually treated as servants engaged by the year, and have to give and accept a three-months' notice, but this period is very generally reduced to one month.

PEACHES, ROSES, &c.: *Lady J.* We cannot without seeing specimens of fruit, foliage, flowers, and knowing details of the management, indicate the cause of the injuries.

RHODODENDRONS IN A SMOKY TOWN, IRELAND: *M. F. F.* The plants will thrive if planted in such beds as you purpose making, namely, beds 2½ to 3 feet deep, consisting of light loamy soil and peat. It would be advisable to add sand of a sharp, not very fine nature, in proportion of about one-twelfth or thereabouts of the whole. As the plants will stand some 3 or 4 feet asunder, and the soil under which the roots lay will be exposed several years after planting to the sun—an injurious condition of things in the case of Rhododendrons—it will be advisable to mulch with half-decayed leaf-mould. When the heads of the plants shall have met, or nearly so, this covering of the soil will not be necessary, but the leaves must be left which fall from them, keeping them there by spreading a thin layer of peat or loam over them. Dry cow-dung, or that which is well rotted, may also be spread under the bushes. Be careful of using a spade or fork near the bushes, the roots being close to the surface, and seldom range so far from the stem as the longest branches. This will not prevent, during the earlier years of the plantation, the digging of the unoccupied ground between the bushes. Wash the plants well after the winter, and during growth, which is best done by means of a hose fixed to a hydrant, or with a powerful garden-engine. The plants, besides this, should be heavily watered several times during the summer, unless the rains are abundant at that season. Do not let the plants bear seed, but snap the bunch off whilst it is still young and brittle. This advice applies also to the hardy Azaleas as well.

FIG. 111.—PEACH BLISTER.

PEACH LEAVES: *H. T. H. G.* A very bad case of Peach blister (see fig. 111) caused by the attack of a fungus mould, known as Ascomyces deformans. Probably, careful application of the Bordeaux mixture would kill the fungus, but it must be used with great care, or you would be likely to kill the leaves also. Do not throw the affected leaves on the rubbish-heap, but burn them.

SPANISH CHESTNUT: *C. N.* Please send a few more leaves.

SPRING LETTUCES: *J. A.* Seed of Laitue crêpe à graine Noire, the Petite Noire of the Paris market gardeners, may be obtained from Messrs. Vilmorin Andrieux et Cie., 4, Quai de Mégisserie, Paris.

STANHOPEA—TWO FLOWERS ON A STALK: *G. T.* If the blooms spring from the same ovary, the circumstance is unusual.

COMMUNICATIONS RECEIVED.—A. S. Lacey.—T. L.—R. McL.—C. W. D.—Baron von M.—M. C. C.—Prof. Trelease.—T. R., Sawbridgeworth.—A. Leipner.—Sander.—V.—W. A. C.—H. D. P.—M. T.—W. D.—E. M.—H. W. W.—R. S.—W. Cutbush.—T. H. S.—R. D.—S. L. M., California.—J. B. J.—H. N. R.—B. Wadds.—Dr. Kränzlin.—Dobbie & Co.—Extension.—D. T. F.—W. A. G.—J. S. S. (next week).—Stott Fertiliser Co.

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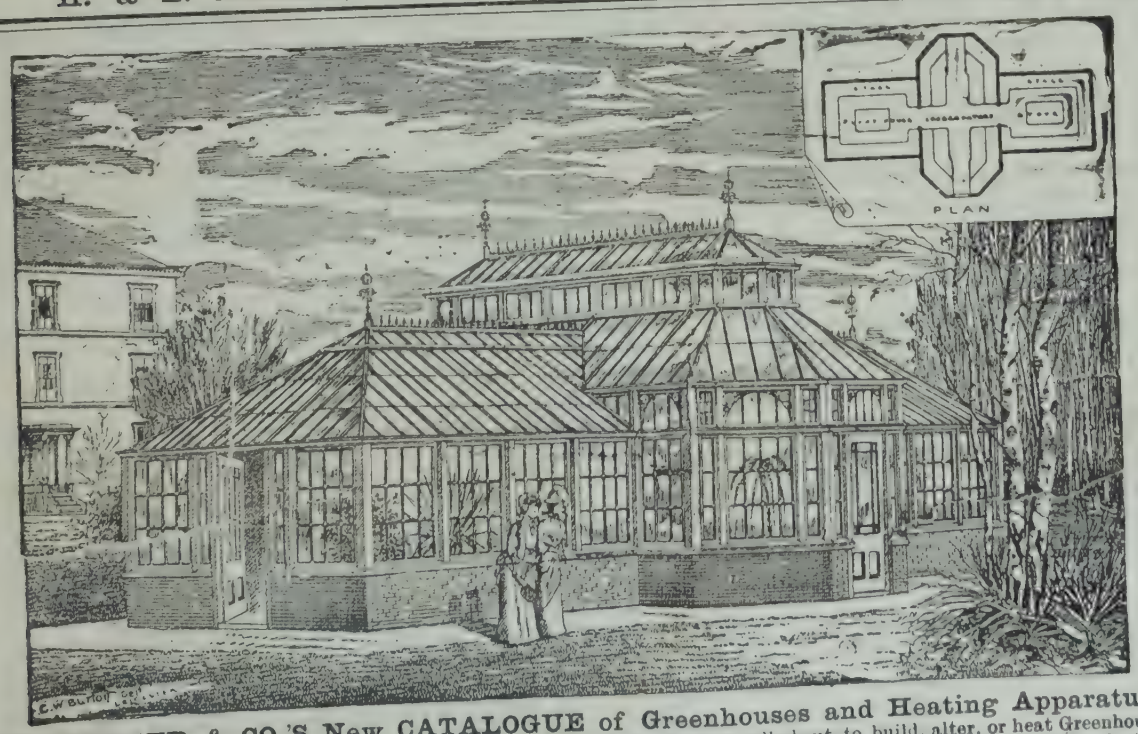

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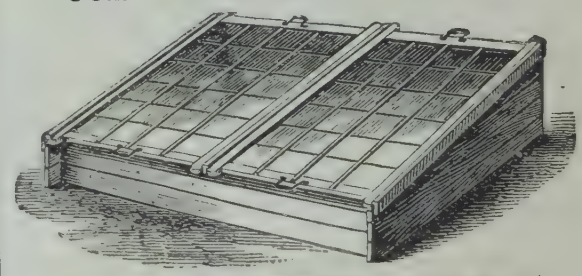

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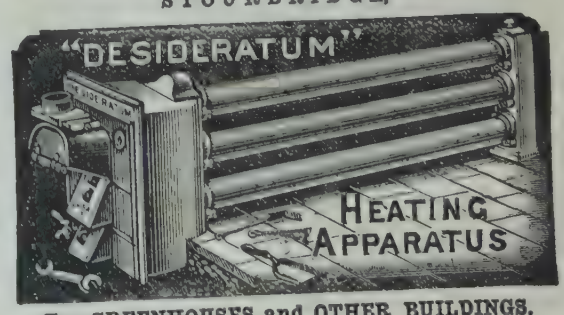

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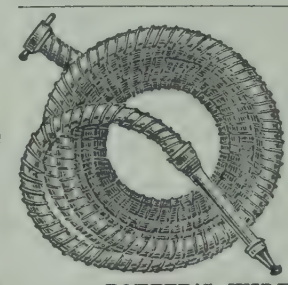

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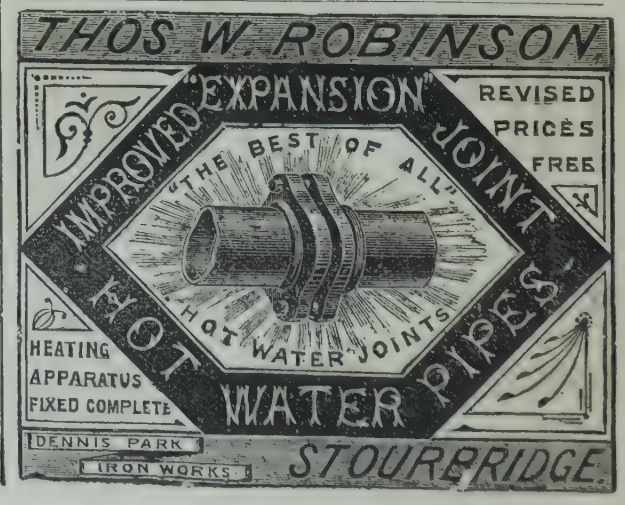

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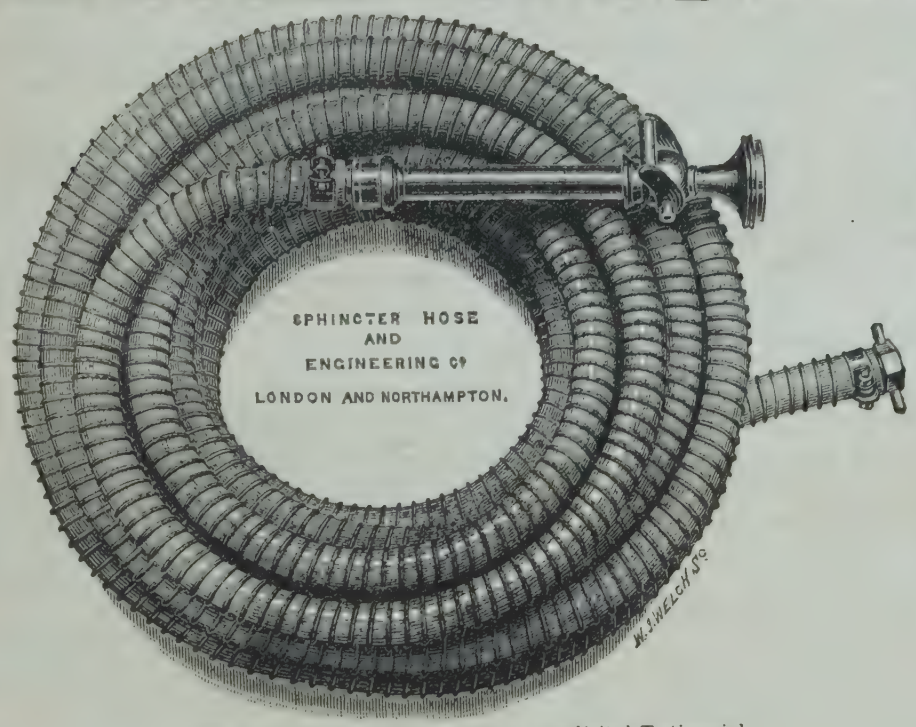

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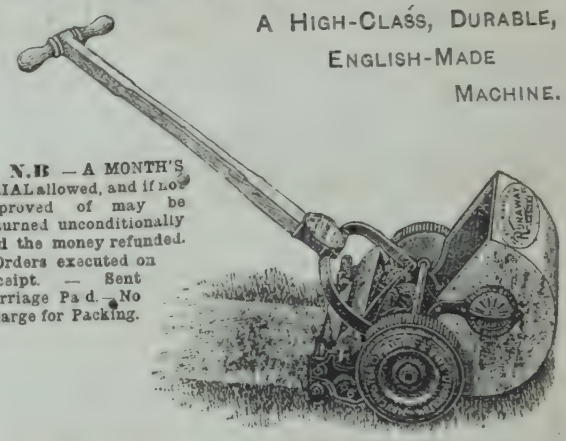

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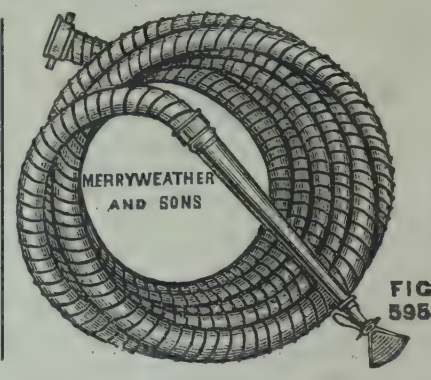

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CONTENTS.

Aquilegias 750
Baker, Mr. J. G.... ... 746
Belvoir, spring gardening at... ... ...
Books, notices of—
Icones Plantarum ... 747
Index Kewensis ... 748
Brussels, cut flower trade at 749
Californian notes ... 739
Calochortus, the 748
Canna, the 743
Caterpillars, a plague of 750
Cattleya Gaskelliana ... 741
Clifton Cottage, Irises and Hemerocallis at ... 743
Continent, a journey through the 741
Curtains, India-rubber... 754
Dalmatia, insect-flower crops of 742
Drought, the 750
Florists' flowers—
Carnation and Picotee, the 744
Pink, the garden ... 744
Fruit in Wilts 749
Fruit trees, summer pinching of 749
Furcræa Bedinghausii ... 747
Hydrangea hortensis ... 750
Insects on Pear trees ... 749
Kew notes 743
Leguminous plants and bacteria... 742
Le Chenaultia biloba major 753
Livistona inermis ... 748
Luton Hoo 749
Marseilles, oleaginous seeds at... 754
Peaches, early ... 748, 750
Nursery note—
Laing & Sons' Begonias 750
Plants, new or noteworthy—
Cœlogyne Clarkei ... 741
Masdevallia Henrietta × 740
Masdevallia Rebecca... 740
Odontoglossum crispum var. Mrs. De Barri Crawshay ... 741
Odontoglossum Williamsianum 740
Vanda × Miss Joaquim 740
Royal Hort. Society's examinations 747
Societies—
Linnean... 747
National Rose 752
Royal Horticultural ... 751
Royal Oxfordshire Horticultural 753
York Gala, the ... 752
Spraying for insects or blight 746
Strawberries, layering of 753
Symphyandra Hofmanni 749
Tomato, Veitch's Early Ruby 750
Trees and Shrubs—
Cupressus obtusa var. argentea 743
Philadelphus, the genus... 742
Tropæolum polyphyllum 750
Verbascum cupreum ... 754
Week's work, the ... 744
Flower garden, the ... 745
Fruits under glass ... 744
Kitchen garden, the ... 745
Orchid-houses, the ... 745
Yucca Whipplei 749

ILLUSTRATIONS.

Baker, F.R.S., Mr. J. G. (Supplement).
Spot in Grapes, Gleosporium læticolor 753
Tomato disease, Cladosporium Lycopersici... 753

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Williams' superb Strain, 1s. 6d. per dozen; 10s. per 100. CINERARIAS, same Price; also DOUBLE WHITE PRIMULAS, 6d. each. Package and Carriage free for Cash with Order.—JOHN STEVENS, The Nurseries, Coventry.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for List, free.—P. MCARTHUR, The London Nursery, 4, Maida Vale, London, W.

TO SPARE—1000 strong plants of CHRYSANTHEMUMS, in 5-inch pots, best varieties, of recent introduction. 10s. per dozen. Package Free.
H. J. JONES, Ryecroft Nursery, Hither Green, Lewisham, S.E.

FOR SALE, 30 YUCCA RECURVA, established in pots, from 2 to 7 feet. Standard BAYS, Specimen PALMS, and DRACÆNAS.—Prices on application to STROUD BROTHERS, 182, Green Lanes, Finsbury Park, N.

Sow now for early flowering in Spring.

ROEMER'S SUPERB PRIZE PANSIES. The finest strain of Pansies in the World.
Introducer and Grower of all the leading Novelties.
CATALOGUE, free on application.
FRED. ROEMER, Seed Grower, Quedlinburg, Germany.

ORCHIDS.—New and rare species, a special feature. Catalogue forwarded post-free on application. SEEGER AND TROPP, Ltd., Orchid Nursery, East Dulwich, London, S.E.

Important to Mushroom Growers.

CUTHBERT'S SPÉCIALITÉ MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5s.
R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

Humea elegans.

B. S. WILLIAMS AND SON can offer fine Plants, 30s. to 42s. per dozen.
Victoria and Paradise Nursery, Upper Holloway, N.

FOR SALE.—Three fine Specimen CAMELLIAS, double white, 14 feet high, in tubs.
E. MALLER AND SONS, Burnt Ash Road Nurseries, Lee, S.E.

GRAPE VINES, healthy stuff in 60-pots, for growing on; Colmar, Alicante, Maroc, Foster's, Madresfield, Hamburg, Muscat of Alexandria. Low price per 100.
WILL TAYLER Osborn Nursery, Hampton, Middlesex.

New Polyantha Rose.
TURNER'S CRIMSON RAMBLER.
CHARLES TURNER invites an Inspection of this remarkable NEW ROSE, which is now in great perfection at the Royal Nurseries, Slough.
June, 1893.

WANTED, good PLANTS of Lapageria alba, Clerodendrons and Dipladenias, also Caladiums, Red and White Daisies, Marie Louise Violets, Euphorbia, Gardenia and Pelargonium CUTTINGS. Particulars to—
C. JONES, Ote Hall Gardens, Burgess Hill, Sussex.

WANTED, A NAME.—Mr. I. SPENCER will give 10s. for the one who forwards the Most Suitable Name for his New Fertiliser. This being a Genuine and Powerful Fertiliser a Suitable Name is Required. Forward reply to— 54, Spring Street, Hull.

Herbaceous Plant Supplement.

PAUL AND SON have ready the above, containing all recent ADDITIONS to their collection of HARDY HERBACEOUS and ALPINE PLANTS.
The Old Nurseries, Cheshunt, Herts.

To the Trade.
RAPESEED and AGRICULTURAL WHITE MUSTARD.
H. AND F. SHARPE have to offer fine samples of RAPESEED and WHITE MUSTARD, suitable for Field Culture. Special quotations and samples on application.
SEED GROWING ESTABLISHMENT, WISBECH.

FERNS! FERNS!!—Trade.—Greenhouse and Stove, 25 saleable sorts, in 2½-in. pots, 12s. per 100; 10 best market sorts, in 48's, 6s. per doz.; stores, 6s. per 100. Large Adiantum cuneatum, value in fronds, 6s. and 8s. per dozen. Cyperus, Aralias, Rhodanthe, Grevilleas, in 48's, good value, 6s. per doz. Palms, Ficus, Hydrangeas, Pelargoniums, Marguerites, Dracænas, in 48's, 1s. each. P. tremula and A. cuneatum, for making large plants quickly, 16s. and 20s. per 100, well packed, put on rail free for cash with order.—J. SMITH, London Fern Nurseries, Loughboro' Junction, London, S.W.

Hyacinths, Tulips, Crocus, Lilies, &c.

C. G. VAN TUBERGEN, Jun., Haarlem, Holland. Wholesale CATALOGUE now ready, and may be had free on application to—
Messrs. R. SILBERRAD AND SON, 25, Savage Gardens, Crutched Friars, E.C.
N.B.—Many new, rare, and interesting plants and bulbs will be found in this Catalogue.

100,000 FREESIA REF. ALBA.—Pure white, sweet-scented. Easy to grow, grand for cutting, 18s. to 26s. per 1000, 3s. 6d. per 100, carriage paid; 5000 Amaryllis in sorts, fine large bulbs, sure to please, 10s. per dozen. Money returned if not approved. 5000 Nerines, in three sorts, 30s. per 100, 4s. per dozen; 10,000 Pancratiums, in all the best sorts, from 25s. per 100, 4s. per dozen.
J. JAMES, New Malden, Surrey.

To the Trade.

IMPORTANT NOTICE.—When you are in London, it will be well worth your time to pay a visit to Albert Nurseries, Peckham Rye, S.E.; or Fleet, Hants. You can make your notes, and have a business look round, combined with an outing; you will NOT be worried to order.
E. D. SHUTTLEWORTH AND CO., LTD.
Awarded Silver-gilt Flora Medal by the Royal Horticultural Society; also Gold, Silver-gilt, Silver, and Bronze Medals, Prizes, and Certificates at other First-class Shows. Our specialty—really good stuff grown for the Trade.

HORTICULTURAL SHADINGS, NETTINGS, TIFFANY, WADDINGS, COTTON WOOL for Packing Flowers, CANVAS, TWINES, &c., manufactured and supplied wholesale by
JOSEPH COOKSON, 21, New Cannon Street, Manchester.

"KILLMRIGHT,"
For Destruction of all Insect Pests and Mildew.
THE STOTT DISTRIBUTOR CO. (Lmtd.), Barton House, Manchester.

LAWN MOWERS.—The New Patent "EXCELSIOR" has the largest sale in the world, and is pronounced by all Gardeners to be the very best for saving labour. The Patent "NEW MODEL" is guaranteed to be the lightest working Mower ever made. Can be had of all Ironmongers and Seedsmen. Price Lists post-free from the Manufacturers, CHADBORN AND COLDWELL MANUFACTURING CO., 223, Upper Thames Street, London, E.C.
The Largest Makers of Lawn Mowers in the World.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings. Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W.

THOMSON'S MANURE.—The sale of this Manure is steadily increasing, and it can be had as formerly of all the leading Nursery and Seedsmen in the United Kingdom.
London Agent, Mr. JAS. GEORGE, 14, Redgrave Road, Putney.
Agent for Channel Islands, Mr. J. H. PARSONS, Guernsey.
Sole Makers, WILLIAM THOMSON AND SONS, Limited, Tweed Vineyard, Clovenfords.

SALES BY AUCTION.

Tuesday Next, June 27.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Rooms, on TUESDAY, June 27, at half-past 12 o'Clock, by order of Messrs. F. Horsman & Co., superb importations of CATTLEYA CRISPA, C. NOBILIOR, LÆLIA PRÆSTANS, L. DORMANIANA, ODONTOGLOSSUM ALEXANDRÆ, and numerous other ORCHIDS, all in superb condition and large masses.

On view morning of Sale, and Catalogues had.

Finchley Road.

Occupying a valuable position on the high road.

A compact FREEHOLD, MARKET GARDEN or BUILDING ESTATE, advantageously situate at Temple Fortune, Finchley, comprising an area of about 2¼ Acres, Cottage and Outbuildings, and two Greenhouses. The Estate has existing frontages to Finchley Road and Temple Fortune Lane of 1137 feet, which can be immediately utilised for Building Purposes.

MESSRS. PROTHEROE AND MORRIS will SELL the above eligible PROPERTY, at the Mart, Tokenhouse Yark, E.C., on WEDNESDAY, June 28, at 2 o'Clock in one Lot.

Particulars and Plans had at the Mart; of Messrs. BERKELEY-CALCOTT AND CO., Solicitors, 52, Lincoln's Inn Fields, W.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Dyson's Lane Nurseries, Upper Edmonton.

About five minutes' walk from Angel Road, and three minutes' from Silver Street Railway Station, G.E.R.

IMPORTANT SALE of fine-foliaged Plants, consisting of specimen PALMS, CROTONS, FICUS ELASTICA VARIEGATA, FERNS, specimens of many rare and choice sorts, including Adiantums, Davallias, Gymnogrammas, Platycerium grande, Nephrolepis, &c., also large quantities of all most useful sorts for decoration.

BEGONIAS, GLOXINIAS, TREE CARNATIONS, BOUVARDIAS, CLEMATIS, including snow-white Jackmanii, and other leading sorts; TEA ROSES, Gloire de Dijon, Maréchal Niel, Climbing Perle des Jardins, and other leading sorts, fine healthy stuff.

CALADIUMS, ASPIDISTRAS, CYPERUS, and a great variety of other useful pot plants; also large quantities of young FERNS, PALMS, &c., for growing on.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, on the Premises, Dyson's Lane Nurseries, Upper Edmonton, on THURSDAY, June 29, 1893, at 12 for half-past 12 o'Clock punctually, by order of Mr. H. B. May.

May be viewed any day previous to the Sale. Catalogues may be obtained on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

Friday Next, June 30.

SACCOLABIUM BELLINUM.

CATTLEYA SCHOFIELDIANA.

LÆLIA HARPOPHYLLA.

Messrs. CHARLESWORTH, SHUTTLEWORTH & Co., Heaton, Bradford, have instructed

MESSRS. PROTHEROE AND MORRIS to offer by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY NEXT, June 30, at half-past 12 o'Clock, a superb importation of ORCHIDS, embracing the following choice species and varieties:—

VANDA KIMBALLIANA, a pretty, sweet-scented, winter-flowering Orchid.

VANDA AMESIANA, useful for cutting purposes during the winter months.

MILTONIA MORELLIANA (true), dark purple flower.

CYPRIPEDIUM BELLATULUM, an extraordinarily healthy lot, in superb condition; most of the plants are pushing their flower-buds.

CATTLEYA SCHILLERIANA, specially fine and good plants.

LÆLIA HARPOPHYLLA, ONCIDIUM SARCODES, VANDA CŒRULEA.

CATTLEYA SCHOFIELDIANA, from the same locality we had plants from the two previous years, which turned out such amazingly fine forms.

CATTLEYA VELUTINA, beautiful and healthy pieces.

SACCOLABIUM BELLINUM, one of the most handsome of its kind. The plants offered are specially well leaved and healthy.

Also a fine lot of Sophronitis rosea, Miltonia candida grandiflora, and other Orchids.

On view morning of Sale, and Catalogues had.

NURSERY.—SHARE WANTED, by active young man, with small capital, in a GOOD GENUINE CONCERN, which, with services, would realise a fair income. Hampshire, Sussex, or Kent, preferred. — Particulars to A. C. G., 1, North View, Elm Grove, Salisbury.

WANTED, to RENT, a Piece of LAND suitable for Glass, or a Small Vacant NURSERY, South of London, at a Low Rental. Full particulars to F. N., 41, Wellington Street, Strand, W.C.

WANTED, to RENT (or otherwise), a NURSERY, FLORISTS' and SEED BUSINESS, where a good living could be gained.

Send full particulars to H. O., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, ONE or TWO good HOUSES, suitable for PALMS and STOVE PLANTS. Must be in perfect order, and within a few miles of Charing Cross.—Apply, with full particulars, to C., Charles Denzuter, Ltd., Agents and Contractors for Advertisements, 23, Haymarket, S.W.

TO BE SOLD, capital NURSERY, FLORIST and SEED BUSINESS. Only small capital required. Long Lease, low rent, good connection. No agents.

Apply to R. F., 41, Wellington Street, W.C.

BY ORDER OF THE LIQUIDATOR.

GREAT SALE

OF THE ENTIRE STOCK OF

ORCHIDS, TEA ROSES, FERNS, PALMS,

And General Stock of

STOVE and GREENHOUSE PLANTS, GRAPE VINES, &c.,

THE PROPERTY OF THE

LIVERPOOL HORTICULTURAL COMPANY (JOHN COWAN, Limited).

The Company are now selling their entire Stock as above, at extremely low prices, and in addition to the low prices quoted in the Catalogues, very large discounts are allowed.

Inspection is earnestly invited.

The Company are also offering, for the first time, their splendid NEW GRAPE VINE, HAMBRO-COLMAR.

Descriptive and Priced CATALOGUE of the entire Stock will be sent, post-free, on application to the Company.

THE VINEYARD and NURSERIES, GARSTON, near LIVERPOOL.

TO BE SOLD, at a great sacrifice, with Immediate Possession, a COMPACT NURSERY, seven miles from Covent Garden, containing nine Glass-houses, all planted with Tomatos, and well stocked. Lease, 21 years. Rent £10, no taxes. Price for Lease, Stock, Vans, Stable, &c., £300.—Particulars of G. H. HOLMES, Chartered Accountant, 23, Well Street, Cripplegate, E.C.

TO FLORISTS, &c.—FOR DISPOSAL, with Immediate Possession, a number of GLASSHOUSES and GROUND, all fitted with every convenience. Stock, &c., at valuation. Also quantity of LAND for Sale.

For all particulars, apply to J. EMBLETON, Suffolk House, Hampton Hill.

NURSERY for SALE, or to be LET, near Blackheath, S.E., in working order. Land, 442 feet by 150 feet (more or less), at low ground rent. Contains seven Glass Houses, about 100 feet to 123 feet long, heated by three Boilers; three Cold Frames, about 100 feet long; Planting Ground, &c. Stock at valuation, if desired. — Apply to THOMAS PEACOCK, Warwick Square, London, E.C.

FLORIST'S BUSINESS and NURSERY for IMMEDIATE SALE: well stocked with choice saleable HARDY and other Plants, situated in a first-class locality. Estimated value £1500, and now offered for the low sum of £375 cash, the owner retiring in consequence of serious accident. Bonâ fide applicants only will meet with attention.

QUERCUS, 41, Wellington Street, Strand, W.C.

FREEHOLD NURSERY, S.E., FOR SALE. Will let, with option of Purchase. DWELLING HOUSE, FIVE GREENHOUSES, fitted with Heating Apparatus.—BROWN, Ramsey Villa, Weymouth Street, Watford.

JOBBING GARDENER and FLORIST BUSINESS, Wandsworth Common. Must be sold at once. Goodwill, Stock, &c., £100, or close offer. New Show House, just cost £60. Rent, £35.—Apply, ARTHUR CLARKE, 75, St. John's Hill, Clapham Juncton.

FOR SALE, a Small NURSERY (chiefly Glass) and JOBBING BUSINESS, in a good neighbourhood, with good connection. Would suit beginner. For full particulars, apply in first place to—

H., Mr. G. Tuxford, 8, The Green, Mortlake, Surrey.

London, S.W.—Close to Railway Station.

TO MUSHROOM GROWERS.

TO BE SOLD, a good Going Concern, upon which a large amount of money has been expended. Nearly 100 Mushroom Beds, 3½ Acres of ground, 3 Greenhouses, and Brick-built Residence of 10 Rooms.

The House is let at £45, reducing rent to £35. Business now in excellent working order. Easy terms of payment can be arranged. Full particulars of Messrs. PROTHEROE AND MORRIS, Auctioneers, 67 and 68, Cheapside, London, E.C.

To Gardeners and Others.

TO LET, the OLD PALACE GARDEN, Weybridge, with Fruiterer and Florist's Shop, with good connection, through continued ill-health.—For Particulars, apply to H. HUGHES, Baker Street, Weybridge.

City of Peterborough.

To NURSERYMEN, FLORISTS, SEEDSMEN, and OTHERS.

TO BE LET, with Immediate or Michaelmas Possession, the well-known, old-established Peterborough BUSINESS, comprising a well-stocked NURSERY FARM of 25 acres, with good House and Premises, Gardens, Hot-houses, &c., adjoining the Town. Also, a Valuable SEED SHOP and STORE, in a first-class central position; and a FLOWER-STAND on the Great Northern Railway Station. The whole Business has for many years been carried on by Mr. John House, who is retiring on account of declining health, and leaving a fine opportunity for an enterprising tradesman.

Apply, FOX AND VERGETTE, Estate Agents, Peterborough

RENT FREE.—4 New GREENHOUSES, well heated with Hot-water Pipes, good Boiler, all in good condition. Cottage and Out-buildings may be had. Stock only £39; worth double.

Write for particulars, G. L., *Gardeners Chronicle* Office, 41, Wellington Street, Strand, London, W.C.

FIELDER'S WHITE AZALEA.—Strong stuff in 48's, 12*s.* per dozen. Special offer to the Trade. ADIANTUM CUNEATUM, in 48's and 24's, grand stuff, cheap, to clear.—JOHNSON AND CO., Nurseries, Hampton.

100,000 CELERY, Clayworth Pride, all transplanted and extra strong, 6*s.* per 1000. 200,000 Brussels Sprouts, Broccoli, Early Cabbage, Cauliflower, Kail, and Savoys, 5*s.* per 1000. Ox and Thousand-head Cabbage, 4*s.* per 1000. Strong stout plants. (Name paper). Cash with order. G. YORKE, Seedsman, Retford.

FOR Immediate SALE, 26 QUEEN PINE PLANTS, in 11-inch pots, clean and healthy, put on rail at 2*s.* 6*d.* each. Apply—

J. THORNTON, Gardener, Lord Brabourne, Smeeth Paddock, Ashford, Kent.

ORCHIDS.—Many rare and choice Cattleyas, Cypripediums, Dendrobiums, Odontoglossoms, &c., always in stock. Inspection invited. Please write for LIST.

W. L. LEWIS AND CO., F.R.H.S., Chase Side, Southgate, London, N.

STRAWBERRIES.—All the best varieties for Forcing, including Noble, Vicomtesse, J. Ruskin, La Grosse Sucrée, Auguste Nicaise, President, British Queen, and the new ROYAL SOVEREIGN, First-class Certificates, Royal Horticultural Society and Earl's Court, are now being layered in small pots for Forcing, at reasonable prices, and early orders are solicited to secure good plants. Preliminary priced LIST for 1893-4 of all the best new and standard sorts now ready.

THOMAS LAXTON, Seed and Novelty Grower, Bedford.

VIOLA SEED.—Seedlings make a magnificent display, and now is the time to sow for blooming next spring and summer.

NEW SEED, guaranteed from the finest named varieties, 7*d.*, 1*s.*, and 2*s.* 6*d.* per packet, post-free. With each packet will be sent gratis a copy of our little book on *Violas and Viola Culture*. All other seeds for present sowing can also be supplied; likewise a number of Seedling Herbaceous Plants, VERY CHEAP. Send for LIST.

DOBBIE AND CO., Florists, Rothesay.

BULBS.—Our special offer of Daffodils, and other Bulbs for early planting, is now ready. Lilium candidum, 10*s.* and 12*s.* per dozen; Lilium Harrisii, 5*s.* to 10*s.* 6*d.* per dozen; Roman Hyacinths, 12*s.* 6*d.* and 16*s.* per 100, very scarce; Narcissus (paper-white), 5*s.* per 100; Narcissus Double Roman, 5*s.* per 100; Gladiolus Colvillei, The Bride, lovely for cutting, 2*s.* 6*d.* per 100; Iris hispanica (the poor man's Orchid), finest mixed, 1*s.* 6*d.* per 100. Every article the best procurable.

J. R. PEARSON AND SONS, Chilwell Nurseries, Notts.

CARNATIONS FROM SEED.—Seed of my own saving and hybridising, producing 75 per cent. of Double Flowers, equal to the finest-named sorts, but with greater vigour of growth and abundance of flowers. 25 seeds, 1*s.*; 100 seeds, 3*s.*; 500 seeds, 12*s.* 6*d.* Carnation Marguerita, flowering first season, 1*s.* per packet, post-free.

THOS. BUTCHER, Seed Merchant, Croydon.

BULBS — BULBS. — Bargains in Bulbs. — Special Cheap Offer for really good large Flowering Bulbs:—Pancratiums, all best sorts, grand bulbs, ready to burst into flower — P. fragrans, P. caribæum, P. amœnum, P. zeylanicum grandiflora, some bulbs 12-inches round, 18*s.* to 40*s.* per 100; 2*s.* 6*d.* to 6*s.* per dozen. Gloriosa superba, just imported, 25*s.* per 100, 4*s.* per dozen. Crinum Kirkii, very large plump bulbs, 50*s.* per 100, 8*s.* per dozen; C. zeylanicum, and C. asiaticum, large white flower, 5*s.* to 8*s.* per dozen: extra large, 20-inch bulbs, 2*s.* 6*d.* and 3*s.* 6*d.* each. Ammocharis falcata, splendid bulbs, make fine Pot Plants, 3*s.* each. Zamias, for Table Plants, 2*s.* each. Amorphophallus campanulatus, or Stanley's Wash-Tub, flowers 2½ feet across, 6*s.* per dozen, 1*s.* each. Babianas, in ten sorts, 12*s.* per 100. Ixias, in sorts, 10*s.* per 100. Freesia ref. alba, true, 18*s.* to 26*s.* per 1000. Above is Cheapest Offer ever made for first-class Bulbs. Terms, Cash with Order. All Bulbs warranted sound and freshly imported, or money returned.

J. JAMES, Importer, New Malden, Surrey.

CLEARANCE SALE of BULBS for Summer and Autumn Flowering. PRICE LIST on application.

Finest named Gladioli, 3*s.* 6*d.*, 5*s.* 6*d.*, 7*s.* 6*d.* and 10*s.* 6*d.* per dozen. Finest Mixed Gladioli, per 100, 15*s.*; per dozen, 2*s.* 3*d.* Lemoine's Beautiful Butterfly Gladioli, mixed, per dozen, 4*s.* 6*d.* Lilium auratum, 7*s.* 6*d.* and 10*s.* 6*d.* per dozen. Anemone fulgens, per 100, 5*s.* 6*d.*; per dozen, 1*s.* Red Tiger Spotted Flower (Tigridia), White Tiger Spotted Flower, Yellow Tiger Spotted Flower, all at 15*s.* per 100; per dozen, 2*s.* 3*d.* Single Begonias, mixed, 3*s.* 6*d.* per dozen, &c.

BARR AND SON, 12, King Street, Covent Garden, W.C.

FERNS A SPECIALITY.

A magnificent stock of all kinds of Ferns. Abridged Catalogue of 1400 varieties free on application.

ILLUSTRATED CATALOGUE OF FERNS (No. 22), the most beautiful and complete ever published, 2*s.*, post-free. It contains 150 illustrations, and an immense amount of interesting and instructive matter of great value to all Fern cultivators.

W. & J. BIRKENHEAD, F.R.H.S.

FERN NURSERIES, SALE, near MANCHESTER.

FRIDAY NEXT, June 30.

SACCOLABIUM BELLINUM, CATTLEYA SCHOFIELDIANA, LÆLIA HARPOPHYLLA.

Messrs. CHARLESWORTH, SHUTTLEWORTH, AND CO., Heaton, Bradford, have instructed

MESSRS. PROTHEROE & MORRIS to OFFER by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY NEXT, June 30, at half-past 12 o'Clock, a SUPERB IMPORTATION of ORCHIDS, embracing the following choice species and varieties:—

VANDA KIMBALLIANA, a pretty, sweet-scented, winter-flowering Orchid.

VANDA AMESIANA, useful for cutting purposes during the winter months.

MILTONIA MORELLIANA (true), dark purple flower.

CYPRIPEDIUM BELLATULUM, an extraordinarily healthy lot, in superb condition; most of the plants are pushing their flower-buds.

CATTLEYA SCHILLERIANA, specially fine and good plants.

LÆLIA HARPOPHYLLA, ONCIDIUM SARCODES, VANDA CŒRULEA.

CATTLEYA SCHOFIELDIANA, from the same locality we had plants the two previous years, which turned out such amazingly fine forms.

CATTLEYA VELUTINA, beautiful and healthy pieces.

SACCOLABIUM BELLINUM, one of the most handsome of its kind.

The plants offered are specially well leaved and healthy.

Also a fine lot of SOPHRONITIS ROSEA, MILTONIA CANDIDA GRANDIFLORA, and other ORCHIDS.

ON VIEW THE MORNING OF SALE AND CATALOGUES HAD.

EXHIBITIONS.

RICHMOND (SURREY) HORTICULTURAL SOCIETY.
The SUMMER SHOW will be Held on WEDNESDAY, June 28.
THREE HUNDRED POUNDS OFFERED IN PRIZES.
For schedules and all particulars, apply to—
22, George Street, Richmond. J. H. FORD, Hon. Sec.

GRAND ROSE and BEGONIA SHOW, BATH, THURSDAY, July 6.
First Prizes, Nurserymen, 72 varieties £8 0 0
" " 36 " £4 0 0
First Prizes, Amateurs, 36 varieties, £5; do. 24 varieties, £2 10s.
Second and Third Prizes in proportion.
Challenge Prize, 12 Tuberous Begonias £5 0 0
Several other Classes for Roses, Bouquets, Strawberries, Cut Flowers, and Plants. Tuberous Begonias, Plants, and Cut Blooms—43 Classes in all. Entries close Friday, June 30.
For Prize Schedules, &c., apply to B. R. F. PEARSON and W. JEFFERY, Secs., 2, Northumberland Buildings, Bath.

WOLVERHAMPTON GREAT FLORAL FETE
July 11, 12, & 13, 1893. In the Public Park.
OPEN CLASSES for PLANTS, ROSES, FRUITS, &c.
GOLD, SILVER, and BRONZE MEDALS for PANSIES and VIOLAS.
OPEN AMATEUR CLASSES for ROSES.
GENTLEMEN'S GARDENERS' CLASSES for the Counties of Stafford, Warwick, Worcester, and Salop.
Open Air Space to Let for Horticultural Sundries.
SCHEDULES, ENTRY FORMS, &c, apply—
W. A. GREEN, Junr., Hort. Sec.

FOR ORCHIDS and GARDENERS to Grow Them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

TO SAVE MONEY place your orders now.—ROMAN HYACINTHS, first size, 10s. 6d. per 100; Poeticus ornatus, early pheasant eye, 3s. 9d. per 100; Campernelle Jonquils, 3s. per 100, for not less than 100. Trade Price on application.—WALSHAW AND SON, Scarborough.

WARE and SONS' ARE THE **FLOWER POTS** BEST.
THE SUSSEX POTTERY WORKS, UCKFIELD.
Quotations given for quantities. Carriage paid to any Railway Station.
The Best are Cheapest.
SAMPLES and LISTS FREE. Crates packed.

MERRYWEATHER & SONS have a good Selection of Hand-Worked Fire Engines (new and second-hand), from 4 to 30 men-power — suitable for all kinds of Watering Fruit Gardens, Plantations, &c. Write or call, 63, Long Acre, and Greenwich, London, S.E.

ORCHID PEAT; Best Quality; BROWN FIBROUS PEAT for Stove and Greenhouse use. RHODODENDRON and AZALEA PEAT. Samples and Prices of WALKER AND CO., Farnborough, Hants.

EPPS'S Selected PEAT,
For ORCHIDS, STOVE PLANTS,
Hardwood do., Ferns, and Rhododendrons, by sack, yard, ton, or truckload. SPECIAL ORCHID PEAT, in sack only.
Rich fibrous LOAM, superior LEAF-MOULD, Coarse, Crystal, and Fine SILVER SAND, CHARCOAL, C. N. FIBRE REFUSE, fresh SPHAGNUM, Patent MANURES, FERTILISERS, INSECTICIDES, and all other Garden Requisites. Peat Moss Litter.
The Original Peat Depot, RINGWOOD, HANTS.

RICHARDS' NOTED PEAT.
Specially selected and prepared for Orchids and all other plants. Also Loam, Sand, Artificial Manures, Insecticides, Shading, Netting for Fruit Trees, Bamboo Canes, Water Pots, and Garden Sundries of every description. Special quotations given for any goods sent carriage paid.
G. H. RICHARDS, Old Shot Tower Wharf, Lambeth, London, S.E.; Peat Grounds and Depôts, Ringwood and Wareham. Address all letters to London Wharf.

HORTICULTURAL SHEET GLASS
Stock: 14×12, 16×12, 18×12, 20×12, 16×14, 18×14, 20×14
Sizes: 20×15, 20×16, 22×16, 24×16, 20×18, 22×18, 24×18
21-oz. and 15-oz FOREIGN, of above sizes, in boxes of 100 feet & 200 feet super. ENGLISH Glass, cut to buyers' sizes, at lowest prices *delivered free & sound* in the country, in quantity.
LEADED LIGHTS for CONSERVATORIES & PRIVATE HOUSES
GEORGE FARMILOE & SONS
LEAD, GLASS, OIL, and COLOUR MERCHANTS.
34 St JOHN Street WEST SMITHFIELD, LONDON, EC.
Stock lists and prices on application. Please quote *Chronicle*.

ODONTOGLOSSUM CRISPUM ALEXANDRÆ

(FROM BEST LOCALITIES).

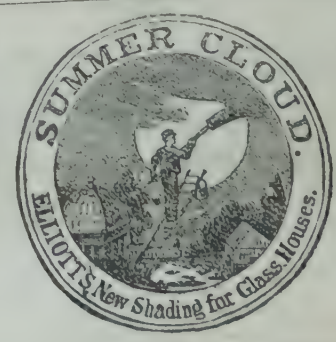
HUGH LOW & CO.

Have much pleasure in stating that they have just received, per R.M.S. *Orinoco*, a truly magnificent importation of the above, in the grandest possible condition, and the favour of inspection is respectfully solicited.

Also just to hand, a superb lot of ONCIDIUM AMPLIATUM MAJUS, in prime order, including some exceptionally large masses.

CLAPTON NURSERY, LONDON, N.E.

TRADE MARK.



Registered No. 14,629.

AND FOR ALL GLASS STRUCTURES THAT REQUIRE SHADING.

Sold in Packets containing 8 oz., sufficient for 125 feet of glass, 1s. each; or in Bags, 7 lb., 10s. 6d.; 14 lb., 20s.
Be sure to ask for "SUMMER CLOUD," it being the Original and only Genuine article. Each packet should bear the Trade Mark, as above.

SOLD BY ALL SEEDSMEN AND FLORISTS.
MANUFACTURERS:—
CORRY & CO., Limited,
HORTICULTURAL SUNDRIES MERCHANTS,
13, 15, & 16, FINSBURY STREET,
LONDON, E.C.

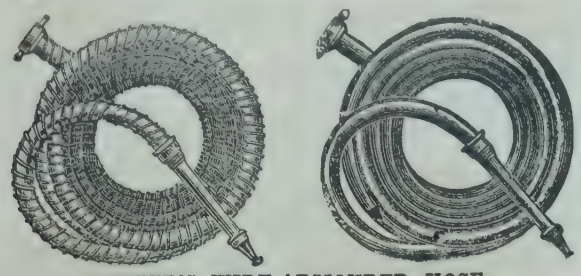
The "CLIMAX" WEED KILLER
Kills all Weeds on Garden Walks, Carriage Drives, &c., &c. Brightens the Gravel. One application will keep the Walks clear of Weeds for a whole season. Acknowledged by all who have tried it to be the most effective Weed Killer in the World. Compare the prices and using strength with others.
ONE GALLON MAKES 51 GALLONS FOR USE.
— PRICES. —
1 gallon, 3/- (tins included); 5 galls., 2/9 per gall.; 10 galls., 2/6 per gall.; 20 galls., 2/3 per gall.; 40 galls., 2/- per gall. Carriage paid on 5 galls. and upwards.

INSECTICIDE
NON-POISONOUS.
The only Insecticide that improves and brightens the foliage while at the same time it is certain death to all Insects.
ONE PINT MAKES SIX GALLONS FOR USE.
— PRICES. —
In tins: ½-pints, 1/3; pints, 1/9; quarts, 3/-; ½-gallon, 5/-; 1 gallon, 9/-. 5 and 10 gallon drums, 8/- per gallon. Carriage paid.

SUMMER SHADING
Convenient, inexpensive, and easily applied, lasting, and yet easily removed by rubbing at the end of the summer.
— PRICES. —
In packets containing 8oz., 6d.; 16oz., 1/- (postage 3d. extra); and in 7lb. tins, 5/- each.

BLIGHT PREVENTOR
The most effective remedy for Blight or Fungi on Tomatoes, &c. Will not injure the Plants or Fruit.
— PRICES. —
In packets, 8oz., 6d; 16oz., 1/- (postage 3d. extra); and in 7lb. tins, 5/- each.
NO TOMATO GROWER SHOULD BE WITHOUT IT.
Its use will save pounds worth of Fruit.

COMPLETE SATISFACTION GUARANTEED TO USERS OF THE "CLIMAX" PREPARATIONS.
PREPARED BY THE BOUNDARY CHEMICAL Co LIMITED, LIVERPOOL.



POTTER'S WIRE-ARMOURED HOSE.

Prices of 60-feet lengths (fitted with Brass Nozzle, Branch Pipe, Rose, and Jet).

ARMOURED.

The Excelsior Wire-armoured Hose secures a PERFECT grip, will not uncoil when cut at any part, stands enormous pressure, and wears for years.

Diam. PRICES.	s.	d.
½-in. best quality ...	36	3
½ ,, extra stout quality	43	7
½ ,, best quality	45	0
½ ,, extra stout quality	52	0
¼ ,, best quality	52	0
¼ ,, extra stout quality	60	7

PLAIN.

Unkinkable smooth surface Hose, will not crack, is made of pure rubber and canvas. Quality guaranteed.

Diam. PRICES.	s.	d.
½-in. specially cheap ...	19	3
½ ,, best quality ...	21	5
½ ,, extra stout quality	27	5
½ ,, best quality ...	28	0
½ ,, extra stout quality	33	0
¼ ,, best quality ...	33	0
¼ ,, extra stout quality	40	10

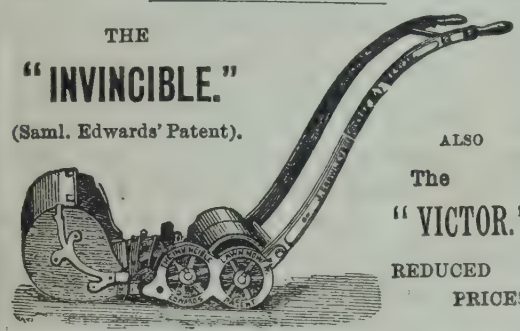
Carriage paid, and dispatched same day as ordered. Awarded 10 Gold and Silver Medals. Oldest and most reliable house in the trade. Also maker of Hose for Delivery, Steam, Fire, Suction, Liquid Manures, &c. Over 3,000,000 feet in use. Catalogues of above and all kinds of Belting, Roofing Felts, &c., post-free from—A. POTTER, Melbourne Works, Wolverhampton; and London Works, Reading. Maker to Her Majesty the Queen, and H.R.H. The Prince of Wales.

BEST LAWN MOWERS in the MARKET.

THE

"INVINCIBLE."

(Saml. Edwards' Patent).



ALSO

The

"VICTOR."

REDUCED PRICES.

Winner of the ONLY GOLD MEDAL in open competition.

May be had from all Ironmongers, or the Sole Makers,

JOHN CROWLEY & CO.,

LIMITED.

SHEFFIELD.

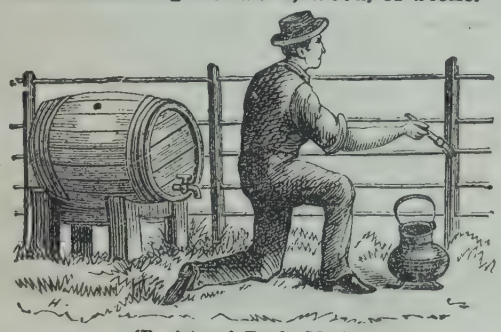
FOR SALE, BARKED NETTING, mesh ⅝ inch square, to keep Birds from any kind of Fruit or Garden Produce, or Seeds. For price per acre, fathom, or yard, apply to—

S. E. MARTYN, Trevemper, Newquay, Cornwall.

HILL & SMITH'S

BLACK VARNISH

for Preserving Ironwork, Wood, or Stone.



(Registered Trade Mark.)

An excellent substitute for oil paint, at one-third the cost.

Used in all the London Parks, at Windsor, and Kew Gardens and on every important estate in the Kingdom. Has stood the test of forty years' trial. Requires no mixing; can be applied cold by any ordinary labourer. Price 1*s.* 6*d.* per gallon at the manufactory, or carriage paid to any railway station, 1*s.* 8*d.* per gal. in casks of 36, 18, or 9 gals.

CAUTION.—Every Cask bears the above Registered Trade Mark. Beware of cheap imitations.

HILL & SMITH,

Brierley Ironworks, Dudley;
118, Queen Victoria Street, London, E.C.
47, Dawson Street, Dublin.

SHANKS'S LAWN MOWERS

THE BEST, CHEAPEST, and MOST LASTING MACHINES.

THE BEST SIDE-WHEEL MACHINE.

ARE USED throughout the World.

STANDARD GEAR OR CHAIN MACHINE. FOR CATALOGUES, ADDRESS— "BRITANNIA" MOWER.

ALEXR. SHANKS & SON { DENS IRONWORKS, ARBROATH, SCOTLAND, and 110, CANNON STREET, LONDON, E.C.

London Warehouse—5, OLD SWAN LANE, UPPER THAMES STREET, E.C., WHERE REPAIRS ARE ALSO EXECUTED.

MERRYWEATHERS'

HIGH-CLASS

GARDEN HOSE.

Horticultural Exhibition, 1892.

GOLD MEDAL

AWARDED TO

MERRYWEATHERS

FOR

SPHINCTER GRIP HOSE.

Other Makers awarded Bronze Medal only.

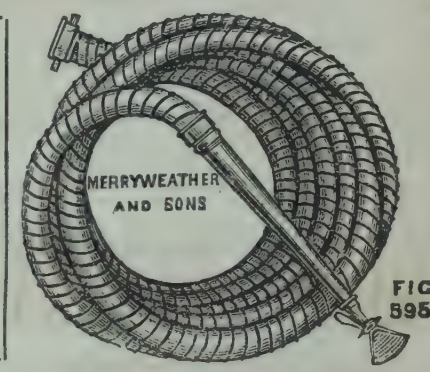


FIG 595.

NON-KINKABLE

Red-Grey Hose.

In many cases preferable to Sphincter Grip Hose.

Important Reduction In Prices,

Quality maintained.

SPHINCTER GRIP

Armoured Hose.

Made by Merryweathers, the **original introducers** and **first makers** of this Hose in England.

ORDERS EXECUTED SAME DAY AS RECEIVED.

WRITE FOR PRICE LISTS FROM THE OLD ESTABLISHED FIRM.

MERRYWEATHER AND SONS continue to guarantee all their High-class Garden Hoses to pass the severe British Government Tests.

The ends of the Rubber Hoses are sealed, thus preventing the water percolating between the canvas plies, and destroying same.

IMPORTANT DECISIONS Re SPHINCTER GRIP HOSE,

IN THE HIGH COURT OF JUSTICE.

Judgment in favour of MERRYWEATHERS, with costs in all actions.

FIRE and GARDEN ENGINES, FOUNTAINS, SYRINGES, &c.

WRITE FOR GARDEN CATALOGUE.

MERRYWEATHERS, 63, LONG ACRE, LONDON, W.C.

HORTICULTURAL BUILDER.

Every description of **GREENHOUSES, LIGHTS, &c.**

PIT LIGHTS.

Best quality and workmanship, 2 inches thick, 6 ft. by 4 ft., iron bar across, and very strong, 4*s.* 6*d.* each, 50*s.* doz., £10 for 50 lights, free on rail in London. Cash or reference with order.

CUCUMBER HOUSES.

Timber sufficient to build 100 feet by 12 feet house, Roof Ventilators, Door, &c. Put on rail in London. Price, **£9 10s.** Send for detailed specification, to

W. DUNCAN TUCKER, HORTICULTURAL WORKS, TOTTENHAM.

Send for Illustrated Catalogue, just issued.

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ARTISTIC ROCKWORK.
For beautifying Conservatories and Ferneries on large or small scale.
All designs executed under the personal supervision of J. McGREGOR, who invites inspection of Rockwork Samples at his Nursery—
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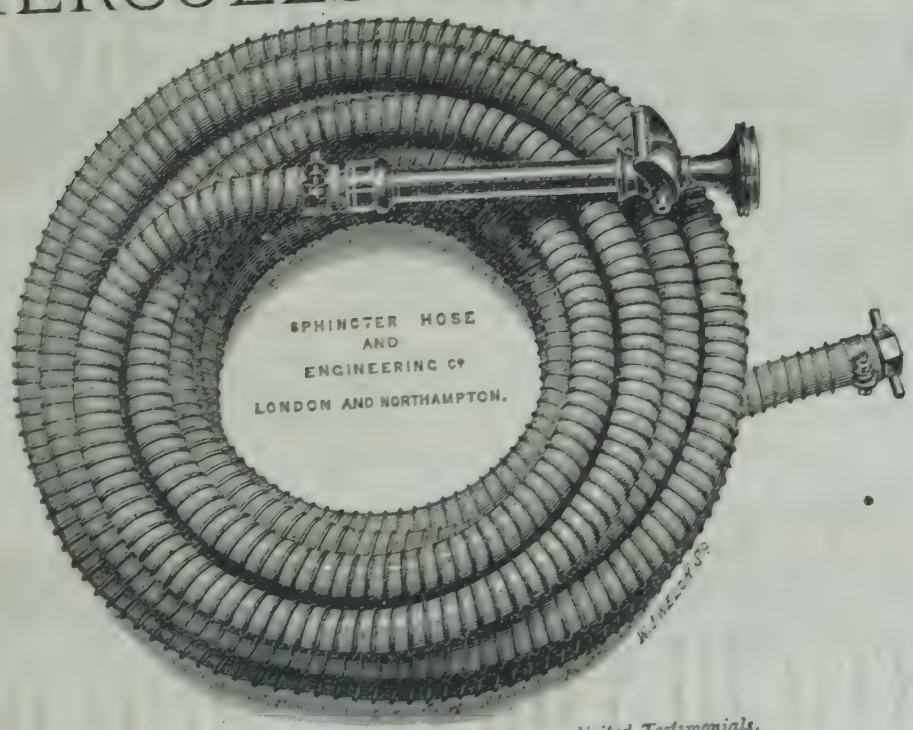
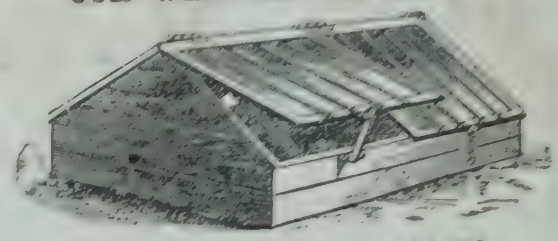
BOULTON & PAUL, Manufacturers, NORWICH.
Send for Illustrated Catalogue, free on application.

Send for Illustrated Catalogue, free on application.

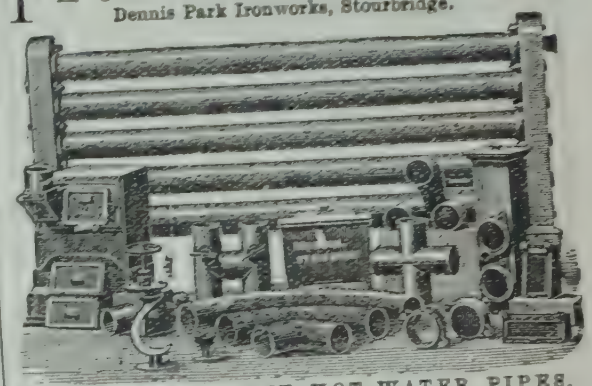
1893.—GARDEN HOSE.—1893.
The Original Sphincter Grip Armoured and High-class Unarmoured Garden Hose.
"HERCULES" BRAND (REGISTERED).
International Horticultural Exhibition, LONDON, 1892. HIGHEST and ONLY AWARD.


No decisions, important or otherwise, have been given against this Company in relation to Sphincter Grip Hose, and any statements made to the contrary are untrue.
Over 10,000 Customers. Hundreds of unsolicited Testimonials.
10 Recent and Highest Awards at Principal Exhibitions.
CAUTION.—No Medal or Exhibition Award has ever been secured by any Firm except this Company for Sphincter Grip Hose, exclusively and distinctively.
Beware of Worthless Imitations and Foreign Importations, of which there are many, and of the goods supplied by any firm or firms making misleading statements. All this Company's Hose made from best Para Rubber, and English materials and labour only, to pass English Government Tests; this last feature in itself a guarantee of quality.
THE BEST, AND THEREFORE THE CHEAPEST.
Orders Executed same day as received. LARGER STOCK KEPT, and SALES GREATER than by any other Firm in the United Kingdom. Write for full Descriptive Price List of above, and of GARDEN PUMPS, HOSE, REELS, and FITTINGS. Post-free.
SPHINCTER HOSE & ENGINEERING CO., LTD.
9, MOORFIELDS, LONDON, E.C. (SOLE MANUFACTURERS.)

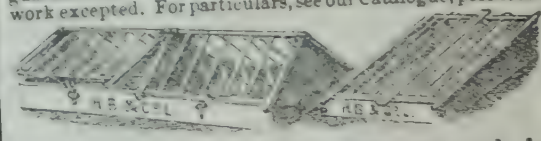
GREAT REDUCTION IN FRAMES
OUR WELL-KNOWN MAKE.

PORTABLE PLANT FRAMES.
These Frames are made of the Best Materials, and can be put together and taken apart in a few minutes by any one.

Sizes and Prices, Glazed and Painted.		£	s.	d.
6 feet long, 3 feet wide	CASH PRICES, CARRIAGE PAID.	2	0	0
6 feet " 4 feet "		2	5	0
12 feet " 4 feet "		4	0	0
6 feet " 5 feet "		2	15	0
12 feet " 5 feet "		4	15	0
12 feet " 6 feet "		5	12	6

Larger sizes at proportionate prices.
R. HALLIDAY & CO.,
ROYAL HORTICULTURAL WORKS,
MIDDLETON, MANCHESTER.
London Agent, Mr. H. SKELTON, Seedsman, &c., 2, Holloway Rd., N.

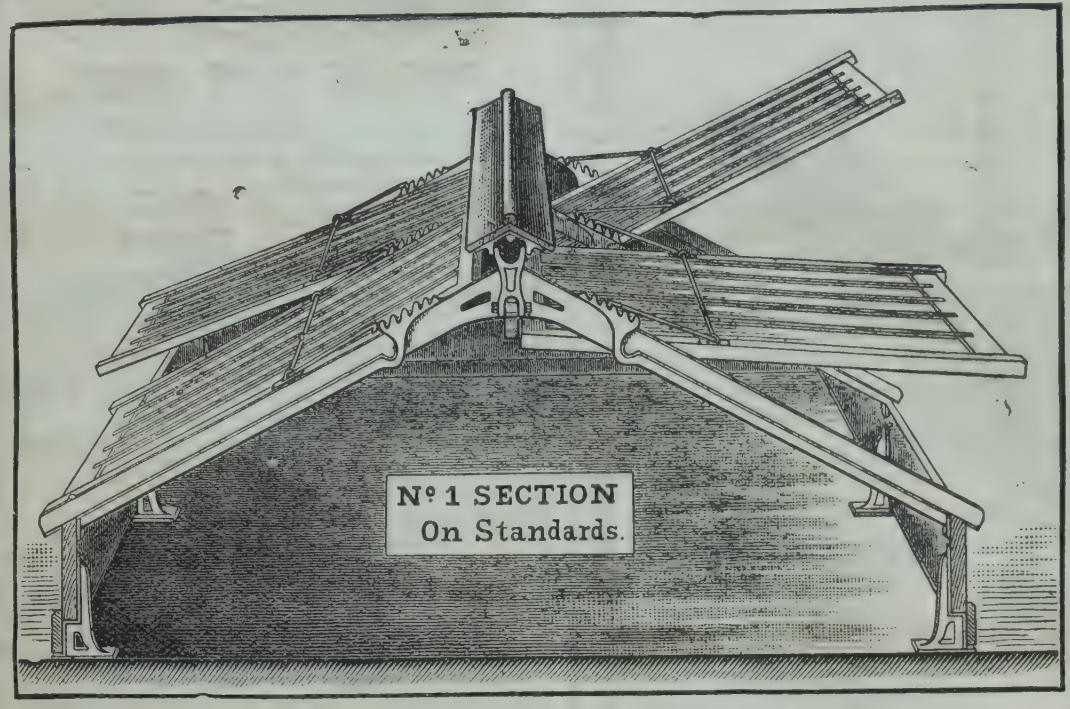
THOS. W. ROBINSON,
Dennis Park Ironworks, Stourbridge.

EXPANSION JOINT HOT-WATER PIPES,
SOCKET HOT-WATER PIPES.
Illustrated revised Price List on application, free.

PICTURESQUE NATURALISTIC
ROCK FORMATION,
FOR
WINTER GARDENS AND FERNERIES;
WATERFALLS, STREAMS, LAKES, &c.
PULHAM & SON, 50, Finsbury Square, London.
VASES
FOUNTAINS,
KERBING,
BALUSTRADES,
TERRACES, &c.,
IN
TERRA COTTA,
Durability Guaranteed.

THIS GREENHOUSE erected and heated complete, in any part of the country, best materials only, workmanship guaranteed, 25 ft. by 12 ft., £50; 30 ft. by 15 ft., £70. Brickwork excepted. For particulars, see our Catalogue, post-free.

Superior Portable Frames, large stock ready for immediate use, well made, painted four coats, glazed with 21-oz. glass, carriage paid:—1-light frame, 4 × 6, 36s. 6d.; 2-light frame, 6 × 8, 58s.; 3-light frame, 12 × 6, 85s. 6d.
Span-roof Frames, 9 × 5, £3 15s.; 12 × 6, £5; 16 × 6, £7 10s. Can send off same day as ordered.
HARDY BRUIN & CO., Graham Street, LEICESTER

FOSTER & PEARSON, Lmtd., 22 FIRST PRIZES.
Established 1841.

BEESTON, NOTTS.



THESE FRAMES SHOULD BE IN EVERY GARDEN.

HUNDREDS SOLD.

ESTIMATES FOR

Vineries, Orchid Houses, Peach Cases, Plant Houses, Frames, &c.,

ON APPLICATION.

IMPROVED SPAN FRAMES.

The Lights are held open for Ventilation or Watering without props, and can readily be removed if necessary. Top Ventilation by Lantern.

PLEASE SEND FOR PRICE LISTS.

ONLY THOROUGHLY SEASONED TIMBER AND BEST WORKMANSHIP EMPLOYED, THUS ENSURING DURABILITY & REAL ECONOMY.

Shepperson's Novelties and Specialties.

PRIMULAS.—PRIMULAS.
The following splendid new varieties, mixed, Purity, alba magnifica, rubra, violacea, Chiswick Red, New Scarlet, and Bull's Premier, only 1*s.* 6*d.* per dozen; 10*s.* per 100, Carriage Free.

CINERARIAS.—CINERARIAS.
Bull's unrivalled strain for large flowers and splendid colours, 1*s.* 6*d.* per dozen; 10*s.* per 100, Carriage Free.

CYCLAMEN.—CYCLAMEN.
Lamb's Celebrated Giganteum Strain, the finest strain in England, 1-yr. old plants, only 2*s.* per dozen, Carriage Free.

SAMUEL SHEPPERSON,
FLORIST AND SEEDSMAN,
PROSPECT HOUSE BELPER, DERBYSHIRE.

SPECIMEN CAMELLIAS, &c.

FOR IMMEDIATE DISPOSAL,

And for which no offer will be refused,

24 Named Plants, best varieties.

Also a few large PALMS.

Sizes and sorts on application to

R. B. LAIRD & SONS,
EDINBURGH.

SPECIALITY—
FOLIAGE PLANTS
ICETON'S
LARGE PALMS.
PUTNEY, S.W.

SANKEYS' famous GARDEN POTS
Bulwell Potteries, Nottingham.

Messrs. Dicksons, Limited, Chester, write:—"The Flower Pots you have so largely supplied us with are light, strong and well made, and in every respect highly satisfactory."

Messrs. Richard Smith & Co., Worcester, write:—"We beg to say that we are highly satisfied with your 'Garden Pots;' they are well made, light, yet strong, and we like them better than any other we have ever used."

Mr. William Bull, 536, King's Road, Chelsea, London, writes:—"For nearly thirty years I have been using your 'Garden Pots,' and still find them the best and cheapest."

Largest Manufacturers in the World. No Waiting. Millions in Stock. Carriage and Breakage Free on £10 *Orders. Half Carriage on* £5 *Orders. Samples Free.*

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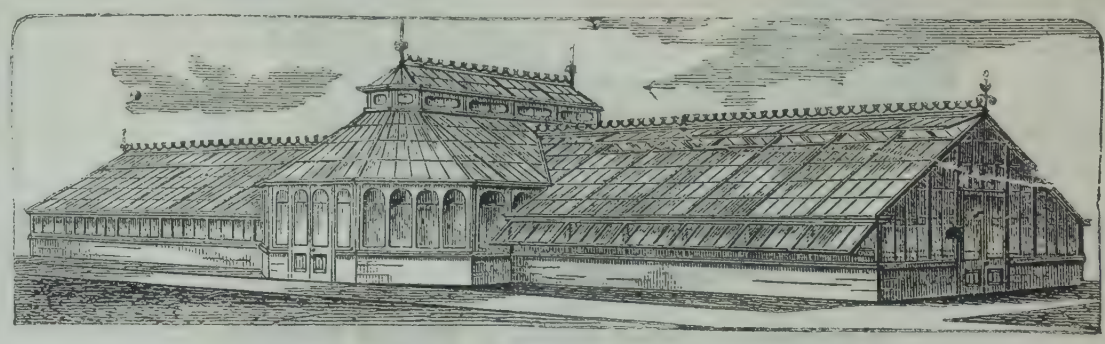

Five 1st Prize Medals recently awarded in open competition.

R. HALLIDAY & CO.,
HOTHOUSE BUILDERS and HOT-WATER ENGINEERS,
ROYAL HORTICULTURAL WORKS, MIDDLETON, MANCHESTER.

Vineries, Stoves, Greenhouses, Peach Houses, Forcing Houses, &c., constructed on our improved plan, are the perfection of growing houses, and for practical utility, economy, and durability cannot be equalled. We only do one class of work, and that THE VERY BEST.

Conservatories and Winter Gardens designed architecturally correct without the assistance of anyone out of our firm, from the smallest to the largest. **Hot-water Heating Apparatus,** with really reliable Boilers, erected, and success guaranteed in all cases. **Melon Frames, Sashes, Hot Bed Boxes, &c.,** always in stock.

Plans, Estimates, and Catalogues Free. Customers waited on in any part of the Kingdom.

Our Maxim is and always has been—

MODERATE CHARGES. FIRST-CLASS WORK. THE BEST MATERIALS.

SOW NOW FOR SPRING FLOWERING.

MYOSOTIS DISSITIFLORA
MYOSOTIS DISSITIFLORA ALBA } Forget-me-Nots.
SILENE PENDULA COMPACTA.
SILENE PENDULA COMPACTA ALBA.
WALLFLOWER, Dicksons' Golden Beauty.
WALLFLOWER, Dicksons' Selected Dark Blood Red.
WALLFLOWER, Dicksons' Superb Mixed Single.
WALLFLOWER, Choice Double German.
STOCKS, Brompton and East Lothian.
PAPAVER NUDICAULE
PAPAVER ALBUM } The Favourite Iceland Poppies.
PAPAVER MINIATUM
PRIMROSE, Choice Hybrids.
POLYANTHUS, Choice Mixed and Gold-laced.
PANSIES, Choice Show and Fancy Strains.

Per packet, 6d., 1s., & 1s. 6d., post-free, or in larger quantities.
By making sowings of above now, beautiful displays may be obtained next spring. For all other Flower and Vegetable Seeds see CATALOGUE, sent post-free, on application.

DICKSONS (LIMITED) Seed Merchants & Nurserymen CHESTER

STUART & MEIN'S
No. 1 Cabbage.

The earliest and finest type of Spring Cabbage in cultivation, coming into use in April and May. The hearts are large and solid, and of the finest flavour. Our Seed of this famous Cabbage being the true stock, and as many inferior varieties are substituted for it, we strongly advise all to send to us direct for their supply. As a further inducement we offer £3 in Cash Prizes for the Three Best Cabbages Grown from Seed procured direct from us. Full particulars will be supplied with each packet of Seed sent out.

1s. per packet, post-free, 1s. 6d. per oz.

STUART & MEIN, KELSO, SCOTLAND.
ESTABLISHED UPWARDS OF HALF A CENTURY.

NOTHING is too small.
NOTHING is too much trouble.

THE TRADE SUPPLIED.

D. SHUTTLEWORTH & CO., Ltd.,
(Albert Nurseries)
PECKHAM RYE, LONDON, S.E.,
and FLEET, HANTS.

EARL'S COURT EXHIBITION.
Exhibition of
GARDENING and FORESTRY
THE GARDEN of LONDON.

GREAT SHOW OF ROSES AND FRUIT,
JUNE 28.

Classes (Open and Amateur) for Tea and Noisettes, H.P. Roses, Groups of Roses in Pots, &c. Gloxinias, Tuberous Begonias, Table Decorations, Grapes, Melons, Peaches, Strawberries, &c.

Meritorious Exhibits not named in the Schedule will be recognised.

Prizes, Medals, and Certificates awarded for every Show.

All applications for entries, schedules, regulations, and further information should be addressed to Mr. H. E. MILNER, the Chairman, at the Offices of the Exhibition, Earl's Court, S.W.

ADMISSION to the Exhibition Building, Flower Show, and the Central and Western Gardens, 1s.

OPEN DAILY, from 11 A.M. to 11 P.M.

SEASON TICKETS £1 1s.,

To be obtained from the usual Agents and the Secretary.

GREAT ORCHID SALE
JULY 7, 1893.

The Largest and Most Valuable Lot of Imported Orchids ever offered by Auction.

We have decided to offer, in one Sale, the whole of the Madagascar Orchids acquired from M. Hamelin, including the sensational

EULOPHIELLA ELISABETHÆ,

and others quite new to science; and owing to the numerous enquiries received by MESSRS. PROTHEROE AND MORRIS, for more plants of DENDROBIUM PHALÆNOPSIS SCHRODERIANUM, and by their earnest solicitation, we have decided to include in this GREAT SALE the remaining portion of our recent splendid lot of imported plants of this, the KING OF THE DENDROBES.

The Sale will also include a

NEW RED AND MAUVE VANDA
from New Guinea.

A truly marvellous HABENARIA—HABENARIA GIGANTEA VAR. SUMATRANA. Drawing and preserved flowers will be shown on Day of Sale. Flowers snow-white, and about 5 inches across.

ODONTOGLOSSUM WATTIANUM? (or a new large-flowered species). Sent home by our Collector for O. Wattianum, and from the district from whence we first imported this grand new Odontoglot.

A large and noble-looking PHAJUS SPECIES from Madagascar. Long thick pseudobulbs. Quite distinct from any Madagascar species in cultivation.

A distinct new and magnificent CYPRIPEDIUM from the unsearched Island of Palawan. In habit between Rothschildianum and Sanderianum; foliage obscurely tesselated, unmistakeably distinct and new; flowers equalling in beauty, but quite distinct from either of the above-named species

A new and superb ONCIDIUM from Venezuela, bearing hundreds of rosy-red flowers on a spike. Grand new species, provisionally named Sanderianum.

A CATTLEYA from Bolivar, in the section of C. Mossiæ, which our Collector declares is new.

New ANGRÆCUMS, New PACHYSTOMAS, GRAMMATOPHYLLUMS, CYMBIDIUMS, and ORCHIDS absolutely new to Science.

CYPRIPEDIUM INSIGNE SANDERÆ, true.

CATTLEYA MENDELII BLUNTII, white, with yellow throat. The very finest white Mendelii in existence.

CATTLEYA LABIATA ALBA, grand variety, true.

CATTLEYA SPECIOSISSIMA ALBA, large splendid pure white variety.

CATTLEYA ACLANDIÆ ALBA, the only known white form of this handsome species; &c., &c., &c.

F. SANDER & CO., ST. ALBANS.

THE
Gardeners' Chronicle.
SATURDAY, JUNE 24, 1893.

SOUTHERN CALIFORNIAN NOTES.

IN a former letter I promised to contribute a few notes on the trees, shrubs, Palms, and other plants more or less common in gardens here. I shall premise by saying that they are nearly all exotic, which is somewhat to be regretted, as we have many fine native plants; the absence of these in gardens will be less conspicuous as time goes on, owing to the efforts of our horticultural societies.

Commencing with Palms, Washingtonia filifera is by far the most common—during the past ten years, perhaps as many as 5000 have been planted in Los Angeles alone, many of which have attained a height of 15 feet; there are also a good many isolated specimens, 30 to 50 feet in height, and a few very old ones, some of which are not far short of 80 feet. Different species of Phœnix are represented, P. canariensis being the most common. The rapidity of growth of this species in our adobe soils, with abundance of water during summer, is astonishing. A plant in the garden of the writer set out nine years ago has attained to a height of 24 feet to the tips of the branches, while its spread is 40 feet, and the trunk measures just 10 feet in circumference. Next in order we have Livistona australis and Chamærops excelsa, with honours about equally divided. Of the former there are a few specimens 20 feet high, producing fertile seed. This Palm improves greatly in appearance as it attains age—say, fifteen or twenty years; the exceedingly persistent bases of the old leaf-stocks then fall away, leaving a clean and comparatively slender trunk.

Erythea edulis [see p. 507] is known by a few medium-sized plants. Within the past few years many hundreds have been planted. This is a magnificent Fan-Palm, the foliage being a darker and richer green than Washingtonia, and quite free from the filaments so characteristic of the latter. Very few plants are seeding here, so that distribution will be rather slow. This species appears to be confined to the island of Guadaloupe, lying some 250 miles south-west of San Diego. Another species of Erythea seldom seen here in cultivation is E. armata, indigenous in deep cañons a short distance south of the State-line in Lower California. This is undoubtedly one of the most distinct and interesting Palms; as grown in the open ground, the foliage is a pale ashy-blue in colour. The plant is not common; seeds hitherto have been difficult of procurement. I think the plant is known in European gardens as Brahea glauca.

Less than a score of Latania borbonica can be found here. The plant flourishes well in the

open ground, and a few fruiting specimens occur. Here and there a stray Seaforthia elegans can be found, not creditable in most cases, owing to lack of shade and insufficient care. In Santa Barbara gardens they look better, perhaps owing to less heat during summer, and slightly greater humidity.

Kentia Forsteriana succeeds in sheltered places, though very few plants are known. Cocos plumosa is only now receiving attention. In Santa Barbara a few good plants occur; they seem generally more resistant than Seaforthia, enduring greater heat without the slightest detriment to the foliage. Tentative efforts are now being made with other Palms, such as Areca Baueri, Ceroxylon andicola, Thrinax, and others, all of which promise well. The Sabals are practically unrepresented, though small plants are now procurable. Before leaving the Palms, I wish to say that your correspondent's remarks regarding Washingtonia robusta (*Gardeners' Chronicle*, December 3, p. 677) will receive hearty approbation here. We send to Europe for the seeds of W. robusta (?) when we want them. The truth is, seeds of a known plant of W. filifera will often produce some plants with the so-called characteristics of W. robusta; indeed, considerable variation occurs in the progeny of a batch of seeds of W. filifera, such as difference in length of leaf-stock, size of leaves, greater or less diameter of trunk, and varying quantity of filaments. It is to be hoped that this botanical Will-o'-the-Wisp will soon be fixed or shelved as a fraud.

Eucalyptus trees of different species, E. globulus easily in the lead with Schinus molle and Grevillea robusta, are the principal features in the landscape. No other trees hitherto tried have been found to endure drought so well or grow so fast. In gardens or other places where irrigation is practised the list is long. Among Conifers, Araucaria excelsa, A. Bidwillii, Cedrus Deodara, Cryptomeria japonica, Cupressus Lawsoniana, and Pinus insignis are most frequently seen. Many of these are noble plants 40 to 60 feet in height. Araucaria brasiliensis grows well, but generally loses its lower branches as it attains age. A. imbricata seems practically worthless here; in colder portions of the State it thrives better. Some good specimens of Cunninghamia sinensis are scattered about, though not common; indeed, little effort has been made to establish collections of Coniferæ. Pinus insignis, curiously enough, grows nearly as well in the hot dry regions along the base of the southern sierras, where, of course, it is an introduced tree, as it does in its coast habitat in the northern part of the State, where the summer climate is cool and moist from almost constant fog and mist. Cupressus macrocarpa from the same region is almost omnipresent in the form of neatly-trimmed hedges, or when allowed to grow unrestricted, as serviceable wind-breaks, growing without irrigation when once established.

As garden trees many Acacias are noticeable. A. decurrens, A. pycnantha, A. retinodes, A. mollissima, and A. melanoxylon being the most common. Splendid objects of beauty they are when in flower, scenting the air with their delightful fragrance. Magnolia grandiflora is nearly always present; when partly shaded by other trees, and with a deep soil, it develops well, and produces plenty of flowers; it, however, never attains so great a size, nor does it develop as much healthy foliage as in the South Atlantic States. Much variation occurs in shape, and size of foliage, and habit in plants as grown from seed here.

Laurus Camphora thrives admirably, and is one of our best trees; of all exotic trees, however, the Moreton Bay Fig (Ficus macrophylla) attains to the grandest proportions, general beauty considered; trees without a blemish 60 feet in height, and almost as much in spread of branches, can be found in the oldest gardens. A few small trees of F. elastica are growing, and where exempt from night frosts, are promising enough. A pretty tree now quite often seen, is Jacaranda mimosifolia, with feathery Fern-like foliage, very handsome when flowering in June. In some private gardens, one will come across many uncommon things. Not long since I discovered a handsome specimen of Castanospermum australe flowering beautifully; this is probably the only one in the State, as may be said of an old specimen of the Mexican Hand-flower tree, Cheirostemon platanoides, the seed of which was brought from Mexico many years ago. Occasional plants of Leucodendron argenteum, the Cape Silver Tree, can also be seen; in gravelly, well-drained soils it succeeds well. It is, perhaps, needless to say that the Lagerstrœmias, or Crape Myrtles, as 25-feet specimens, are beautiful when completely covered with crimson bloom. A good many plants of Brachychiton acerifolium have been planted of recent years, and a few good specimens, 50 feet in height, are striking objects. One sees occasionally a stray plant of Dammara and Podocarpus, remarkable as examples of adaptability, enduring the unbroken rays of the South California sun; indeed, as much may be said of many plants here. Corynocarpus lævigatus flourishes in full sunlight, its glossy deep green foliage remaining uninjured. Several species of Pittosporum are common. P. undulatum forms a handsome tree of medium size, and produces abundantly its white and fragrant blossoms.

Hardy and half-hardy shrubs are well represented, evergreens having the preference, most of which are satisfactory. Among the more tender or rarer things one sometimes sees Daphnes, Camellias, Azaleas, Tabernæmontanas, Rogieras, Francisceas, Magnolia fuscata, Cestrums, Chorozemas, Luculias, and others. The varieties of the Chinese Hibiscus are common shrubs always in bloom though much better in hot weather. Brugmansia suaveolens attains an almost tree-like character, flowering at intervals through summer and winter. Abutilons of different sorts are also common, and thought rather coarse; while the old Achania Malvaviscus is a weed. Another coarse but showy plant is Cassia corymbosa, producing its bright yellow flowers all winter.

Herbaceous plants are not favourites, mainly through ignorance, and few collections can be seen, while annuals are almost unheard of. Cacti and succulents are only found in a few gardens, though all that have been tried flourish well. Tecomas, Bignonias, Passifloras, Tacsonias, Ipomœas, Jasmines, and Mandevilla are the commonest climbing plants, while Bougainvilleas, Stigmaphyllon, Stephanotis and Rhyncospermum are seen in a few gardens.

Within the past three years aquatics have received some attention, and are a wonderful revelation to those who had never seen them before: the tropical Nymphæas, in some cases, flowering until Christmas.

So rapid and successful have the advances in ornamental horticulture been during the past few years, that one may well hazard the belief that the gardens of Southern California, owing to the superiority of soil and climate, will some day outstrip those of the famous Riviera. *J. C. Harvey, Los Angeles, California, January* 30, 1893.

New or Noteworthy Plants.

VANDA MISS JOAQUIM.

[Inter V. Hookerianam et V. teretem proles hybrida.]

A few years ago Miss Joaquim, a lady residing in Singapore, well-known for her success as a horticulturist, succeeded in crossing Vanda Hookeriana, Rchb. f., and V. teres, two plants cultivated in almost every garden in Singapore. Unfortunately, no record was kept as to which was used as the male. The result has now appeared in the form of a very beautiful plant, quite intermediate between the two species, and as I cannot find any record of this cross having been made before, I describe it herewith.

Stem and foliage exactly that of V. teres, but rather more slender; raceme of several flowers over 2 inches across; dorsal sepal obovate, rounded, shorter and broader than in V. teres; lateral sepals oblong, obovate; apices broad, rounded, blunter and broader at the ends than those of V. teres; petals obovate, spatulate, broad, not twisted at the base; all the sepals and petals have the waved edges of V. Hookeriana; the dorsal sepal and petals are rosy-violet, the laterals paler; the lip is very large and broad, and widely expanded as in V. Hookeriana, the spur being much shorter than in V. teres; lateral lobes oblong, 1 inch long, violet-rose at the margin, passing into a fiery orange with a yellow disc; median lobe fan-shaped, notched, with a shorter claw, and broader blade than in V. teres; it is 1½ inch across, and 1¼ inch long in the hybrid, as opposed to ⅝ across, and 1⅛ long in V. teres; the margin is waved as in V. Hookeriana, and the base orange, thickly spotted with red, the rest of the blade violet-rose; the column is glabrous; the anther-cap marrower and crested; the loculi smaller, and hardly distinct; the pollen masses are bigger and rounder; the pedicel broader, and not narrowed to a point, and the disc is broader and more triangular. Summing up the whole plant, it seems to have taken the form of V. Hookeriana, and the colouring of V. teres. It is a very lovely plant, and is, I think, a great improvement on both the parents, beautiful as they are. The plant is now in the Botanic Gardens, Singapore, where it is being propagated by cuttings. *H. N. Ridley.*

Masdevallia Rebecca × (M. ignea erubescens ♀, M. amabilis ♂).

A graceful plant, with the habit, the slender stalk, and the foliage of M. ignea, and a flower which refers in the general habit the characters of M. amabilis, though alterated in many respects. The upper sepal has the reduced size of M. ignea, but the long upright tail of M. amabilis; the lateral ones are somewhat converging, as in M. ignea, but narrow and with crossed tails, as in M. amabilis. The perianth-tube is narrow and sharp-edged, as in the pollen parent, whilst the colours are of a brilliant crimson-scarlet, as in a well-coloured ignea. The whole diameter of the flower is, between the tips of the tails, 3½ inches, by about 1 inch across. It was raised by Mr. Robinson, head gardener to F. L. Ames, Esq., Longwater, North Easton, Mass., U.S.A.

Masdevallia Henrietta × (M. Shuttleworthii ♂ M. ignea erubescens ♀).

Here we have another very beautiful hybrid, raised like the first, in the gardens of F. L. Ames, Esq., Longwater, North Easton, Mass. We received three flowers, the general habit of which is very different, in spite that they were offsprings from seeds of the same vessel. The foliage is scarcely of any interest, but the leaves are shorter stalked than ordinarily in M. ignea; the flowers are in size quite intermediate, in general appearance more in the way of M. Shuttleworthii than of ignea. Certainly the range of variability of the flowers is a very great one, and we have at hand two types, the one of which is nearer to M. Shuttleworthii, whilst the other inclines not to M. ignea itself, but shows a form which, if found in a wild state, would have induced botanists to establish a new species. Whilst the upper sepal is reduced in size, but with the peculiar swinging of the upright tail of Shuttleworthii, the lateral ones are more lengthened, more oblong in circumference, with tails half as long as in M. Shuttleworthii. The tube or calyx is sharp-keeled above, and somewhat longer, also the three veins of the lateral sepals are more visible, as in M. Shuttleworthii. The colour is very difficult to describe, all the flowers at hand being different; yellowish tints suffused with very tender purplish stripes and a purplish base of the tube, is not a very sufficient or exhausting description, but a more specialising one would hardly give a better idea of the general impression of this very pretty and attractive flower. *Dr. F. Kränzlin.*

Odontoglossum Williamsianum.

What a noble thing the true form of this plant is, is well shown by a fine inflorescence sent by Mr. H. A. Burberry, Orchid grower to the Right Hon. Joseph Chamberlain, Highbury, Birmingham. The stem is as thick as one's little finger, and 2 feet

3 inches in height, and having fifteen yellow and brown flowers, which in many points bear resemblance to those of O. grande, of which species some make it a variety. In other particulars, however, it closely resembles those of O. Schlieperianum, with which the type plant was imported; indeed, it is one of the circumstances which tends to obscure distinctness that the dark form of O. Schlieperianum is often passed off for O. Williamsianum. The points which separate it from O. grande are the greater height the flower-spike attains, the large number of its flowers; the distinctly stalked petals which expand into a broadly ovate flat blade, and the greater width and flatness of the sepals. *J. O'B.*

ODONTOGLOSSUM CRISPUM VAR. MRS. DE BARRI CRAWSHAY.

Of the unspotted forms of O. crispum, this is the largest and most beautiful I have yet seen. Each of its segments is broad and well-formed, and the entire flower of a clear wax-like substance. It will be best to give the measurement of its flowers. Across the sepals it measures 5 inches, across the petals a trifle over 4½ inches, the petals being 1½ inches broad, and beautifully fringed. In October last it bore a spike of eleven flowers, and now again it has one of nine; and the condition of it, and all the other fine varieties in Mr. De B. Crawshay's collection, seem to prove that these plants need not degenerate after attaining a certain perfection. The plant in question was of Sander's (1884) importation. It should be stated that Mr. Crawshay lets his Odontoglossums flower as often as they please, but the spikes are not allowed to remain on until the flowers fade, but are cut for use indoors when matured. *J. O'B.*

CŒLOGYNE CLARKEI, *Kränzlin.**

A botanical species in the way of Cœlogyne Griffithii, Hook. f., and C. anceps, Hook. f., with closer affinities to the latter. The sepals and petals are light brown, the labellum pale yellowish-brown, with darker border on the middle lobe, and numerous little spots of the same colour on the side lobes. The fully-expanded flowers are about three-quarters of an inch in diameter, and to diminish even the little beauty of the plant, no more than two or three flowers are developed at the same time. It is, however, an interesting thing, connecting in its characters not only the two species named above, but also in allusion to other species of the group of the Filiferæ, with distichous imbricating sheaths at the base of the raceme, and Pholidota-like bracts. It must have also some affinities to C. flavida, J. D. Hooker, but the labellum is quite different in general appearance, and in the form of the callosities. The plant was introduced by Messrs. F. Sander & Co., St. Albans. *F. Kränzlin.*

* *Cœlogyne Clarkei*, Kränzlin.—Bulbis ovoideis tetragonis angulis obtusatis 4 cm. altis 2 cm. diametro; foliis lanceolatis brevi-petiolatis acuminatis pergameneis; scapo fractiflexo tenacissimo infra cataphyllis pluribus (15) acutis arctissime compressis instructo, supra florifero; floribus paucis cœtaneis bracteis sub anthesi deciduis oblongis acutis paleaceis; ovario longe pedicellato; sepalis oblongis obtusis lateralibus paulo minoribus; petalis æquilongis filiformibus obtusis; labelli basi sacculati lobis lateralibus oblongis obtusis, intermedio obcordato, antice sinuato, margine undulato; disco (sc. lobi intermedii) callis 2 elevatis (intermedio vix prominente interposito) postice mox evanescentibus eximio hypochilio et epichilio labelli inter se æquilongis; gynostemio hypochilio æquilongo supra dilatato utrinque angulato; audroclinio postice crenulato; ceterum generis. Totus flos 2 cm. diametro; sepala petalaque pallide brunnea; labellum stramineum lobi laterales antice et lobus intermedius brunneo adsperi.

SPRING GARDENING AT BELVOIR.

IN a paper on this subject read at the Horticultural Club, Mr. W. Ingram classified the plants chiefly employed, according to their time of blooming. "I have," said he, "one large detached bed on a sunny slope on which I have planted masses of the flowers that may appear in February, and are pretty sure to do so before the middle of March. The first of these to flower is Crocus imperati; Aconites and Snowdrops soon follow; then Anemone blanda and Chionodoxa Luciliæ, followed by Scilla sibirica and bifolia. The beautiful Iris reticulata succeeds, then Puschkinia scilloides presents its bluish-white blossoms. The common kinds of Crocus form a fringe to this large bed, and the earliest blooming Primrose serve as a bordering. In warm seasons I can rely on Narcissus præcox superbus and N. Stella, and also the dwarf N. minor. Come frost or snow, wind or wet, I may always depend on the hardy and handsome Saxifraga oppositifolia. I can speak strongly of the interest and beauty of a bed thus occupied and arranged.

The next division of the early season is mid-March and early April. Erica carnea, Saxifraga ligulata, the early Narcissi, Arabis albida, Aubrietia græca, Polyanthus, Primrose, Hyacinths, Tulips, Cardamine rotundifolia, the later Hellebores, Myosotis dissitiflora.

The third division will include the foregoing, with the very important addition of Aubrietia Leichtlini, many Narcissi, Hyacinths and Tulips, alpine Auriculas, Daisies, Wallflowers, both double, dark, and yellow, and Doronicum excelsum and austriacum, Myosotis dissitiflora, and M. alpestris Victoria.

A description of some of the bedding arrangements may be of interest. I will just slightly mention some that have been much admired. In one part of the Castle-garden there are six beds, 5 yards across, holding about 100 plants.

1. Aubrietia Leichtlini, edged with alpine Daisy, and dotted with about fifty yellow Tulips. This is a very striking and effective bed, and most enduring.

2. Arabis and Scilla sibirica, edged with dark crimson Daisy, and dotted with scarlet Tulip.

3. Yellow Polyanthus, edged with dark red Daisy, pricked out with dark red Tulip.

4. Aubrietia græca, edged with pink Daisy, colour ponceau Tulip.

5. Heath, edged with Heuchera Richardsoni, and dotted with yellow Tulip.

6. Crimson Primrose, white Tulip, pink Daisy.

There is another set of beds which I call, from their make up, bouquet beds. These have a centre of Erica carnea, edged with variegated Arabis, and succeeded in bands by yellow Polyanthus and Aubrietia and yellow Primrose. Red, white, and blue Hyacinths brighten the central part of the bed.

In this garden there are raised beds, some filled with the two Doronicums, and others with dark Wallflower and yellow Daffodils. A very large bed in the centre is filled with yellow Wallflowers, banded by Myosotis, and followed by Aubrietia Leichtlini and Daisies."

ORCHID NOTES AND GLEANINGS.

CATTLEYA GASKELLIANA.

MESSRS. Low send us a flower of this variety of C. labiata, which is remarkable in the circumstance that the adjacent halves of each of the two lower sepals are of a lip-like character, both in colour and in the frilling of the edge, the other halves being of the usual sepaline nature, and scarcely at all waved at the edge.

A JOURNEY THROUGH SOUTH FRANCE, ITALY, AND SWITZERLAND.

(*Continued from p.* 687.)

GENOA, *September* 6.—Visited the gardens of Aquasola and Aquaverde in the afternoon. These gardens are of the usual type as met with in continental cities. Magnolias are fine, and the turf under the trees was formed of Ophiopogon japonicus, L'Herbe à Turquoise, so called from its blue berries. The Botanical Garden at Genoa consists of a series of terraces up a steep hill-side behind the University, and it reminded us of the description of the hanging gardens of Babylon, as we gazed on its trees and greenhouses seemingly swung up between earth and sky. A very dark crimson single-blossomed Oleander is very handsome here, and we noted a bush of the rare glaucous-leaved Mahonia trifolia. On one of the terraces we saw plants such as Erica, Birch, Azaleas, &c., being grown in beds of sphagnum moss. It is the custom here and elsewhere in the South to turn all the greenhouse and stove plants out-of-doors during the hot summer and autumn months, where they are grouped under the trees, along the margins of walks, and on the tops of the low terrace walls.

September 9.—Went by rail to Ventimiglia, and drove thence by special invitation to La Mortola, where Mr. Thos. Hanbury has a celebrated private botanical garden. The house, known as the "Palazzo Orenga," stands on a hill-side plateau above the sea, and has the advantage of beautiful views over Mentone and Monaco on the one hand, and Bordighera and San Remo on the other. The Cypress trees here are very fine, and there are old Roman remains of much interest. The garden itself is terraced, and is enriched with a very complete collection of Agaves; and there is a very quaint old Pergola covered with choice Vines. Ephedra altissima is a very rare and handsome scandent shrub, looking like a woody horsetail (Equisetum), covered with coral berries. The new Kalanchoe abyssinica, recently found in Abyssinia by Professor O. Penzig, of Genoa, was here seen; it has succulent opposite leaves and stems, 2 to 4 feet in height, and tubular white flowers. The purple maculations on the oblong leaves are peculiar, and it is altogether a remarkable new plant. The scandent Tecoma jasminoides grew 30 feet high up the house; and one of the old Cypress trees bore the scarlet-blossomed Bignonia grandiflora to a height of 40 feet.

The rare "Jaborandi" tree of Rio de Janeiro (Pilocarpus pinnatifidus) grows as freely here almost as if in its native Brazilian forests; and Aberia Caffra is 15 feet high, its branches laden with its yellow hoary Greengage-like fruits. Cyperus papyrus grows in water to a height of 10 to 15 feet.

A specimen of the rare Boldoa fragrans (of some economic importance in liver diseases) is 15 feet in height, and in rude health. The "Osage Orange" (Maclura aurantiaca) is 30 to 40 feet in height, and covered with its large, but next to useless, fruits. A splendid variegated Agave in bloom was at least 35 feet in height, and the gigantic spikes of other kinds had a splendid effect as seen towering candelabrum-like against the clear blue sky. The new and rare A. Franzosini has recently flowered here for the first time in Europe; and there is a handsome specimen of the peculiar A. Victoriæ Reginæ, fully 2 feet in diameter, and of perfect symmetry. Yucca aloifolia grows and flowers here quite vigorously, and the latter are followed by pulpy fruits, something like black Bananas. These are edible, and their flavour has been compared to "black Currant jelly and quinine." Here also we saw Carica cundinamarcensis bearing ripe fruits, and the box-leaved Orange (Citrus australasicus) with its Oranges not larger than big marbles, and having a rugose rind.

Bamboos here form actual thickets, and B. nigra and a golden-stemmed species are large enough to form alpenstocks, for which purpose their extreme lightness and toughness especially qualify them. It would be quite impossible to name one quarter of the interesting, ornamental, and economic plants that are grown here, and of which Mr. Hanbury has published a quarto list or catalogue.

I may here mention that, in 1887, the late Prof. Flückiger, of Strasburg, published a very interesting pamphlet on *An Easter Holiday in Liguria*, in which is a good account of this garden, as well as of the plants, wild and cultivated, along this interesting shore. There is also, by the same author, "privately printed" in 1885, a good and faithful account of *La Mortola*, in which a description of "the garden of Thos. Hanbury, Esq.," is given with illustrations. I visited this garden with Dr. E. P. Wright, F.L.S., and Mr. F. W. Moore (formerly Curator of our

College Botanical Gardens, and now of Glasnevin), and I believe we all left it and its owner with regret, feeling that we had really left a veritable Eden.

September 10.—Slept at Ventimiglia, and left at 6 o'clock A.M. to drive to Col di Tenda. Dr. Wright had chartered a carriage to reach Limone, and so get to Turin over the Col, instead of returning *viâ* Genoa, and he kindly invited Mr. Moore and myself to join him as far as San Dalmazzo, where there is a homely hotel, that was formerly an old monastery.

Our way at first lay along the river-bed, thick with seedling Oleanders and clumps of reeds, through orchards and meadows, and then we began to rise gradually through the most picturesque gorges I ever saw, following the ever-winding river all the way. Now and then we came to little villages clustered high up like eyries on the rocks above the stream. Reached San Dalmazzo at 12.30 P.M., and lunched in the cool old refectory, after which Dr. Wright pursued his journey, and we walked through the Chestnuts and Vines as far as the Col, botanising on the way.

We saw the Cobweb Sempervivum (Sempervivum arachnoidum) on the rocks, and saw the old Lily stems in the woods, where high up among the Chestnuts, the Everlasting Pea (Lathyrus latifolius), was even thus late in bloom. The hay from the aftermath was being gathered in, and in the irrigated meadows and orchards, the Colchicum autumnale was flowering, and in some cases, threw a soft pink haze over the distant grass. The Pears were colouring in the sun, and the great red Gourds were ripening on the garden walls, and the Grapes were ready for the wine-press, and the golden sunlight hung over the hill-side woods. The only things in flower in the hotel garden were Roses, and a bush or two of the purple Crape Myrtle, but it was a pleasure to watch the golden-leaved Chestnuts scrambling up the rocky mountain-sides, until they at last ceased, small and stunted at the limit of the sombre Pines. *F. W. B.*

LEGUMINOUS PLANTS AND BACTERIA.

GARDENERS have, as a rule, but little spare time on their hands, especially at this busy season of the year, but if ever such a precious boon as a leisure half-hour comes let them, go into some good library and glance at the coloured plates of the native leguminous plants, as illustrated by the late James Sowerby, F.L.S., in Smith's classical *English Botany*. The particular plates I wish to direct attention to are those representing the members of the natural order Papilionaceæ or Leguminosæ. I think a study of these exquisite plates will at all times repay the trouble, but especially will they do so in connection with the subject before us. Published in 1801, or well nigh a century ago, these plates, as far as they go, might have been made yesterday. Evidently the artist drew exactly what he saw before him, and as the result, he told the truth with his pencil, and was so much of a prophet, for he represented growths the true meaning of which have much more recently been found out—i.e., discovered and explained.

If you dig up a growing Pea or Bean-plant, or almost any plant belonging to the natural order Leguminosæ, you will find its roots, and especially the smaller tendrils or rootlets, bearing little nodules of a whitish or, occasionally, of a reddish colour. In Galega, Lathyrus, Trifolium, &c., these nodules are quite abundant, and readily to be seen with what is called "the naked eye." In Lathyrus Aphaca the white nodules are especially distinct, as also in Vicia lathyroides, in which case the nodules are red in colour; in fact, you can rarely pull up any of our native roadside Pea-flowered weeds without finding these characteristic nodules on their rootlets. In the Bird's-foot (Ornithopus perpusillus), for example, the nodules are large and well marked, as in all the varieties of Clover or Trefoil, and especially, perhaps, in Trifolium glomeratum; but all gardeners may find these developments on the roots of either Peas or Beans. Nodules have been found on Euonymus and one or two other plants not belonging to the Pea-flowered class, but as a rule, it is on them that they are most generally to be seen. Now we may glance at these tubercles, and careful examination under a high-power object-glass and chemical analysis show two things very clearly. In the first place we find that the nodules are swarming with bacteria [or bacteria-like organisms], and secondly, that they are especially rich in nitrogen. Again we find that the bacteria that live and work for us amongst the protoplasmic contents of the root-nodules are quite different from those bacteria known as soil-organisms, to which I alluded in *Gardeners' Chronicle* April 29, 1893, p. 505.

The bacteria of the Leguminosæ live on organic matter, but "soil organisms" can live on inorganic substances, and may be cultivated upon jelly. The "nitric" and "nitrous" organisms can exist in the dark (i.e., without sunlight), and can change dead matter into life, by building up living protoplasm from a solution from which all organic matter has been carefully excluded. And this miracle is done, as we are told by Winogradsky, by the soil organisms elaborating protoplasm from carbonic acid as the source of protoplasmic carbon, and from ammonia (nitric and nitrous acids) as the source of protoplasmic nitrogen. Thus we have living protoplasm elaborated in the dark, and without the direct action of sunshine-energy upon the chlorophyll of green leaves!

Verily, these low forms of plant life are most wonderful chemists; but let us note what the bacteria of the root-nodules can perform. Nothing less we are told, than "the fixation of the free nitrogen of the atmosphere;" hence, to a great extent, the Leguminosæ are plants that actually form or secrete nitrogenous manure for themselves. This fact may account, in part, for the remarkably fœtid odour emitted by the roots of many leguminous shrubs, such as Acacia and Robinia, &c., when they are turned out of pots, a fact well known to most practical gardeners. The roots of Acacia (Albizzia) lophantha, for example, smell nearly as foul as a bad sewer, and there are many other instances well known to cultivators of Pea-flowered shrubs in our gardens.

The actual experiments of Lawes and Gilbert, Warington, and others, lead us to believe that the bacteria of leguminous plants can, and do, "fix" the atmospheric nitrogen, a feat which the chemist so far has unfortunately not been able to do in any efficient and practical way. Could we steal nitrogen in the form of nitric or nitrous acid from the abundant supply in the air all around us, we should become comparatively master of the situation so far as plant-food was concerned, and our much-coveted farmyard refuse, and even Colonel North's nitrates, would soon have merely a secondary interest to the cultivator of the soil.

But do the bacteria of root-nodules really fix free atmospheric nitrogen? That is to say, can they do this alone, or only in a "symbiotic" combination with living protoplasm plus chlorophyll? Or again, do not the organic and inorganic materials of the earth also form a part of the apparatus plus sunheat and sunshine-energy? Ville, the celebrated French agricultural chemist, says that nitrogenous manures are hurtful to Clover as a crop, inert as applied to Peas and Lucerne, and points out that what these crops really require is potash and phosphates in moderation rather than nitrogen. The old-fashioned farmers long ago discovered that a grain crop with clover or "seeds" not only did as well, or even better, with, than without them, but that the land became enriched and otherwise better fitted for Wheat or Turnips succeeding the Clover; or after a crop of, say, Beans and Peas. Other cultivators hold that Clover and Peas or Beans as farm crops are much better as sown after liberal dressings of farmyard manure, and this may well be so on stiff or wet land, since the mere mechanical effects of stable manure are so striking in aërating and otherwise keeping the soil "open," i.e., permeable to sunheat and moisture, apart altogether from the action of the nitrogenous matter it contains! Then, again, it is not always convenient or practicable to make the best use of leguminous crops, either as grown alone, or in conjunction with corn crops, so that even although these plants do add nitrogen to the land on which they are grown, it does not follow that it is always cheapest or best to utilise them for that purpose.

But we are told by one careful observer and experimentalist that leguminous plants grown in sterilised soils do not fix atmospheric nitrogen, and if this is true, it would appear as if the organic matter in the soil is necessary as a source, or at least as a partial source, of supply. Nobbe again informs us that the bacterium that swarms like bees in a hive in the swollen root-nodules of Peas is different to the kind found in the tubercles of Lupins or Robinia. In a word, these minute organisms have become differentiated, so as to especially suit particular leguminous genera as host plants. Thus, a pure culture of the special bacterium of Pea nodules was found to have fixed more nitrogen when applied to the roots of other Peas than it did as applied to those of Lupin and other plants. So far, then, the evidence seems tolerably clear, and we are not without hope that further observations and discoveries will enable us to utilise these nodule-forming and nitrogen-fixing kinds of bacteria in an efficient and practical manner.

In my last paper above cited, I gave the principal authorities who have alluded to "soil organisms," and also to the nitrogen-fixing bacteria, as found on leguminose roots, feeling, as I do, that it is a question not only of intellectual interest for gardeners generally to study, but that ere long it may prove to be of immense practical import to all who cultivate the soil. *F. W. Burbidge.*

THE DALMATIAN INSECT-FLOWER CROPS.

THERE are few people perhaps who have any idea to what extent the flowers of Chrysanthemum cinerariæfolium are cultivated in Dalmatia, for the sole purpose of making the powder which has such a reputation as an insect destroyer. The whole of the supply of these flowers has hitherto been derived from the Austrian province of Dalmatia and the neighbouring state of Montenegro. Trieste is the market to which these flowers are brought, and from whence they are distributed, to the average annual value of £40,000 to £50,000. The plant is one that is easily cultivated in any kind of soil, and almost in any climate. Within quite recent years, it is said to have been introduced into Australia, California, and South Africa, in each of which its cultivation on an extended scale, for commercial purposes, is contemplated. In the neighbourhood of Berlin, it is also stated that the plant is being grown largely, but up to the present time, Dalmatia is the chief source from whence Europe and America draw their principal supplies. The harvest commences at the beginning of June, and in face of the report that the plants had suffered much from the severity of the past winter, the crops are looked forward to with some anxiety.

TREES AND SHRUBS.

THE GENUS PHILADELPHUS.

AMONGST the more familiar shrubs in English gardens are the species of Philadelphus, and the tall bushy kinds are, as a rule, of strong, unruly growth. Two members of the genus are beautiful shrubs, dwarf, and fit for the most choice positions. These are P. microphyllus and the hybrid P. Lemoinei. The first named forms quite a bush, dense in growth, and about 3 feet in height, the leaves small, and not unlike those of the Myrtle in shape; it blooms in the present month, and a bed of it, or a group in front of taller shrubs, makes a charming effect, the slender branches being laden with pure white flowers, with a strong scent of the Pine-apple. P. microphyllus was introduced in 1883 from New Mexico, and whilst one sees the commoner species on every hand, it is

not often that this shrub is seen in full beauty; it is quite a gem amongst dwarf shrubs. Another exquisite dwarf Philadelphus is P. Lemoinei, which was sent out by M. Lemoine, Nancy, about 1887. He got it by crossing P. microphyllus and P. coronarius. Although presenting characters similar to both parents, it is very distinct, quite as free in bloom and growth, the flowers delicately fragrant. It may be used in similar positions to P. microphyllus; and a mass of it on the higher parts of a rockery is very beautiful in early summer. There is another form named P. m. erectus, the growth more erect than in the type, but this is no advantage. The charm of all the Mock Oranges, or Syringas, as they are usually, but very erroneously, called, is their graceful character. *V.*

Cupressus obtusa (retinospora) var. argentea (*Fortune*).

Exhibits a clean, light, airy appearance, which is well maintained throughout the year, but more especially in spring and during the growing season. The variegation of this variety is of a light silvery colour, which makes a pleasant relief when planted in proximity to others of a more sombre appearance. *J. B. Webster* (*the late*).

THE CANNAS.

That the improved dwarf forms of the Canna are becoming very popular, there can be no doubt. When the tall lanky forms of twenty years ago are remembered and compared with what is now being seen in bloom through a great portion of the year, the volume of progress is clearly noticeable. Scarcely a meeting of the Royal Horticultural Society has been held during the past few months without some Cannas being present. At one time they were used almost only in the subtropical garden, because of their tall growth; but now, by reason of the dwarf habits of the improved varieties, they are in large demand for conservatory decoration, and they play a conspicuous part in groups of plants arranged for competition.

The dwarf varieties are thrusting the tall-growing types out of cultivation on account of their low stature, their coming earlier into bloom, the larger size of the blossoms, and more varied colours. They not only make a good display in the open at the end of the summer and in early autumn, but they will flower under glass, assisted by a little heat, all that portion of the year when warmth is necessary.

A selection of a dozen fine varieties will be found in the following:—Baroness de Keronatz, salmon, passing into rose; Edouard André, violet and purple amaranth, fine in colour; Henry A. Dreer, large deep crimson; J. Cordioux, brilliant scarlet; J. D. Cabot, tawny-orange, very large; Louise Chrétien, yellow, margined with rose and spotted with vermilion; Madame Soureyrand, clear cinnabar, with yellow blotches on the lower petals; M. Duterail, deep saffron, with lighter edges; Professor David, orange, shading to yellow; P. Marguant, salmon, shading to rosy-carmine; Star of 1891, glowing orange-scarlet, banded with gold; and Victor Hugo, large reddish-scarlet. In several cases the foliage of the foregoing is decidedly ornamental. As the new varieties raised by M. Crozy and others are now finding their way into cultivation, mention may be made of the following:—Edouard Michel, Henry L. de Vilmorin, Madame Crozy, Michel Coulouvrat, M. Laforçade, President Carnot, President Hardy, and Secretaire Nicolas as worthy of a place in a collection; and new varieties are constantly being produced, so there is no lack of numbers from which to form a collection.

A good and fairly rich loam, with vegetable mould and some rotten manure, suits the Canna, and in such a compost they make a bold and striking growth in the open, and put forth fine spikes of bloom. But care is necessary that the soil be well-drained, so that water can freely pass away from the roots. Sometimes one sees Cannas looking sadly for want of attention to this point. The Canna being a perennial, the roots can be lifted in the autumn, when the foliage has decayed, and be wintered, allowing some soil to adhere to the roots, and then wintering them in a cold frame, shed, or cellar; it does not matter if light be absent, so long as frost cannot reach them. They are secure, if placed in sawdust, cocoa-fibre, dry soil, or any such material. In March or April, the roots can then be divided into single crowns, and be potted in such sized pots as required. The roots will first get to work in the soil, and then top-growths will be thrown up, then a gentle warmth will be helpful, and light also necessary. By giving a shift or two as requisite, very strong plants can be got on for planting out in June.

As seeds of the new dwarf Cannas are available, there is no great difficulty in raising seedlings. Time is required for their germination, owing to the thick skin or rind of the seeds, and sometimes weeks elapse before the seedlings appear, and then only at intervals. It is good practice to steep the seeds in water for twelve hours before sowing, as a quicker germination is promoted. Messrs. Sutton & Sons tell us that in their experience the seeds germinate more rapidly in a retentive rather than a porous soil. Seeds should be sown in January or February in a brisk bottom-heat, and as fast as the seedling plants become large enough to handle they should be transferred to small pots, placing one plant in each, in course of time be hardened off, and the seedlings put out in June to flower when used for outdoor decoration. But divided crowns make much stronger plants than seedlings, and, where possible, should be preferred.

The name Indian Shot, which is applied both to the seeds of the Canna as well as to the plants, is appropriate enough as far as regards the seeds. It is said they have been used as shot in India; and it is a well-known fact that they have been employed to form the beads of the rosary, and other purposes. *R. D.*

KEW NOTES.

Lilies at Kew.—The Lilies are commencing to bloom now freely, and the finest species in flower at Kew is Lilium umbellatum. It is planted in quantity amongst dwarf evergreen shrubs, and the bold spikes, crowded with the large striking flowers, are in excellent contrast. The plan of planting Lilies amongst shrubs has been largely followed in the Royal Gardens, and the effect is very fine. The flowers stand out conspicuously from the dense surface, so to speak, of deep green foliage. Lilium auratum is planted freely in the large beds of Rhododendrons on either side of the central walk, and the dwarf L. elegans var. aureum is planted amongst Erica carnea. From now till the autumn, species and varieties of Lilium thus arranged, will be coming into bloom.

Thrift as an Edging.

There are many beautiful plants available for edging beds and borders, but the common Thrift, Armeria vulgaris, is as good as any. We have never seen it finer than at present in the Royal Gardens, Kew, where it is freely used as an edging. The tufts are lifted and divided once in about three years; and they present in the month of June a perfect surface of flowers—and even when not in bloom the Armeria is pleasing. The new Bamboo-garden is bright with the rose-coloured flowers of the thrift edging. *V.*

A GARDEN OF IRISES AND HEMEROCALLIS.

Not more than half a mile from York Minster is Clifton Cottage, and in a small garden surrounded by trees, in which the cottage—by-the-bye, a good roomy house—stands, there is a veritable garden crowded with seedling Irises and Hemerocallis, interspersed with a few other old-fashioned plants. I noticed last year, at the exhibition of the Great York Gala, some lovely seedling Iris pallida varieties, also two or three seedling Hemerocallis, one of which, Apricot, received a Certificate; and this handsome addition received a further stamp of approval in London recently at the hands of the ... cultural Society. Mr. George Yeld has for years past devoted earnest attention to hybridising these two plants, and with very great success; and to those who take an interest in these hardy plants, his garden is of great interest. My first visit to this place, on the evening preceding the York Gala exhibition, was made just in the height of the blooming season; but here, again, was another instance of the earliness of the season, and many seedlings had already done blooming prematurely, but I could still see some greatly improved forms, and I heard about others.

Iris pallida is the female parent in many instances, but crossings and re-crossings make it difficult to tell the actual parents in many cases. Pallida Queen of May is a lovely variety of a soft lilac colour, with darker striped beard, and close by was a seedling of a bright heliotrope colour, a pure self colour of refined form—very handsome and free-blooming; June is a seedling from Queen of May, bright blue tinted lilac, the fall beautifully bearded and broad. Of the forms derived from Iris aphylla, Madame Chereau, white, margined with bright lavender, is very pretty; as is I. amœna Victory, white standards, and rich violet falls. Pallida odoratissima possesses stout standards gracefully incurved, and with beautiful wide falls of a bright blue lavender colour, and with bold, handsome, glaucous foliage. Pallida Clifton is very distinct and handsome, of a pleasing lavender tint, with violet and white markings. There are also seedlings from I. virginica and I. sibirica, and with these crossed with other species; and there are many seedlings of the squalens section also partaking of a rich glaucous tint, one in particular, with an additional metallic lustre as in Alocasia metallica. There is also a white amœna seedling raised by Dr. Foster, of Shelford, whose name will be familiar to many as an hybridist and raiser, a very handsome flower with rich purple veins. Squalens Mars is a very fine variety, and the judges awarded a Certificate to it at the Great York Gala. It has pale buff standards, with rosy-violet fall, and rich straw and yellow beard. It is very handsome, and a great improvement on squalens virgula. There is also a very dwarf section, probably Chamæiris, which are being crossed, which produce fine flowers.

The species and varieties of Hemerocallis grown here are most interesting, and H. fulva and H. flava, the original parents of many of the fine seedlings raised here, but H. Middendorfii has also been used. I noticed in the gardens, examples also of Hemerocallis graminea, Sieboldii (which also has other synonyms), Thunbergii, and Kwanso variegata, and a large number of already-bloomed seedlings. H. Apricot is of much better form, of a rich deep orange-colour, but possessing the character of H. flava. H. Sunset is a cross between H. flava and H. Sieboldi, partaking of the colour of H. Sieboldi, but lighter in shade, with a rich brown colouring on the outside of the petals, but a longer flower and handsome. H. Estmere is a wonderfully improved H. flava, of a rich orange-colour, and bright reddish-orange back, and as this was exhibited also at York, a certificate was awarded to it. Other fine seedlings, not named, are of great interest; one, a much dwarfer-growing variety, resembling H. Sunset in colour, but much dwarfer; and Mr. Yeld is devoting attention to the production of a dwarf race of Hemerocallis. Another fine seedling from H. flava has a greater breadth of petal and substance.

Hundreds of seedlings of Iris and Hemerocallis have yet to flower, and there are many pods of carefully-hybridised seeds to be ripened; but the small garden is so crowded with plants already, that what little lawn there is remaining, bids fair to give way to more beds. Seed of both is sown as soon as gathered, some in pans, others out of doors, and about three years elapse before the seedling blooms. I was struck with the beauty of many of the Irises as decorative plants, with broad healthy foliage, and many of them having a rich glaucous tint, and the drought and heat seemed in no way to disagree with them.

By the side of the house was a large bush of

Lathyrus rotundifolius loaded with bright-coloured blossoms, and other old-fashioned plants, such as old Scotch Roses and just a few other old-favourite plants were to be seen, but with these few, and a few Pæonies of the sinensis section, and some Liliums, the garden is full of Iris and Hemerocallis! Amongst Liliums are clumps of the white Martagon in full beauty; there are other Martagons, giganteum, the very beautiful colchicum, auratum, lancifolium, Hansoni, the fine Japanese yellow Martagon, Dalmaticum, Parryii, testaceum, and many others.

Some of the fine hybrids raised here have passed into the hands of Messrs. Backhouse & Sons for distribution, a fitting distinction for them, for herbaceous and alpine plants from the newest and rarest to the oldest known, find a congenial home here, were they are cared for. *W. D.*

FLORISTS' FLOWERS.

THE CARNATION AND PICOTEE.

The exceptionally dry and hot weather has been felt by the Carnation and Picotee, as by all kinds of vegetation. Almost every cultivator of the Carnation grows the plants in two ways: as pot plants, and planted out in rich soil in the open garden. Last year our plants made the better growth, and gave a greater profusion of bloom, planted out in the garden than they did in pots. This year, so far, there is but little difference between them; it is after they have been layered that the stronger growth of the open garden plants is most apparent. The flower-buds upon the out-of-doors plants, as I write, June 17, are well advanced, some of the flowers being fully expanded. It aids the development of the flowers very much to give the pot plants a surface-dressing of a rich and rather light compost. I prepare the material by mixing together equal portions of loam, leaf-mould, and decayed manure; to it is also added a liberal admixture of bone-dust. A handful or so is spread out evenly on the surface of the soil, and it seems to give greater vigour to the plants, causing a better development of the flowers. The two insect pests which most persistently attack Carnations are the green-fly and the thrips. The last-named is a very troublesome pest; it gets into the flower-buds even before the segments of the calyx have been parted by the expansion of the petals, and fairly destroys the colour in them. It is rather curious that the pest does not attack the out-of-doors plants to anything like the same extent; in fact, the pot plants sometimes become irretrievably damaged by it. The only effectual remedy is to get them into the house, and fumigate well with tobacco smoke. This has to be done three times generally before the thrips are quite demolished; any aphides on the young growths are effectually settled at the same time. Carnation and Picotee blooms can stand exposure to the open air as much as any other flower; but bright sunshine, wind, and rain, soon mar their beauty, and to have them in the best possible condition, the shelter of a glass-house, well ventilated, is essential. They can there be shaded from bright sunshine, and from the destructive effects of high winds and rain.

Preparation must now be made for layering. A little fresh soil is required on the surface for this; all that is needed is loam, leaf-mould, and sand, in equal portions. This is a very simple process, but it is not always done rightly. The notch should be cut through the joint, so as to leave a large enough top to form a good plant, and the part of the stem where the notch is made ought neither to be too hard nor too soft. I use a knife with a thin two-edged blade; thrust it through the middle of the joint, cutting downwards and outwards below the joint. Take off the portion of skin under the joint, and cut it evenly, pegging it firmly into the soil. A few growths are generally too high up the stem to bend down for layers; these may be taken off and struck in a hotbed or forcing-house, in a little bottom-heat, as cuttings. When the bloom passes away, the plants should be put out-of-doors, in an open position, where they do much better, forming more sturdy healthy plants than if they were still kept under glass.

THE GARDEN PINK.

When I last alluded to these, at p. 520, the plants were throwing up their flower stems, and it was necessary to strain white threads over the plants, to prevent the sparrows from destroying the tender shoots, and mangling the flower-buds. The Pinks are now in full beauty out-of-doors, and few flowers give more pleasure to the amateur who can appreciate sweetness of perfume combined with beautiful and distinct colours. The Pink, in its laced character, is altogether a flower for the open garden; it is charming planted in beds, or in large clumps in the border. If growing in flower-pots, even if not forced, it is seldom satisfactory; the lacing is usually imperfect, and sometimes altogether disappears. The best Pink we have had this year is the old white-fringed variety; the flowers are not much more than semi-double, so that the calyx does not burst, owing to the outward pressure of the petals. This is a serious fault both with Pinks and Carnations. The full flowers generally burst the calyx open, the petals falling down on one side in great disorder. The Pink is very easily increased from cuttings or pipings, which should be put in at once under close bell or hand-glasses. I find they do much better if taken from the plants after showery weather; but we may not get such weather this year, and the next best thing to do, is to water the plants well, and take the pipings in the evening. When I was a schoolboy, I managed to propagate a collection of named Pinks without glass of any kind, and I well remember how proud I was when a practical gardener begged some of my plants, because they were better than his own. *J. Douglas.*

THE WEEK'S WORK.

FRUITS UNDER GLASS.

By M. Temple, *Gardener, Carron House, Falkirk, N.B.*

PEACHES AND NECTARINES.—The trees which are intended to fruit early next year, should be resting, and have the shoots of brown colour and firm texture, but the foliage of a deep green colour, free from injurious insects of all kinds. In this condition the tree should continue for some length of time. They should be syringed several times a week whilst the weather is warm and dry, and if any red-spider be present on the foliage, soft-soap with sulphur should be added to the syringing water. Soot-water made clear with fresh lime, and syringed over insect-covered foliage will do much to drive them away, and attention to maintaining the soil in a moist condition is a most important matter, a dry soil favouring the spread of red-spider. Later houses should have much attention in regard to watering the borders and syringing the trees. Overcropping is a common fault with gardeners, and so that there may be no risk of this, remove all the small and badly-placed fruits, and leaving those which are best exposed to sunlight. Liquid manure may be afforded freely to trees that are heavily cropped. All shoots not required for future use should be removed, and others tied in.

THE PINERY.—Suckers which were potted during March and April, and are now well rooted, should be re-potted. If they were large, and growing in 8-inch pots, they should now be potted into 10-inch for fruiting. Large-growing varieties, such as Smooth Cayenne and Providence, can be re-potted in 11-inch or 12-inch pots. Though it is better to pot plants at any season rather than allow them to get pot-bound, the end of the month of August, or beginning of September, is late enough to have the roots disturbed, and then all arrangements for the management of the plants during the coming winter can be satisfactorily made. The sun-heat at this season causes the plunging material of tan, leaves, &c., to rise in temperature; and if the heat should rise above 90°, the pots should be raised somewhat, not shaking them as some do, and causing the young roots to be broken.

VINERIES.—The preservation of the Vine foliage in a healthy state is of the greatest importance, both for the sake of this year's crop, and the future welfare of the Vines. Dryness at the roots, after the fruit is cut, is a frequent cause of red-spider attacking the foliage, therefore a good soaking of the soil should be afforded, and the syringe well plied on the foliage of Vines when the fruit has been cut. Abundance of air should be put on night and day, and a small amount of fire-heat when the weather is dull and damp. Afford air early in the morning to fruiting Vines, and a smaller amount at night. The spotting of the berries must be carefully watched for, and every spotted one cut out and burned, affording in that case no night ventilation, and generally less moisture and more artifical warmth. [Use the Bordeaux Mixture carefully and tentatively if the berries are still unripe or uncoloured. Ed.] When the rods of pot-Vines have become brown a cooler temperature may be allowed, but the foliage must be kept healthy to the last. Those which are to be started during October and November should be kept free from all lateral growths, and sufficient water given to keep the foliage and roots healthy.

MELONS.—Where late fruit is in request from November to the end of the year, plants may be put out up to the first week in next month. Some of the dark green-fleshed Melons may be ripened fairly well late in the season. Narrow pits for the roots are to be preferred to large ones, and turfy loam made firm will induce short-jointed fruitful growth. Second crops on plants which have fruited require liquid or some artificial manure. Flavour depends much on the healthiness of the foliage, and the amount of air afforded when the fruit is ripening; mulching is serviceable at this season.

PLANTS UNDER GLASS.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

CONSERVATORY ARRANGEMENTS FOR THE SUMMER.—The hardier of the plants which may be growing in pots and tubs, and among these I may name Myrtles, Cytisus, Choisyas, Coronillas, Hydrangeas, Agapanthus, Euryas, Sollyas, Elæagnus, Laurustinus, and Cactus, should be plunged in beds of coal-ashes outside in the plant-yard, and any repotting which they may require should be done at the same time. Whilst out-of-doors, pay daily attention to watering, and syringing also, during dry weather. Viburnum Tinus (Laurustinus) should be grown in quantity by those who require hardy early-flowering plants, it being a good plant for standing in cold passages and rooms during the winter and spring months. During the course of the summer, when flowers abound outside, an agreeable change may be made in the conservatory by giving all available space to specimen plants and the hardier Palms; and stove plants, as Clerodendrons, Francisceas, Bougainvilleas, and Rondeletias, will stand for a long time without injury in this house, each specimen being so placed as to be seen from all sides. To these Araucarias, flowering greenhouse plants, and Passifloras, Tacsonias may be added, and a beautiful arrangement made. As corner plants, or for forming an arch over a walk, there is nothing more graceful for the purpose than pairs of strong-growing Bamboos, if placed opposite, a strong shoot from each plant being bent over and tied together.

DEUTZIA GRACILIS.—This plant should now be potted into good loam, and plunged in ashes outside. It is a good plan to cut the plants right down to the soil every other year, directly after flowering, affording good quantities of manure-water to encourage strong growth.

SOLANUM CAPSICASTRUM.—Seedling plants of these should be planted out in good soil on a south border, and plentifully watered, old plants in pots being pruned-in and repotted into good turfy loam, leaf-mould and some sand, and plunged outside, syringing them during dry weather and watering them abundantly.

ALPINE AURICULAS.—These, if grown in pots, should be repotted in good loam and dried cow-dung in well-drained pots, and plunged in ashes, placing them in beds of four rows each at about 1 foot from plant to plant. Prick out seedling plants as soon as they can be handled, but do not hurry to turn out the seed-pans, as often the seed does not germinate for a long time.

SWEET-SCENTED PELARGONIUMS.—Youngstruck plants should be potted-off into small pots, and kept in a warm shaded house or frame till established, then gradually exposed to air and sunshine before

being placed outside. Old plants that have been cut-back and repotted may now be plunged in coal-ashes in the plant-yard till the beginning of September, placing them in beds with alleys between for the more readily getting at them. Afford them some weak liquid-manure at times, and see that they do not root through into the ashes, which an occasional lift up will stop.

ZONAL PELARGONIUMS in pots may be treated according to the same method, but those which may be required for furnishing cut flowers should be kept under glass. Pot off young plants into 48's, using as a potting soil turfy loam and fresh horse-dung. Cut back old plants when they become too tall, and keep them rather dry at the roots till they break, then repot them.

MYRTLES.—Pot off young struck plants into small pots, using good rich soil for potting; keep them warm, moist, and shaded till rooted. They are useful plants for affording foliage for bouquets. M. angustifolius and M. Jenny Reitenbach should be planted out against a wall in a good well-drained border in a conservatory or greenhouse; then you may cut and come again as often as you like. They are the two best sorts to grow; they have delicious sweet foliage.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maiden Erlegh, Reading.*

APPLES, SUMMER PRUNING.—Owing to the very dry character of the season, the Apple trees have made but little growth, and especially is this the case with trees on the Paradise; therefore, unless the young shoots unduly shade the fruit, very little pruning will be required till the fruit is gathered. Encourage fully the healthy growth of the trees and bushes, and thus assist the crop to develop properly. Espaliers and bushes worked on the Crab should now receive some amount of pruning, but where the trees have not yet grown to the desired size, the leading shoots should be left at length, the shortening being done in the winter. Shoots required to fill gaps should also be left unshortened till that time. When pruning at this season, the gardener should have the desired shape of the tree in his eye, leaving only such young growths as may be wanted to form the crown. All shoots removed should be pruned to three or four leaves, doing the work at two operations, with an interval of a week between them. Note should be made of varieties which do not fruit on the growth of the previous year, such being more adapted for orchard trees than as bushes. Nothing, in my idea, is more ugly in an otherwise well-managed garden than unpruned bush Apple trees, where the long slim branches, when bearing fruit, have to be supported in some manner. After the trees have grown to desirable dimensions, shy bearers can be induced to bear freely by root-pruning methodically performed.

WATERING APPLE TREES.—Where means are at hand, the trees, especially those on the Paradise, should still be afforded a thorough root-watering once a week, and a mulch of some kind, this being very necessary if very fine examples are desired, and to prevent the fruit from ripening prematurely. If the trees can be occasionally washed with the garden-engine or the hose, much good will be done. Orchard trees, if the means for doing so are at hand, should obtain heavy root-waterings, especially young trees. Wherever fire-engines are kept on the place, these should be utilised for cleaning the orchard trees of insects, and rubbish which form hiding-places for insects.

GRAFTED TREES.—These will require to have the ties released, before they cut into the bark. Where grafting-wax was used, all that is necessary will be to draw a knife across the ties on the under-side of the branches; but where clay is used, the latter must be removed, and the union daubed over with a thin slip of clay.

THE KITCHEN GARDEN.

By H. C. Prinsep, *Gardener, Buxted Park, Uckfield.*

THE MUSHROOM-HOUSE.—Now that the demand for stable-litter for the forming of hot-beds is much less than in former months, a considerable quantity may be got together. Place the manure in a long heap in a shed with, if possible, a northern aspect, and turn it over two or three times, to dissipate the excess of moisture that may be in it. Let the heap be of such thickness that it will neither overheat nor get too dry. When nearly fit for use, add one-third of its bulk in fine loam from an old pasture, mixing the two well together, and then throw the stuff into a heap for two days. When warmth is again set up, the bed or beds may be made up. In doing this, care must be taken to make the material firm as the work of building proceeds, as on doing this the good quality of Mushrooms depends in great measure. There is little fear of beds thus made getting over-heated, for a more uniform heat is maintained, owing to the addition of the loam. The warmth of the atmosphere will, on the other hand, prevent a too rapid loss of heat.

KOHL RABI.—Where water is scarce, this will be found a useful substitute for Turnips in such seasons as this, the root being more delicate in flavour than those of the latter. To grow Kohl Rabi well and quickly, the ground cannot be too rich. It is a mistake to sow the seed before the middle or end of June. The dwarf green small-topped variety is the best. If the ground be good they should be planted 1½ foot apart. A slight sprinkling of sulphate of ammonia along the sides of the rows will, if thoroughly washed into the soil, greatly benefit the plants when well established. [Kohl Rabi may also be sown like Turnips and thinned out. Ed.]

CARDOONS.—These must have a plentiful supply of water and manure, or growth will not be rapid or the stems succulent, and be planted in trenches like Celery.

PEAS.—The last sowing of Peas should be made at this date, those of the second early varieties which are more proof against mildew being chosen. Still, for my part, I prefer good Marrows, not caring for the others after being accustomed to the fine flavour of the Marrows. The plants should be thinned to at least 3 inches apart in the row, this, to a great extent, causing them to grow stronger than they otherwise would.

TURNIPS.—A north border or similar place must be selected for sowing Turnip seed at this period; and to encourage the growth of the plants, weak guano-water should be afforded them occasionally. Continue to make small sowings, so as to keep up a supply of tender bulbs.

SALADS.—Radishes must be sown at short intervals on rich moist soil; while Lettuce must be kept growing by constant attention to hoeing, watering, &c. The sowing of Onion seed should have attention, if young plants are required; also Mustard and Cresses of various kinds.

THE ORCHID HOUSES.

By W. Holmes, *Gardener, Pickering Lodge, Timperley.*

DENDROBIUMS.—D. infundibulum and D. Jamesianum are plants which are now going out of bloom, and may be either potted or top-dressed. These are very free growers if the right place be found for them. When repotting them, very little material should be placed about the roots, and this may consist of sound peat, sphagnum moss, and clean crocks, making sure that the drainage is good. The pots should rather be too small than the reverse, and water should be carefully afforded until new roots begin to appear, when the quantity should be increased. If top-dressed only, dip the pots or pans into water, which will have the effect of preventing the new material becoming soured before the roots have taken to it. Both species should be syringed overhead at times. Here these plants are grown with the Miltonia vexillaria, on shelves close up to the glass, and the treatment is generally that afforded the Miltonias—and being just below the upper ventilators of the house, the amount of air that reaches them is large. After years of trying to grow these two species well, my preference now is for D. infundibulum, as I consider, for all purposes, it to be far ahead of D. Jamesianum, the habit being more graceful, the flowers more loosely arranged, whilst those of D. Jamesianum are very stiffly arranged; these, moreover are larger.

ODONTOGLOSSUM GRANDE.—This species does well if put on the shelves in the Miltonia-house; and now that it is making new growths, considerable quantities of water will be required—in fact, it cannot have too much, providing the drainage is in good order. A sharp look-out should be kept on the new growths, for the yellow thrips, which often infest, very soon spoil them.

CŒLOGYNE CRISTATA AND ITS VARIETIES.—The new roots and growths being in course of formation, the plants require abundance of water at the root and overhead, and the house to be kept moist, which will tend to quicken growth and hasten maturity. In the course of a few weeks our plants will get a good drenching with liquid manure from the cow-stall once or twice a week. The plants require as full exposure to sunlight as it is safe to give them without scorching, only using the blinds during the hottest part of the day. C. pandurata, if grown in the Dendrobium-house, is in flower or about to open its buds, and is a plant which may have mild manure-water afforded once a week. C. pandurata should be found in most collections, the colours observed in its flowers, green and black, being rare in other Orchids. Water and syringe copiously Lælia anceps until the growth of the new pseudobulbs is complete, damping the house and stages three times a day; and plants that may be in baskets should be dipped at least twice a week whilst hot weather continues, affording plenty of air.

CYPRIPEDIUMS.—Any which may stand in need of repotting may now be attended to, as most of them have passed out of flower. A suitable compost for them consists of two parts peat, one of fibrous loam, and one of sphagnum moss, with a few finely-broken crocks, and coarse silver-sand, in which all those with thin wiry roots will do well. C. caudatum is suited with the same mixture of materials, but the plant should be grown a little cooler. The hybrids raised from C. Spiceri-anum, C. insigne, and C. Harrisianum also grow satisfactorily in them. In potting them, do not place too much of the compost about the roots, and always crock the pots well, and put over the crocks a layer of moss, filling up with new compost. Water sparingly till such time as the roots begin to run. Cypripedium barbatum, and others with fleshy roots, grow best in peat and sphagnum moss. Insects, especially the yellow thrips, must be sought for and got rid of, and for the latter purpose, tobacco-powder is the best remedy. Keep the house moist, and syringe the plants.

THE FLOWER GARDEN.

By T. H. Crasp.

THE ROSERY.—The first blooms upon the Roses are this season of poor shape, and small. With the hope of obtaining larger ones at the second blooming, it will be prudent to slightly cut back the best shoots which have carried flowers. This will hold good of the H.P., H T. and T. sections. Whilst the dry weather continues, liquid-manure should be freely afforded the bushes and standards, mulching applied on hot, dry or gravelly soils; on heavy land the surface kept loose and crumbly by the use of the Dutch-hoe, but without using the rake afterwards. Take care when cutting-back the shoots which have borne blossoms to cut away also down to the old wood all the weak and flowerless shoots that usually fill up the middle of the bush or head. Keep the bushes clear of maggots and insects of all kinds.

VASES, WINDOW-BOXES, ETC., will need careful attention in the matter of watering, and affording aids to growth, which should be of an odourless kind; also in keeping them in trim order. If space allows, a top-dressing of fine rich soil may be applied; a slight syringing overhead or sprinkling should be daily afforded the contents of the above. If boxes have been filled with plants in pots, it is good practice when a continued display is required to occasionally half-turn the pots round.

TUBEROUS-ROOTED BEGONIAS.—Seedlings which were raised at a late part of the spring should be pricked off into boxes or pans, or if this has been done, then into small pots in which they will make tubers for next year's flowering. The same will apply to the seedling alpine Auriculas for next year's spring bedding.

HERBACEOUS PHLOXES, ASTERS, ETC.—Cuttings of these plants which were put in to strike when the thinning of the shoots took place in early spring should by this date be well-rooted, and may be planted out in beds or other places. If a large stock of Pyrethrums is required, or choice varieties increased, a good plan, now that the plants have finished blooming, is to cut them down almost level to the ground. They will soon form numerous young shoots, and if the plant be then taken up, it can be divided into many pieces with roots attached, which may be put into nursery beds, plentifully supplied with water till well established.

EDITORIAL NOTICES.

LETTERS FOR PUBLICATION.—*All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for contributions, or to return unused communications, or illustrations, unless by special arrangement.*

PLANTS, &C., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be carefully packed and numbered, and not more than six should be sent at one time.*

LOCAL NEWS.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

ILLUSTRATIONS.—*Photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c., are particularly solicited; but the Editor cannot be responsible for loss or injury.*

Advertisements should be sent to the PUBLISHER.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

WEDNESDAY,	JUNE 28	Royal Botanic Society: Musical Promenade.
FRIDAY,	JUNE 30	Royal Botanic Society: Lecture at 4 P.M.

SHOWS.

MONDAY,	JUNE 26	Liverpool Horticultural Society (two days). Hitchin Rose. Canterbury Rose.
TUESDAY,	JUNE 27	Rose Shows at Maidstone and Sutton.
WEDNESDAY,	JUNE 28	Richmond Horticultural Society. Rose Show at Earl's Court. Rose Shows at Clifton (two days), and King's Lynn.
THURSDAY,	JUNE 29	Rose Shows at Windsor and Eltham.
SATUEDAY,	JULY 1	National Rose Society, at the Crystal Palace.

SALES.

TUESDAY,	JUNE 27	Orchids at Protheroe & Morris' Rooms.
THURSDAY,	JUNE 29	Plants at the Dyson's Lane Nurseries, Upper Edmonton, by Protheroe & Morris.
FRIDAY,	JUNE 30	Orchids at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—62°.4.

Spraying for insects or blight.

To induce our cultivators, whether in the farm or the garden, to adopt measures to palliate the evils to which they are subject, is often a long and tedious process. Even when after long insistence a hearing is gained, the objection is raised, with less or more foundation, that the game is not worth the candle, and that the procedures, however excellent in themselves, are so costly as to be useless for commercial purposes. In the United States and on the Continent of Europe, especially in Germany, agricultural stations and experimental trial grounds, where these matters are put to the test, exist in scores, we might say in hundreds. So far as we can see, they require to be placed under the direction of some central authority in order to prevent a waste of energy, and to secure greater definiteness of purpose and more uniformity of procedure. But, however this may be, there can be no question that these agricultural stations do effect a great deal of good, both in the way of research and in the diffusion of information among those who stand in need of it. In many of our colonies and dependencies, botanical stations in connection with Kew have now been established, and for practical purposes these fulfil many of the objects of agricultural stations. At home, we are not so fortunate. The Board of Agriculture of late years has, indeed, circulated useful leaflets among the farmers; but in the way of experiment and research on matters of interest to horticulturists, there is little to which we can point with satisfaction. Occasionally spasmodic efforts have been made at Chiswick by what we may term the "willing horses," but the "horses" aforesaid are fully employed elsewhere, and their lengthened or continuous services at Chiswick cannot therefore be counted on. Be this as it may, one principal object of the Royal Horticultural Society should be to promote research and experiment in all branches of science that are capable of direct application to horticultural practice, and another should be to diffuse information among the public. The Society would be listened to as speaking disinterestedly and with authority. To some extent the Society has moved in the directions we have indicated, and Chiswick already does good service as a trial-ground, whilst the Conferences that have been held there of late years have been of the greatest value to horticulture, as bringing to a focus information previously diffused and relatively inaccessible.

We have been led to make these remarks by the receipt of a letter from the State Agricultural Station of Vermont, which illustrates a method of procedure we should be glad to see carried out much more fully here:—

"We take pleasure in sending you with this a copy of a special card *Bulletin* our station has just published, showing gain from spraying Potatos. We have issued these cards for free distribution about our State, hanging them in stores, hotels, and post-offices.

"We have been testing fungicides on Potatos at this station for the past four years, and of the twelve combinations of copper-salts tested have found none equal to Bordeaux Mixture, and this mixture in its various strengths is all that we are now recommending to farmers.

"Properly used, we find it an almost perfect protection against Phytophthora infestans (the best known of the fungi causing Potato-rot).

"Last summer, in many parts of the United States and of Canada, another blight caused by the fungus Macrosporium solani, was even more destructive than was that caused by Phytophthora. This disease is not so easily controlled by fungicides.—L. R. JONES, *Botanist, State Agricultural Experiment Station, Burlington, Vt.*"

With this came a card, with a photograph showing the advantages of spraying, similar to the one of which we published a reproduction last year. A gain of over 200 bushels per acre was realised by means of spraying. Mr. JONES writes:—

"Be sure to spray early enough. The proportions recommended are:—5 lb. of blue vitriol (copper sulphate); 5 lb. of fresh lime; 50 gallons (1 barrel) of water. Dissolve the blue vitriol in a wooden or brass vessel, slack the lime, and dilute to a white-wash; strain these two solutions into a clean barrel, and mix thoroughly. The mixture is a preventive, not a cure."

We now know for a certainty, from experiments at Chiswick and elsewhere, that the losses from the Potato disease may be very materially lessened, either by the adoption of the Jensen system of moulding, or by the use of the Bordeaux Mixture. What we now want to know is, the comparative cost of the two methods, and then the needless waste that now takes place may perchance be arrested.

Mr. John Gilbert Baker, F.R.S.

In our present issue we give a photographic reproduction from the portrait of this distinguished botanist now hanging on the walls of the Royal Academy, No. 524. It is the work of Mr. JOSEPH W. FORSTER, who may be congratulated on having produced an excellent and characteristic likeness. Mr. BAKER has been for so many years one of the most highly valued correspondents of this journal, and has enriched its pages with so many monographs of plants of garden interest, that he needs no introduction to our readers. We cannot, however, let the opportunity pass without offering a tribute of gratitude and respect to the botanist who has contributed so much to our knowledge of garden botany, and a hearty acknowledgment of the untiring patience, the straightforwardness, the modesty, and ever-ready willingness to help which he has always displayed.

As a lecturer, Mr. BAKER is lucid, emphatic, concise, with an admirable method of bringing out the salient points of his subject, not overlooking detail, but always treating it with a due sense of proportion. When he has to deal, as is generally the case, with a maze or entanglement of detail, overwhelming, as most would think, from its profusion and complexity, Mr. BAKER skilfully lays down and defines certain main lines and prominent guide-posts, and by these means facilitates in no ordinary way the comprehension of the whole. We have heard him, in discussing the species of a huge order, illustrate his subject by comparing it to a map of a great city, where his aim has been to point out at once the number and the direction of the main streets, and their connections one with another, leaving the details of lanes, alleys, and courts, to be filled in by himself or others as opportunity serves. Again, in speaking of varieties and species—points upon which gardeners have often hazy ideas—we have heard him illustrate the matter by reference to the significance of the decimal point in arithmetic. All the figures to the left are units (species); the further one goes to the left of the point, the higher and more comprehensive the group—thus, species, genera, orders, classes, and so are so many groups of units of gradually increasing importance, as we go from the left of the point; whilst on the right side of the point are the fractions, in this case represented by the sub-species, the varieties, the variations, and so on. This illustrates Mr. BAKER'S method of work, and it is an eminently practical one. Had he not followed some such plan, it would have been impossible for him to have given to the world the voluminous treatises that he has done. "When I first came to Kew in 1866," says Mr. BAKER, "I found the groups of plants that enter largely into horticulture, that most wanted working at, were the Vascular Cryptogams and Petaloid Monocotyledons;" and so we find him completing the Synopsis Filicum begun by the late Sir WILLIAM HOOKER, preparing a second edition in 1874, and bringing the list of Ferns up to date in the fifth volume of the *Annals of Botany*.

The huge order of Lilies, the Amaryllids, the Bromeliads, the Irids, have all been treated in the same way, and the "handbooks" he has published of these orders, based on his monographs in the *Journal of the Linnean Society*, and in our own columns, are now among the most useful works of reference in botanical libraries.

Leguminosæ and Compositæ have also received very considerable attention at the hands of Mr. BAKER, whose contributions are to be found in MARTIUS' *Flora Brasiliensis*, and in the various colonial floras prepared at Kew, one of which,

From a Painting by Joseph W. Forster.

that of Mauritius, is entirely his work, as well as in his numerous papers on the flora of Madagascar. We have by no means exhausted the extent of Mr. Baker's labours. We have said nothing, for instance, as to his excursus into the fields of botanical geography, but we have said enough to show how vast has been his labour, how great his patience, how signal his success!

It is noteworthy that, as in the case of so many botanists of the school which is not the fashionable one at present, Mr. Baker first achieved fame as a student of our own flora, and from the study of the thorny Briars (Rubus) and the scrambling Roses of our hedgerows, attained for himself a position, which, if he had done nothing else, would still entitle him to a foremost place among botanists. Since 1866, Mr. Baker has been associated with the herbarium at Kew, and on the retirement of Professor Oliver in 1890, Mr. Baker was appointed in his stead as keeper of the herbarium, a post, the duties of which, it is earnestly to be hoped, in the interests of botany in general, and of garden botany in particular, he may long be enabled to fulfil.

Linnean Society.—On the occasion of the meeting on Thursday, the 15th inst., Professor Stewart, President, in the chair, Mr. Lewis Pugh was admitted, and Messrs. F. J. Jackson and H. H. Johnston were elected Fellows. Mr. A. W. Bennett exhibited some curious examples of revivification in plants, and made some remarks on the tentacles of Drosera rotundifolia and longifolia, specimens of which were exhibited under the microscope. Dr. Stapf read a paper on the "Botany of Mount Kinabalu, North Borneo," and exhibited some of the most characteristic plants. His remarks were criticised by Mr. W. T. Thiselton Dyer, who regarded the paper as a valuable contribution to geographical botany. On behalf of Miss A. L. Smith, Mr. George Murray gave an abstract of a paper on the anatomy of a plant brought from Senegambia by Mr. G. F. Scott Elliot, the affinities of which had not been precisely determined, but which was referred either to the Melastomaceæ or Gentianaceæ. The author's views, which were illustrated by means of the oxy-hydrogen lantern, were criticised by Dr. D. H. Scott. In the absence of Mr. Scott Elliot, a paper was read on his behalf by the Secretary on the "African species of the genus Ficus." Professor F. W. Oliver, on behalf of Miss M. Benson, gave an abstract of a paper entitled "Contributions to the Embryology of the Amentiferæ," illustrated by diagrams of sections made by the author. With this meeting the Session of 1892-93 was brought to a close.

Paris Horticultural Congress. — The papers read at the recent Congress in Paris, included one by M. Maxime Desbordes on the "Use of Chemical Manures in Market Gardens, and in the cultivation of fruit;" on "The production and value of Hybrids," by M. Viviand Morel; on "The different Soils [and composts] employed in gardening," by M. Georges Truffaut.

Hooker's "Icones Plantarum."—The last part (May, 1893), now edited by Professor Oliver, contains a number of lithographic illustrations of plants in the Kew herbarium. For the most part they are of purely botanical interest, but some would be valuable addition to gardens. Braya uniflora, a tufted alpine plant, is remarkable as being the only known Crucifer which has a gamosepalous calyx. The peculiar order of development of the sepals probably affords the reason for this rarity of the occurrence of cohesion in the sepals of this order. Actinocarya tibetica, a Borageineous plant, is remarkable for the curious cup-like processes from the ripe carpels, the meaning of which is by no means obvious. Ranunculus Lowii (Stapf) is interesting as affording an illustration of a temperate type in the tropics, but at no less elevation than 11,000 to 12,000 feet on Kinabalu, Borneo. A Holly, Ilex revoluta, is described by Stapf, from the same mountain. Passiflora Jenmanni (Masters) is a remarkable species from British Guiana, well worthy of introduction.

Royal Horticultural Society's Examinations.—The following class-list has been handed to us for publication. In the higher grade there were seventy-six candidates, of whom the successful ones were thus classed:—

First Class (200 *marks and over*).

Dutton, F. V.	235	Nickolls, H.	200
Busby, W.	205	Smith, A. E.	200
Lewis, John	205	Dowse, J. D. S.	200

Second Class (*between* 200 *and* 150 *marks*).

Gilmore, E. G.	190	Stokes, W. J.	165
Manning, A. J.	185	West, Wm.	165
Wilts, Geo.	180	Dicken, C. J.	165
Morrill, S.	175	Barrett, Jno.	160
Ames, H.	175	Byrne, M.	160
Pierce, A. N.	170	Fincham, H.	150
Emmott, J. T.	170	Rewcastle, J. H.	150
Butcher, G.	170	Meire, S. C.	150
Bishop, G. A.	170	Caesar, E.	150
Blake, Winifred	165	Farris, E.	150

Third Class (*between* 150 *and* 100 *marks*.)

Tinley, G. F.	145	Eggleton, E. G.	120
Hutchings, C. F. F.	145	Yetman, S. E.	115
Gudgin, F.	145	Pascoe, W.	115
Ashdown, A.	145	Gullick, W. F.	115
Tufrail, F.	140	Waller, E.	115
Tabor, R. J.	140	Tagg, H. F.	110
Morton, J. H.	140	Sands, W. N.	110
Bridges, A. J.	140	Overy, Hy.	110
Parkin J. H.	135	Clarke, Lilian E.	110
Gant, R. C.	135	Catt, Alf.	110
Wagstaff, W. T.	130	Chamberlain, W.	110
Humphries, F. W.	130	Philbrick, A. E.	105
Morrison, J.	130	Milne, W.	105
Somerville, David	125	Elliott, E. J.	105
Rule, A. G.	125	Dangerfield, A. G.	105
Bailey, A. C.	125	Carter, J.	105
Young, T. A.	120	Saunders, G. R.	100
Beech, Geo.	120	Douglas, W.	100

Lower Grade (128 Candidates).

First Class (*over* 200 *marks*).

Daine, H. S.	240	Lamb, Geo.	220
Goff, W. R.	225	Stroud, W.	205
Miles, J. J.	225	Waterson, G. R.	200

Second Class (*between* 200 *and* 150 *marks*).

Watkins, W. E.	195	Morris, Alf. D.	155
Woodard, E. J.	190	Clague, D.	155
Dudley, A. H.	190	Drew, F. G.	155
Pine, C.	190	Barrett, C.	155
Berry, C. J.	185	Hogg, A. D	155
Chopping, E.	180	Avins, C. W.	155
O'Connell, M. T.	175	Ismay, J. R.	150
Wall, George	170	Bridges, H. P.	150

Third Class (*between* 150 *and* 100 *marks*).

Weston, C.	145	Stephens, Annie G.	115
Melville, A.	140	Aitken, J. H.	115
Walker, W. S.	140	Matthews, J. A.	115
Oldham, Frances E.	135	McCreath, W.	115
Littlejohn, F. A.	135	Woodward, F. N.	115
Murrell, G. A.	135	Dancer, J. F.	110
Bartlett, A. C.	135	Fry, Edmund	110
Badcock, T. F.	130	Gardner, T.	110
Newman, J.	130	Bates, Hy.	105
Simpson, Jas.	130	Loe, W. E.	105
Gray, P. J.	125	Crossley, A.	105
Cooper, Frances M.	125	Blake, A.	105
Blomfield, J.	120	Burgess, W.	105
Davis, Jas.	120	Bygraves, W.	100
Farr, W.	120	Woolley, W. J.	100
Beale, G.	120	Osborn, Arth.	100
Gaskell, Gertrude	120	Hinton, G.	100
Stuart, G. M.	120	Hart, G.	100
Allen, Frank	115	Bridges, G. T.	100

Maxwell T. Masters and James Douglas, examiners. W. Wilks, *Secretary, Royal Horticultural Society*.

Cultural Science.—We extract the following remarks from a recent number of the *Daily News*. Cambridge is about to institute an examination in agricultural science. The subjects of examination—each subject of course treated with special reference to agriculture—are botany, chemistry, physiology and hygiene, entomology, geology, mechanics and engineering, bookkeeping and agriculture. The last, however, with surveying, veterinary science, and economics in relation to agriculture, will, or may, form part of a further examination to be taken after the others. The candidate who has passed both will be entitled to a diploma; the candidate who has passed one, to a certificate. It is also recommended that the managing syndicate shall entertain applications for the appointment of persons to inspect schools of agriculture or horticulture that receive grants of public money, and give regular instruction in these subjects. The scheme is a promising one. Its chief value seems to lie in the system of inspection. It will be good to have the numerous technical schools connected with agriculture kept up to the work by thorough scientific supervision. This is one more sign that our system of so-called practical teaching has completely broken down in all the arts. Our rivals in industry, the Germans, train for everything, and with marked success. The French are not very far behind them. Their School of Commerce is probably one of the best in the world; their School of Forestry is admittedly the best. It would be difficult to name any single branch of a great industry which can now be cultivated with success without a knowledge of its principles. Through the want of such a knowledge in agriculture, British farming is where it is to-day. We ought never to forget Professor Huxley's warning that with Germany on the one side of us, and America on the other, we are on the eve of an industrial struggle for existence, beside which the military struggle of the earlier part of the century will be mere child's play.

Royal Society.—The following circular has been issued to the Fellows. It would do no harm if fellows of some other societies, who use their titles for commercial purposes, received a similar reminder. "The attention of the President and Council of the Royal Society has been called to certain advertisements appearing from time to time in the public newspapers and in various trade journals and circulars, containing certificates and statements signed by Fellows of the Society. These certificates and statements are not in all cases confined to mere analyses or simple matters of fact, but occasionally include expressions of opinion as to the subject matter of the advertisements, and laudatory passages which assume much of the character of an advertiser's encomium. The President and Council fully recognise the liberty of the Fellows to give, when consulted, authoritative statements on chemical analyses or any other scientific facts on which they are called upon to advise. They feel, nevertheless, that in some of the trade certificates already mentioned, due regard has hardly been paid to the status and dignity of the Royal Society, and they are of opinion that the issue of such certificates tends to act injuriously, upon the reputation of the Society. They are, however, confident that when attention is called to the subject, all the Fellows will endeavour to express any statements relating to matters of trade or manufacture in such terms that no suspicion of mercenary motives or commercial partisanship can possibly attach to them."

Gloxinia "Stanstead" White.—Under this name Messrs. Laing & Sons have submitted for inspection, a well-grown Gloxinia of good habit, large well-shaped flowers, white, with a pale lemon coloured tube. It is evidently a superior variety in its class.

M. Ernest Bergmann.—The energetic secretary of the National Horticultural Society of France has received from His Majesty the King of Portugal, the Knight's Cross of the Order of Christ.

A New Chemical Treatment for Stable-manure.—Two Italian horticulturists have recently proposed to prevent the loss of ammonia from stable-dung, &c., by means of sulphuric acid, which is employed in the form of a composition termed "arotol." This composition is obtained from organic substances, containing hydrogen and oxygen in the same proportion in which they are contained in water, such as dry straw, sawdust, &c.; 25 to 50 per cent. of such matters are mixed with 50 to 75 per cent. of sulphuric acid, allowed to stand till cold, and then reduced to powder. The charred powder contains up to 75 per cent. of free sulphuric acid, and in this state may be advantageously scattered about on dunghills, or left exposed in stables.

Furcræa Bedinghausii (Koch).—It is curious, says a correspondent, that many of the genera or species of succulent plants grown on the Riviera, have a tendency to flower in the same season, as I have recently noted several examples of F. Bedinghausii, most of which differ in size and age. The one now in flower with Mr. Hanbury at La Mortola

is a very fine specimen, carrying a spike about 12 or 14 feet in height. The side branches are drooping, and the flowers of a greenish-white. When relieved with a background of deep green foliage it produces a most impressive effect. Another much younger plant, and only half the size of the former, was flowering with Mr. KENNEDY at Mentone. I have also seen it in flower under the name of Roezlia regia, but which is only a synonym of the former.

AN EARLY VINE CROP.—The *Wine Trade Review's* Bordeaux correspondent states:—In spite of the phylloxera, the Vine presents a beautiful appearance, and gives promise of an abundant crop. It is probable that the gathering will take place in August, a thing which has not been seen in this department for nearly three-quarters of a century.

WOLVERHAMPTON FLORAL FETE.—This great horticultural show and pleasure fête of the Midlands will this year be held on July 11, and we would call the attention of intending exhibitors to the regulation calling for notices of exhibits of plants being sent in seven days, and of fruit and vegetables four days, before the opening day.

LIVISTONA INERMIS.—Whether we have the true L. inermis in our Riviera gardens or not, writes a correspondent, will now soon be proved, as Mr. KENNEDY, at La Chiusa, Mentone, has a plant just pushing up a flower-spike. It is, Mr. KENNEDY assures me, the first time that it has flowered here. According to the descriptions given in WENDLAND and DRUDE'S *brochure*, *Palmæ Australasicæ*, pp. 223 to 226, I should presume that the plant known as L. inermis is L. Ramsayi. The descriptions are:—

"*L. inermis*, Brown.—Caudex 14—30 [ped.] alt. Petioli inermes. Sepala acutiuscula. Fructus ovati violacei.

"*L. Ramsayi*, F. Müller.—Caudex altus. Petiolus spinosus. Folia disciformia peltata et centro petiolata. Laciniæ breves truncatæ. Fructus rubri globosi.

Mr. KENNEDY writes me:—"I believe our plant is L. Ramsayi, of MÜLLER, but it may be synonymous with L. inermis, as MÜLLER states that the plant bearing the latter name at Herrenhausen, the old royal garden of Hanover, has small thorns. All the Riviera plants have thorns along the petiole, and answer to the description of L. Ramsayi. There is a fine plant at Villa Valetta, but which has not yet flowered. It was, I understand, bought under the name of Copernicia cerifera."

NEW ORCHID-HOUSE.—In the stove built with all modern improvements for the firm of MM. VERVAET ET CIE., of Ghent, there is noticeable among other innovations, a new system of heating apparatus. The pipes are furnished at about every half-inch with a disc of the same metal in diameter double that of the pipe, this increases the heating surface four times. If this system gives the results expected, not only will an appreciable saving in fuel be effected, but also in the cost of installation; besides, space will be gained, as the number of pipes will be considerably reduced. *Ch. de. B.*

GARDENING AND FORESTRY EXHIBITION AT EARL'S COURT.—The Forestry section of the Exhibition is now fairly complete. Among them will be found an interesting consignment from Balmoral, as well as a vast number of examples illustrating abnormal growths and eccentricities of tree life. Other exhibits set forth the varying effects on timber of salt and fresh water, and the ravages of insects.

PROFESSOR POULTON.—Mr. E. B. POULTON has been appointed Hope Professor of Zoology in the University of Oxford in succession to our old friend and correspondent, the late Professor WESTWOOD. Some of our contemporaries in making the announcement stated that Mr. POULTON had been elected professor of etymology!

CHICAGO.—The finest collections of Rhododendrons are those of ANTHONY WATERER of Knap Hill, and JOHN WATERER of Bagshot. MOSER of Versailles has a splendid lot, and Messrs. AUG. VAN GEERT and CH. VULYSTEKE of Ghent, also exhibit in this section.

THE PRAIRIES OF THE CONGO.—The King of the Belgians, as Sovereign of the Independent State of the Congo, has sent a professor from one of the Écoles d'Agriculture, of Belgium, to the Congo, to choose the site for the prairies destined for grazing cattle in large quantities, to meet the requirements of the new country.

"INDEX KEWENSIS."—We reprint the following prospectus of "a work of supreme importance to students of botany and to horticulturists." We have frequently alluded to this colossal undertaking, and it will shortly be our duty to speak more at length of the part now issued:—

"Now ready, part I., pp. 728, quarto. Price to subscribers, 2 guineas net. The work will be completed in four parts, which will be issued to subscribers at 8 guineas, and the price will be raised on publication.

"INDEX KEWENSIS."—PLANTARUM PHANEROGAMARUM NOMINA ET SYNONYMA OMNIUM GENERUM ET SPECIERUM A LINNAEO USQUE AD ANNUM M DCCC LXXXV COMPLECTENS NOMINE RECEPTO AUCTORE PATRIA UNICUIQUE PLANTAE SUBJECTIS.

SUMPTIBUS
CAROLI ROBERTI DARWIN.

DUCTU ET CONSILIO JOSEPHI D. HOOKER. CONFECIT B. D. JACKSON.

"The printing of Part II. is well advanced, and the completion of the whole work may be expected during 1894.

"The following communication from Sir JOSEPH HOOKER, F.R.S., &c., explains the origin, plan, and purpose of this important and comprehensive undertaking:—'Shortly before his death, Mr. DARWIN informed me of his intention to devote a considerable sum in aid or furtherance of some work of utility to biological science, and to provide for its completion should this not be accomplished during his lifetime. He further informed me that the difficulties he had experienced in accurately designating the many plants which he had studied, and ascertaining their native countries, had suggested to him the compilation of an Index to the names and authorities of all known flowering plants and their countries, as a work of supreme importance to students of systematic and geographical botany, and to horticulturists, and as a fitting object of the fulfilment of his intentions. I have only to add that, at his request, I undertook to direct and supervise such a work; and that it is being carried out at the Herbarium of the Royal Gardens, Kew, with the aid of the staff of that establishment. JOS. D. HOOKER.'

"Oxford: The Clarendon Press. London: HENRY FROWDE, Oxford University Press Warehouse, Amen Corner, E.C."

POISONOUS PLANTS.—We read, in the *Newcastle Chronicle* of June 16, that Doctor F. W. GIBBON, Bachelor in Hygiene, visited All Saints' Schools, St. Mary's Board Schools, and those of St. Peter and St. Paul Roman Catholic, and St. Simon's Church at Tyne Dock, on Wednesday afternoon, and gave a lecture on poisonous plants. He showed specimens of the following plants having poisonous properties, that the children may come across during their holidays, which commence to-day:—Spotted Hemlock, Fool's Parsley, Cow's Parsley, Water-drop Wort, Snowberries, Poppies, Cuckoo Pint or Lords and Ladies, Woody Nightshade, Henbane, Foxglove, Monkshood, Meadow Saffron, Laburnum, Yew leaves, and Christmas Rose. He also enumerated various roots, Mushrooms, and fungi. Dr. GIBBON visits other schools in the neighbourhood.

CORIS MONSPELIENSIS.—M. CORREVON, of Geneva, writes, in answer to Mr. BURBIDGE, to say that Coris monspeliensis is cultivated at the Jardin Alpin. It is grown on a wall fully exposed to the sun. It must be treated as a biennial of easy cultivation. M. CORREVON offers to send seeds to Mr. BURBIDGE in the autumn.

SAINTPAULIA IONANTHA.—We are requested to say that this interesting Gesnerad, figured in our issue for June 10, 1893, has passed into the hands of Mr. ERNST BENARY, by whom in due time it will be offered for sale.

EARLY PEACHES.—We have received some fruits of Early Beatrice Peach from Mr. JAS. DAVIS, Lake House Gardens, Cheltenham, gathered on the 18th inst. from an open south wall. The fruits are small, but of good flavour, and quite ripe.

PUBLICATIONS RECEIVED.—*Mechanical Work in Garden and in Greenhouse, &c.* (WARD, LOCK & BOWDEN.)

PLANT PORTRAITS.

BUDDLEIA COLVILLEI, *Garden*, June 10.—A lovely Himalayan shrub, flowered in the garden of W. E. Gumbleton, Esq. The artist has well succeeded in rendering the delicate coloration of the flower. The spikes are pendulous, not erect as erroneously represented in our own figure of the plant.

CHERRY EARLY PRIN (hative de Prin), an early variety, which fetches the best price in the market at Rheims. *Revue Horticole*, June 16.

CYPRIPEDIUM HUYBRECHTIANUM ×, a cross between C. Spicerianum and C. hirsutissimum. *Le Moniteur d'Horticulture*, June 10.

DISANTHUS CERCIDIFOLIA, a curious Japanese shrub allied to Hamamelis. *Garden and Forest*, May 17.

CALOCHORTUS.

PRETTY and unique as these "Butterfly Tulips" or "Mariposa Lilies" are, it is very seldom indeed that we find them except in botanical collections; yet they are easily grown, are quite hardy, and increase both from offsets and seed. At the time of writing, I have a very showy bed of these pretty Californian bulbs. Being so easily cultivated, and quite distinct from all other flowers, perhaps a few notes upon their treatment may be welcome. Any amateur, whether residing in town or country, may easily grow a few of these most uncommon flowers, and I venture to say that their friends will quickly try to do the same. Lasting almost as long as an Orchid, both on the plant and when cut from it, few subjects can compare with the Calochortus in beauty and general usefulness.

They must have a sunny position, and in the case of town culture a window-box will answer the purpose admirably. Given a depth of 6 inches, and with the compost I will presently recommend, Calochortuses may be successfully grown in any dry and sunny position. I purpose to treat of the town and country culture of these bulbs independently. Like many other charming flowers, the Calochortus does not succeed with many because they do not sufficiently bear in mind the state of soil and climate in their natural habitat. In the warmest, and at times the dryest part of California, are the spots where these bulbs grow naturally, and we must endeavour to approach as closely to this as circumstances will allow.

Town Culture.—Unless you have an exceptionally sunny yard or garden, it is much best to depend upon window culture. Fill the bottom 2 inches of your window-box with broken sandstone and charcoal in about equal proportions, on the top of which place a couple of inches of the roughest part of the following compost:—Leaf-soil, one-third; turfy-loam, one-third; sand and broken charcoal, one-third; mix this roughly, and choose the coarsest portions first, gradually filling up with the finer soil.

It will not do to leave the bulbs exposed to the drying and frosty winds we often experince during winter; not but what they are perfectly hardy, but the parching and drying nature of such winds are too much for the Calochortus. In the open ground, although they may dry considerably, the soil will not be so thoroughly and injuriously parched as when in a window-box. I would recommend that the box be taken into a cellar or cupboard as soon as the growth has died down after flowering. By this time the bulbs will be at rest, and may remain so until the following March or April, when they should have a thorough soaking, be placed in the window again, and from the time they commence to grow, should not be stinted for water until flowering is finished. Whether under indoor or outdoor culture, it is best to have the bulbs in the soil by the end of August or early in September.

Outdoor Culture.—Should you not have a very warm and dry position, it is much the best to make a rough and slightly raised border or frame. I have grown these bulbs successfully in more than one place—under a wall, a Yew hedge, in window-boxes, and roughly-made frames. For outside culture the latter is much the best. Four boards, say a foot in

depth, is all that is necessary. Fill up the frame about 6 inches with the same compost as previously recommended for the window-boxes, and plant the bulbs about 2 inches deep. It is only during our wet winters that any protection is needed. If we bear in mind the natural habitat of these flowers, we shall see that too much wet and frost combined is likely to be injurious; therefore, an old light, or anything else which will throw off the bulk of our winter rain and snow, is a great assistance to them; in fact, if unsuccessful, it may generally be traced to too much wet during winter. The rough frame I have described lends itself admirably to many simple contrivances for keeping off superfluous moisture.

There is great variety among the Calochortus, and their colours are so gay and unique, that once seen, they are certain to be admired by all. They may be purchased for about the same price as the cheap Hyacinths and Tulips; and, once planted, with a little care, will become better and more floriferous each season. *A. P.*

FOREIGN CORRESPONDENCE.

CUT FLOWER TRADE AT BRUSSELS.

It is stated, that since the past five years, the growing and forcing of cut flowers for exportation has largely increased. Going around this "little Paris," one will meet with several clever nurserymen whose establishments are very interesting. Take, for instance, that of Mr. Stepara, at Molenbeek lez Bruxelles; the energetic patron will show you round when you are calling. The houses are specially built for forcing purposes. Lilacs are forced in great quantity, and sent to all parts of Germany, France, Holland, and to the *criée* at the market-hall. Roses were very fine this season; amongst them we noted Souvenir, Niphetos, Maréchal Niel, Ulrich Brunner, and other fine sorts. For winter-flowering, thousands of Spiræas, Lilies of the Valley, and Gladiolus The Bride, are forced. Mr. Stepara gives great attention to his collection of Orchids, which fill several houses. A grand lot of large Cypripedium insigne have given a great quantity of fine blooms. Cattleyas, as Mendeli, Trianæ, and Mossiæ, and Lælias, are in fine condition; Cœlogynes and Dendrobiums are making growth for next winter. A splendid lot of Anthurium Scherzerianum and A. Rothschildianum shows that their culture is a perfect one. In winter time several houses are occupied with the best varieties of Chrysanthemums, Carnations, Stocks, Marguerites, and Bouvardias, all well-grown. Every year new houses are erected, which shows how much the demand is increasing. *L. V.*

LUTON HOO.

Those visiting Luton Hoo Park this season will find a marked improvement in the gardens. Two years since, they were practically converted into market gardens, supplying the trade and others in the district of Luton, &c. Happily, there is now a great change.

At the time of my visit there were two large houses of Carnations in flower, the whole being a picture of health. In one house, 60 feet long, a fine collection was observed, including such varieties as Maggie Laurie, a pleasing pink variety, which is expected to take the place of Miss Joliffe; Germania, one of the best yellows; The Governor, Almira, Irma, Mrs. Moore, as well as most of the other leading varieties.

In addition to these, many seedlings are cultivated which have produced flowers very distinct in form and in colour. In another house, 30 feet in length, were to be seen the Souvenir de la Malmaison varieties, in perfect health. Each plant had ten to twelve perfect flowers, the foliage being all that could be desired, free from the disease so prevalent amongst Malmaisons. There are six distinct varieties of Malmaisons grown here, the old Blush Pink, Rose, Crimson, a striped named Lady Middleton, and a bright scarlet variety which is most effective.

Great credit is due to Mr. Maycock, the head gardener, for bringing these fine old gardens again into such a state of perfection. No one near Luton during the season should miss calling at Luton Hoo Gardens. *H. J. C.*

COLONIAL NOTES.

YUCCA WHIPPLEI.

Has this grand Californian plant ever flowered in England? In the gardens of H. J. Le Cross, Esq., in this district, one six-year-old plant flowered this summer, and a fine thing it is. It produced a spike 8 feet high, which was furnished two-thirds of its length with purplish-white thick fleshy powerfully-perfumed flowers. Its noble proportions were very striking, and it is certainly worthy of a place in most gardens, although its supreme effort costs the plant its life—yet what a glorious production! In reply to your gaze of admiration, there seems to issue from its expiring fragrant breath a bewitching strain of melody, set to these words: "O! puny man, seek knowledge, seek contentment, then rest from thy labours." The gardener, Mr. Lowe, intends trying to propagate it by laying the spike (cut off), flat, partially covered with sand. An enthusiastic lover of plants and trees, Dr. Franceschi, of Los Angeles, Cal., sent me, amongst other things, some seeds of this plant. I hope they will germinate. *T. Smith, Seedsman, &c., Timaru, N. Z.*

HOME CORRESPONDENCE.

SUMMER PINCHING.—As I find on referring to my past notes, that I rather understated my case last week, will you allow me to add that prolific varieties of the Apple sometimes bear more freely on the two-year-old wood than I stated, and also bear on the previous year's wood, and this without pinching or pruning of any kind. Since I wrote to you last, I have examined a tree of this kind, now carrying a heavy crop, and of which I send you a shoot. This shoot is from a tree on the crab stock that has not been root-pruned for more than fifteen years. You will see that it is about 20 inches long; that, as shown by the white string at the nodes, it consists of the annual growths of 1890, '91, and '92; that it bears fourteen fruit buds only; that every bud bears one or more fruits, or, in the total, over thirty Apples, most of them well developed; and, that the shoot has never been pinched or pruned. The tree is past the gross stage, but is still young, and was planted by myself. Now, under the aimless pinching manœuvres of Mr. Fish and "W. L. C.," this shoot would have been much less productive and worried to a stump, and the tree would have been about one-quarter its present size, and proportionally less fruitful. To read the letters of your two correspondents, one would imagine they had grown up among pinched trees and never seen any other. Young or strong trees would not be quite so fruitful, but they will behave exactly in the same way if their terminal shoots are allowed to run out when the buds behind will make fruit-buds. Pinch the leader, or prune it to short back, and you produce spray behind instead of fruit buds, and then your troubles begin. *Extension.* [The specimen sent fully bore out our correspondent's statement. Ed.]

—— It seems to me that "E. M." does me an injustice in saying that I have misconstrued his writings on this subject. I have done nothing of the kind. I simply criticised them as they appeared in print, and so far, I think, no harm has been done; but, on the contrary, the readers of the *Gardeners' Chronicle* are benefited thereby. A discussion carried on by practical men, in a friendly manner, on any important subject, is calculated to do, and actually does, much good. "E. M." says (*Gardeners' Chronicle*, June 17, p. 723), that I misconstrued his reference to the practice of fruit-tree cultivators in cutting off the old spurs. Here are his own words (p. 666), "I know some fruit-tree cultivators who cut away these same growths (old spurs) clean to the base every year in June or July, instead of pinching in the orthodox manner, which they consider as being entirely unnecessary." Now the meaning of this is quite clear. They (the fruit-tree cultivators) cut the old spurs clean away instead of pinching—that is, they consider that either method of procedure is necessary, but they prefer one practice to the other. Therefore, it appears to me that the inconsistent words, "which they consider as being entirely unnecessary," were used unwittingly by "E. M." in support of his condemnation of summer pinching of fruit-trees. Hence my asking the natural question, why his friends wasted time in doing that which they considered unnecessary. Seriously, I ask "E. M." if he allows his wall and espalier trees (including Peach and Apricot trees) to grow at their own sweet will all through the summer and early autumn months—say, until the fruit has done swelling—without removing or shortening back the thicket of fore-right shoots, which healthy trees are sure to make? and, if so, if he considers that no waste of force in his trees is involved in the practice? And does he recommend its adoption by the readers of the *Gardeners' Chronicle?* I should like these questions answered in words which cannot be misunderstood by those who read them. *W. L. C.*

FRUIT IN WILTS.—I have never seen more promising crops than those of the present year, although bush fruit is small in size on account of the drought. Apples are swelling very rapidly, and should have the fruits thinned, but in the case of standard orchard trees, this is almost an impossibility—they hang like ropes of Onions. The Pears, taken as a whole, are a splendid crop, and also require to be thinned; the varieties Jargonelle, Doyenné du Comice, Bergamot d'Esperen, Williams' Bon Chrétien, Louis Bonne of Jersey, Marie Louise, Beurré Diel, Winter Nelis, Comte de Lamy, have been with us heavily thinned; Catillac, Pitmaston Duchesse d'Angoulême, are carrying a good crop. Apricots and Peaches are truly a wonderful crop. I have seen as many as a peck of Apricots pulled off from one tree this season as superfluous, and I have never seen so much fruit set on Apricots, Peaches, and Nectarines as this season—and yet a few miles from me I hear bad accounts. Sea Eagle, Dymond, and Waterloo Peaches do well outside. Cherries are a good crop; May Duke and White Bigarreau have been very fine; Morellos are very good. Plums are a good crop; Victorias, Kirks, and Green Gages, are well to the front; other varieties are a good crop. Strawberries are a good crop—Noble, President, and Vicomtesse well to the front. Raspberries I have scarcely ever seen so good. Medlars and Quinces will be good; but the Cobs, Filberts, and Walnuts were injured by the frost in the second week in May. We have had a good deal of blight, and constant syringing and watering are still necessary to keep the trees in a growing condition. *W. A. Cook, Compton Bassett.*

OLD PEACH TREES.—Your correspondent, p. 722, mentions an old Peach tree at Ardgowan, planted forty years ago by Mr. Lunt, and still fruitful. It may be of interest to him and others if I mention that forty years ago, I raised Peach Thames Bank, at Broom House, Fulham, where the original tree may still be seen flourishing on its own roots, and during the long period of thirty-seven years, I have never known it to miss having a crop. Thus, with a suitable soil, and proper attention in the summer, there is no reason why the Peach may not live to half a century. *J. Rust, Eridge Castle.*

SYMPHYANDRA HOFMANNI.— Mr. Milne-Redhead is correct in considering this plant as hardy. It is hardy at Geneva and also at the Jardin Alpin, at an elevation of 1600 mètres. It sows itself freely, and becomes a troublesome weed. It prefers a moist shady position in the crevices of the rocks. *H. Correvon, Geneva.*

—— This biennial plant seems as hardy and as easily preserved as a Canterbury Bell. Four or five years ago a friend sent me some seedlings, raised from seed obtained in central Europe. They grew luxuriantly, and flowered abundantly; and as I am somewhat fastidious about garden plants, I gave this one notice to quit. Self-sown seedlings, however, managed to survive, and flowered both last year and this year, having twice resisted a winter of more than average severity in a cold soil. *C. Wolley Dod, Edge Hall, Malpas.*

INSECT ON PEAR TREES.—Can any of your readers give me a cure for the "blister-moth?" I have a number of young healthy Pear trees in full bearing condition, on a wall facing south. They

are sadly afflicted with the blister-moth. Years ago I used to scrape the blister, and destroy the insect inside. The trees have now got much worse. Last year on some trees every leaf was destroyed. This season the trees blossomed fairly well, set indifferently. Winter Nelis set very well, and when about the size of good Peas, dropped off or cracked badly. On May 10 I began to syringe the trees weekly with a mixture of black soap and paraffin, and continued it till June 10. The strength of this insecticide, when diluted with water, was one wineglassful, and sometimes two, of paraffin to 1 gal. of water. It has had no effect, and now the trees are worse than ever. There is scarcely a leaf that is not badly blistered. *H.* [Please send a specimen. ED.]

TROPÆOLUM POLYPHYLLUM.—Entering the Scone Garden the other day, I could hardly believe my eyes. Two sides of the brick support of the conservatory seemed to be bright gold. I went a little closer, and discovered that the yellow garniture was caused by a Tropæolum with a glaucous trefoil leaf—Tropæolum polyphyllum. It is no exaggeration to say that each plant presented a mass of yellow colour, owing to the blooms being produced in such lavish profusion. I observe that Loudon states that T. polyphyllum was introduced from Chile in 1827. It is one of the things that "no fellow can understand," that one of the brightest, freest-flowering, hardy climbers, should be neglected by every gardener, as far as I have seen or heard, except by Mr. McKinnon. *Vagabond.* [It is not always easy to establish the plant. ED.]

EARLY RIPENING OF PEACH WATERLOO.—On June 20, I gathered fruits of the Waterloo Peach from the open wall, which were sweet and of good flavour. The trees, young ones, were planted two years in October next, and three are now carrying each about four and a half dozen fruits. Last year the first fruits were gathered on August 17; and so far as my memory goes, I have never gathered ripe Peaches at so early a date. *W. A. Cook, Compton Bassett.* [The above, and Alexander varieties of the Peach, in ordinary seasons, ripen about July 12, on south walls, in the southern part of the country. ED.]

HYDRANGEA HORTENSIS.—I was much interested by "W. D.'s" note, p. 684, in reference to the above plant. I remember, when inspecting the greenhouses of a friend who lived near Ascot, my attention was directed to several Hydrangea hortensis, flowering profusely, and of a beautiful shade of blue, and I was told that they were of the same colour every year, without anything out of the usual way being done to them. Some cuttings of these plants which I cultivated the next year, produced the usual pink-coloured flowers, which seems to prove that the blue colour is due to some constituents of the soil. I have known cases in which the gardener has added iron in some form to the soil producing similar results, but I never remember seeing such plants of so fine a shade of blue. *G. Parrant, Ashby Lodge Gardens, Rugby.*

AQUILEGIAS.—I did not see the assumed hybrid Aquilegias which Mr. Lowe, of Shirenewton, sent to the Drill Hall and Scientific Committee on the 6th, but I can very well imagine what they were like, as I once had a break, A. chrysantha ×, a garden variety, which produced in the progeny several having spurless flowers with expanded corollas, thus causing them to exactly resemble flowers of a small semi-double Clematis. Persons who grow flowers largely, and often make experiments in cross-breeding, very often meet with oddities of this description, and regard them as amusing commonplaces; others seem to regard them as floral wonders. So far as beauty is found in the Aquilegia, without a doubt it is most pronounced in the long-spurred varieties. Those having short spurs, and rounded, and especially double corollas, are very heavy and uninteresting; those that have neither spurs nor corollas, and only spreading sepals, are pure oddities, without beauty. Without doubt, the very best garden strain has come from intercrossiug those fine species chrysantha and cœrulea; the product always has been more robust than is either parent, blooming very fully, and always much more profusely. Seedlings from this strain usually come very true to character. It is well to sow seed every two years at least, as, after the fourth year, old plants exhaust the soil, and the bloom is smaller. Seeds are produced in great abundance. Cross-fertilisation is easy enough, and in what may be called reasonable limits; it is open to anyone to attempt the intercrossing of species or varieties, but nothing super-excellent may be looked for, and not very much more of variety. *A. D.*

THE DROUGHT.—Seeing in your advertisement columns week after week Messrs. Merryweathers' offer of fire-engines for watering purposes, I have often wondered how far in large gardens, public or private, these engines may have been obtained and utilised. It does sometimes happen that watering does little good, but that is chiefly where it is imperfectly done. We have now reached such a point in the long drought that no one thinks watering would be harmful; but rather dreads its application, naturally or artificially, may come too late. When things are getting bad in districts where the soil is fairly holding, it is very obvious that in ordinary dry localities the condition of vegetation must be most distressing. We shall doubtless again soon hear proposals for the greater storing of water in wet periods so that we may have plenty to counteract the evils of long droughts. But it is not only supply of water, but also appliances to use it that require improvement. Only yesterday I was in a public garden close beside the Thames, with immense quantities of water flowing away to the sea, and yet, for lack of a fire-engine-hose, grass, shrubs, and trees were suffering severely. Doubtless many having control of gardens thought that the drought must soon end, and patiently waited, only to find the evil every fresh day greatly intensified, the drought enduring, and the heat greater. It is true this is but one hot dry summer out of many, but then we may have several such dry seasons in succession, and bad as things are now, what would be our condition after two or three dry summers? Those who have now an ample supply of water, and equally useful appliances for distributing it, are in good case, but enormous indeed must have been the store that is not now exhausted. *D.*

CHRYSANTHEMUM CINERARIÆFOLIUM.—A very beautiful and well-formed flower of the purest white, and resisting the hottest sun, is Chrysanthemum cinerariæfolium, which I long cultivated under the name of Pyrethrum Willemotti. Its growth and foliage are elegant; it is easily raised from seed and flowers the second year, growing about a foot and a half high. Plants last for several years. It has whiter flowers than any of the varieties of C. roseum, though they are not so large. It is said to be the plant from the dried flowers of which insect-powder is made; and perhaps the properties which make it useful for this purpose, protect it against aphis; for whilst all my single C. roseum this year have been disfigured and spoilt by aphids, which hide beneath the limb of the rays, the flowers of C. cinerariæfolium have been perfect in form. *C. W. Dod.*

VEITCH'S EARLY RUBY TOMATO.—Although Tomatos are now in almost universal demand, one rarely meets with, what may be fittingly termed, a good full crop. The cause of this, in many instances, is the want of suitable structures, and because Tomatos are looked upon as "common," and thought to grow anyhow, in any position; but there are few plants which give greater returns for good culture. It will, I think, be difficult to find a variety that has a more taking appearance, or which is more prolific than Veitch's Early Ruby, when grown as it is by Mr. Speed at Penrhyn Castle Gardens. The samples I send are cut from a house planted in November, from which ripe fruit has been gathered for eight or ten weeks. Consequently, they are anything but selected samples, but will serve to illustrate the variety. Some of the earlier clusters bore something like one dozen fruits each, and these all of uniform size, which is a consideration, as some kinds vary considerably in size, the earlier fruits on the tops of the trusses being double the size of those at other points. Now for a word on Mr. Speed's mode of culture, which is of the simplest kind. The chief thing is plenty of space in a suitable house. The seed is sown early in November, and the plants kept dwarf by growing them near the glass in small pots. When well-rooted, they are planted in the front of a lean-to house at about 2 feet apart. Mr. Speed, by giving the plants space to grow, gets a much greater weight of fruit from the same area than he would by closer planting. They are kept to the single stem, and show a truss at nearly every alternate joint. At the early part of the season the flowers are fertilised by means of a camel-hair pencil. The stems are to-day about 12 feet long; the plants in perfect health, and bearing fine clusters of fruit in all stages, and still growing and flowering profusely. I may add that this variety has been grown by the side of others for about three years, and found to be the best of them, and the total weight cut out of this small house must have been enormous. The soil, too, is of the ordinary type—good porous loam. *J. H. Goodacre.* [Capital specimens attended this communication. ED.]

A PLAGUE OF CATERPILLARS.—During recent weeks the caterpillar—or "pamer," as it is called in South Wilts—has made an attack in great numbers on Currant and Gooseberry bushes, completely defoliating some of them before the seriousness of the injury was realised. The question arose as to the readiest and best means of ridding the bushes of the creatures. Picking them off with the hands is too tedious to be thought of, and the fruit was too far advanced in the ripening stage to admit of the bushes being syringed with tobacco-juice and water at the strength of one quart of the former to four gallons of the latter, without the risk of spoiling the fruit, and the following method was adopted:—Two men with a tub of water, can, syringe, and a barrowful of slaked lime and soot, set to work to exterminate them, one man well shaking the affected bushes, and then forcibly syringing them overhead, thereby shaking and washing off the myriads of caterpillars on to the ground, the other man dusting them well over with the mixture of lime and soot with the desired good result; therefore, knowing that many readers of the *Gardeners' Chronicle* are exercising their minds as to the means they ought to adopt to free their bushes from caterpillar, I place my method of combating the pamers at their service. *H. W. W.*

NURSERY NOTES.

BEGONIAS AT MESSRS. JOHN LAING AND SONS.

AGAIN we are in the midst of the Begonia season, and these exquisite plants are maintaining the wonderful reputation which in the space of a few years they so easily attained. Most people are well aware of the success which has attended the efforts of Mr. Jno. Laing and others to improve the tuberous-rooted section of Begonias, and they know that the change which has been effected in them has had no parallel in recent years. But, at the risk of repeating ourselves, it is well that the younger ones amongst us should be made conversant with the origin, history, and development of all of the plants which form in our greenhouses and our flower gardens so indispensable a feature as does the Begonia, and in this respect a great deal was undoubtedly learned as a result of the Begonia Conference held at Chiswick last summer, when lectures upon the subject were read by Mr. H. J. Veitch, Mr. Laing, Mr. Watson of Kew, and Mr. Cannell of Swanley, and when most of the species from which was obtained the strain we now possess could be seen, and compared with their more decorative and more beautiful descendants. Until a comparatively recent date, it had been the aim of the florists to improve the size and quality of the bloom, to produce various and improved colours, and we have wondered, year by year, to what size, and to what greater perfection, the bloom could be improved. Although, even now, great care and attention are paid to the colour and form of the flowers, it has been in another direction that we have hoped for improvement. This was in the habit of the plant, and in the strength of the stems, which have to support such prodigious flowers. A visit to the show which has recently been opened at Forest Hill, and which will continue until the autumn, will soon convince the visitor that much care has been given in this latter direction. Instead of the tall slender stems that were seen but a few years ago, we see plants blooming profusely whose height is scarcely more than 9 inches; the leaves and stems are thick and strong, and may be described as an erect flowering strain, which is a new feature, since the weight of the bloom has been so materially increased; and it is hoped that further advance will be made in this direction. We also noticed that Mr. Laing is raising a section of ornamental foliage varieties, in which the veining of B. Pearcei is being developed, and which if the colours upon the leaves can be made a little more intense and persistent, promise to afford a foliage and

flowering Begonia in one plant. The flowers are produced by these varieties as freely as by those with green leaves, and they are the same in most other respects.

The single ones appear to command as much popularity as ever, and it may no doubt be explained by their more gay appearance, as also by the continuous-blooming habit of this section. The colours are certainly more intense than those of the double varieties; indeed, so brilliant are some of them, that when seen with the sun upon them, they have a most dazzling effect upon the eye, and eclipse in this respect the brightest of the Pelargoniums.

If we mention a few of the novelties of the present season, it is because of their great attractiveness, and because they surpass any previously raised. Duchess of Westminster is very pretty, the flowers rosy-crimson, with a white centre, are of good form and size, and stand on erect stems. One very large plant of this variety appeared to indicate great profuseness of flower, for it was covered with blossoms. Lady Grimthorpe is also very floriferous, the blooms are large, and the colour a most desirable shade of rose-pink—a charming variety. The best salmon yet raised is Lady Mary Loyd, the form is good, and the flowers are very attractive. Sir J. Blundell Maple is the best bright scarlet we have yet observed. A salmon-scarlet will be found in Miss Jekyll, a very pretty plant, of erect habit. A good dark crimson is that named Mr. William Miller; its habit leaves little to be desired. Mrs. R. Dean has flowers of a lovely shade of pink, with a margin of carmine; the petals are crimped, and very pleasing. The best of all the single novelties, however, is Laing's Fringed White, a name suggested by the pretty fringing of the petals; in form it is almost perfect, and the habit of the plant is erect and vigorous. The present rapid progress made is seen by looking at some unnamed seedlings not yet catalogued. In the single section there are some with yellow centres and bronze margins, which when the yellow has been brought a little clearer, and the bronze deepened somewhat, will be most beautiful and striking novelties. A white one also has flowers larger than any yet named, whilst a crimson seedling is much darker than Mr. H. M. Stanley, hitherto the darkest. Another seedling is an improvement on the one described above as Duchess of Westminster, it is of rounder shape, the white ground is purer, and the crimson is deeper, there is also some pretty white veining through the crimson. We cannot refer to numerous others of great merit, including one of fine golden yellow, but must pass on to the house containing the double-flowered varieties, where it may soon be seen that immense progress is still achieved amongst this section also. Countess of Craven will become very popular, through its extremely good habit and magnificent pure white flowers. A very free-flowering variety, with beautiful salmon-pink flowers, the centre somewhat paler, and prettily fringed petals, has been named Lottie Collins. The Duke of York has large double flowers of deep rose, with paler centre; the habit is good and erect. A good crimson of great substance, the plant of very floriferous habit, is called Earl of Craven, a valuable variety. Mrs. Regnart, a capital yellow, has large wavy petals, large flowers, and erect bold habit; and Mrs. G. Higgins is another yellow, but more primrose in shade. Its flowers are of pretty form, and will be liked. A large red flower, with loose petals, and very free-flowering, is called Farrini; and another of very fine proportion and good habit, a beautiful rose, with lighter centre, is Glory of Stanstead. Lady Brooke is one of the very finest; in colour it is salmon-scarlet, and shape like that of the Camellia. Ernest Cooke is an intense scarlet. Alphonse de Rothschild is not yet in commerce; it is an exceptionally good, full, glossy crimson. An unnamed seedling was very interesting; the colour was reddish-scarlet, and the bloom was flaked with salmon. A few varieties of decided drooping habit are encouraged for basket work, and are very suitable. One of the best of these is Mrs. Farrini, with double flowers of salmon-red. Single varieties, especially suitable for the same purpose, are present in quantity. Attention is likewise extended to the bedding kinds, and with so many bedded out in the open air each season, a good selection of the best adapted for this work is always made.

Although Begonias are undoubtedly the great feature at Forest Hill in the summer time, there are some houses devoted to general plants for indoor culture, and these, at the time of our visit, were looking well. A good white Gloxinia called Princess May has not quite the substance of Her Majesty, but it is sufficiently distinct as to be worth a wide patronage. A good deal of ground is devoted to the growth of Roses and fruit trees, the former of which do very well, and are in first-rate condition.

SOCIETIES.

ROYAL HORTICULTURAL.

June 20.—A meeting of the Committees of this society was held on Tuesday last at the Drill Hall, James Street, Westminster. Prizes had been offered by Messrs. Kelway & Sons for herbaceous Pæonies, and for Delphiniums; and by Messrs. Turner & Sons for laced and border Pinks, but there were no exhibitors in either classes. Orchids created a good show; herbaceous plants, Begonias, &c., were exhibited by the trade, and there was a considerable quantity of fruits, Pines, Strawberries, Melons, &c. The first show of the National Rose Society, which was held on this occasion, brought a large number of Tea and Noisette Roses, a report of which will be found below.

Floral Committee.

Present: W. Marshall, Esq., in the chair; and Messrs. J. Fraser, W. H. Williams, H. Herbst, H. B. May, G. Stevens, T. Godfrey, C. F. Bause, F. Ross, C. J. Salter, J. D. Pawle, P. Barr, T. Baines, W. Furze, J. Walker, W. Bennett-Poë, G. Gordon, C. E. Shea, E. Mawley, H. H. D'Ombrain, G. Paul, T. W. Girdlestone, R. Owen, and J. Jennings.

Messrs. John Laing & Sons, Forest Hill, contributed a group of Tuberous-rooted Begonias, many of them having ornamental foliage, with veinings after the manner of B. Pearcei. John Fraser, a very fine rosy-crimson variety, with narrow green leaves, received an Award of Merit. Similar awards were also given to Countess of Craven, a large double white; and to a white Gloxinia, Princess May, a very free-blooming pretty white one, very distinct from Her Majesty, but requiring a little more substance in the blooms. A splendid collection of Canna sprays came from J. C. Tasker, Esq., Middleton Hall, Brentwood (gr., Mr. Perry). The colours are as bright as the flowers are pleasing; also some blooms of Roses. A large number of Rose Her Majesty, and other varieties including Paul's Early Blush, and a new rosy-crimson, Chas. Gater, came from Messrs. G. Paul & Son, Cheshunt (Silver Banksian Medal). C. J. Grahame, Esq., Coombe Road, Croydon, staged a good lot of cut blooms Hybrid Perpetuals and Tea Roses (Bronze Banksian Medal). A. J. Gray, Esq., Newbridge, Bath, received an Award of Merit for a new climbing Rose, Allister Stella Grey, a pretty bronze and white variety.

A pretty collection of Carnation blooms was sent by Mr. Ed. C. Goble, Ryde, Isle of Wight, including a number of blooms of a new hardy yellow one. The blooms had been grown in open borders, and appeared to be of some merit, the calyx remained intact; also a number of other seedlings, including a pretty one called Solent Queen, the bloom being of yellow, curiously flaked with rosy-scarlet.

Some frozen plants and flowers in large blocks of ice from Auckland, New Zealand, were exhibited by E. Herbert Fison, Esq., Stoke House, Ipswich. These included specimens of Statice, Callistemon, Clematis, Arthropodium cirrhatum, Leptospermum, Carpodetus, Hedycarpa, Metrosideros, Asplenium falcatum, Lomaria filiformis, &c. Although some of the ice appeared clouded, as if from dirty water, the attempt was a most successful one, and the plants, particularly the Metrosideros, were as clear and fresh-looking as possible. This system may prove of use in the interests of botany, and the experiment in question showed what can be done in this respect.

Messrs. Turner & Son, Royal Nurseries, Slough, staged a good group of Carnations, Souvenir de la Malmaison in variety and C. Germania, which was backed by a number of long stout shoots of the new Rose Turner's Crimson Rambler (Silver Banksian Medal).

Mr. F. W. Moore, Botanic Gardens, Glasnevin, sent flowers of Crinum Powelli alba, which was awarded a First-class Certificate; also Lilium Martagon album, Ismene longipetala, Alstrœmeria Diazii, and Dicentra (Dielytra) chrysantha.

Awards of Merit were granted to Carnation Hayes Scarlet, a large bright crimson border variety, and to C. King Arthur, an equally large one, with extra wide petals of dark crimson. Both varieties were from Martin R. Smith, Esq., Hayes Common, Beckenham (gr., Mr. Blick).

Awards of Merit were given to Calochortus venustus var. roseus, and to C. v. var. oculatus, shown by G. F. Wilson, Esq., Weybridge; and to C. v. Vesta, shown by Mr. C. G. Van Tubergen, jun., Haarlem, Holland. These varieties have lovely flowers, and the species itself should be grown more generally than it is. For culture, see p. 748 of present issue. Mr. C. G. Van Tubergen had also three varieties of Lilium Martagon, named Frank Miles, G. F. Wilson, and Max Leichtlin.

Two new Roses (sports from Henry Schultheiss, we believe) were sent from Messrs. Harkness & Sons, Bedale, Yorks. Merrie England is white or pale lilac, flaked with rose in the bizarre fashion. Mrs. Harkness is a large flower, of wide petals, and a bright flesh colour. Awards of Merit were granted to each of them.

Messrs. Sander & Co., St Albans, had a large plant of Maranta leoniæ, and a plant of Aristolochia gigas var. Sturtevantii, bearing a very large bloom.

A good show for the season was made by Messrs. P. Barr & Sons, of King Street, Covent Garden, with Delphiniums, single and double-flowered, but whose spikes and flowers were smaller than usual. English Iris, several Hemerocallis, including H. Thunbergii; the pale-coloured Alstrœmeria hæmantha, &c. (Silver Banksian Medal).

Some nice Delphinium blooms, in much variety, were shown by Messrs. Shuttleworth & Co., Peckham Rye, and elsewhere; together with which the following varieties of Border Pinks were shown:—Ascot, Clove, Modesty, Pheasant's-eye, Anne Boleyn, Mrs. Welch, Her Majesty, Mrs. Pettifer, and Mrs. Sinkins. Other plants in this exhibit consisted of Helenium pumilum, Lilium concolor, L. Coridion, a small flower, scarlet in colour, and some boxes of Rose blooms (Silver Banksian Medal).

Some stout Begonia tuberosa, with white, scarlet and greenish-white flowers, very decidedly double, and standing erect on robust footstalks, came from G. A. Farrini, Esq., Dartmouth Lodge, Perry Vale, S.E.

Messrs. W. Paul & Son, Waltham Cross, showed some excellent Roses (a score of cut blooms) of their H.P. Spenser, and two dozen of H.P. Clio in full development, and a small box of the latter in the half-opened bud state. It is of tender pink colour, well filled, flat, and pleasingly cupped in form, the reverse of the petals whitish (Silver Banksian Medal).

Zonal Pelargonium Madame Jules Chrétien, a flower of rosy-carmine, furnished with a stellate, white "eye," was shown by Messrs. Cannell & Sons, Swanley.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. J. O'Brien (Sec.), Dr. M. T. Masters, F.R.S., Rev. E. Handley, R. Brooman-White, T. B. Haywood, A. H. Smee, Henry Williams, De B. Crawshay, Thos. Statter, C. J. Lucas, W. H. White, J. Douglas, and H. M. Pollett.

An interesting collection of botanical plants was sent by Sir Trevor Lawrence, Bart., Burford Lodge, Dorking (grower, Mr. W. H. White), two of the most extraordinary being Luisia volucris, with yellowish sepals and petals, the petals long, and erected like horns, and curious brownish-purple lip, which in the mature flower closely clips the stem of the plants, which resembles it in colour, so that an insect ascending the stem cannot fail to fertilize some of the flowers; and L. Amesiana with very curious greenish-yellow flowers, the rather large labellum being spotted with brownish-red. These two are even more extraordinary than Luisia Psyche and L. teretifolia, both of which, although rare, are in cultivation, and to each was awarded a Botanical Certificate. Other plants from Burford were the scarlet Hexisia bidentata (Botanical Certificate); Lælia crispilabia (Botanical Certificate); Cœlogyne sulphurea, and Masdevallia demissa.

Messrs. F. Sander & Co., St. Albans, staged a group of very select, rare, and well-grown Orchids,

among which were a noble specimen of Platyclinis filiformis, with about ninety spikes (Cultural Commendation and Botanical Certificate); some grand forms of Cattleya Warscewiczii Sander's var., of which the variety named C. W. purpurea had intensely rich-coloured flowers, and the variety Sanderæ, to which an Award of Merit was given, had flowers almost wholly of a warm crimson colour, the velvety labellum being extraordinarily bright. Messrs. Sander also showed a pretty new Epidendrum with yellowish flowers, which are veined with dull rose, and named E. Forgetianum (Botanical Certificate), Cypripedium × mulus (hirsutissimum ♀, Lawrenceanum ♂), Zygopetalum Klabochorum, Sobralia xantholeuca, a yellow Cattleya granulosa, fine plants of Epidendrum vitellinum majus, Odontoglossums, &c.

Norman C. Cookson, Esq., Oakwook, Wylam-on-Tyne (gr., Mr. W. Murray), showed a spike of Cypripedium caudatum Wallisii, and a single flower of C. × vexill. Io, with much resemblance in it to C. × vexillarium—one of the parents.

Messrs. J. Backhouse & Son, York, sent a fine pan with three spikes of Disa × Veitchii (racemosa × grandiflora), the same having been raised in the York Nurseries. F. W. Moore, Esq., Curator, Royal Botanic Gardens, Glasnevin, Dublin, sent a spike of a very large form of Aërides virens.

Chas. Winn, Esq., The Uplands, Selly Hill, sent Cypripedium × Psyche, a supposed hybrid of unrecorded parentage, but which resembled the form of C. Godefroyæ formerly shown as C. G. leucochilum.

T. Statter, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R Johnson), showed a light form of Cattleya Warscewiczii, spikes of Odontoglossum Wilckeanum superbum, and Cypripedium × Aylingii. G. L. Schofield, Esq., New Hall Hey, Rawtenstall, Manchester, sent a cut spike of Lælia × Arnoldiana; a good form of the same coming from M. Wells, Esq., Broomfield, Sale, Manchester, who also sent cut flowers of the pretty yellow Lælio-Cattleya × Phœbe, the beautiful Cattleya Mendelii delicata, and other species (Vote of Thanks).

Messrs. Charlesworth, Shuttleworth & Co., Heaton, Bradford, showed Grammangis Ellisii, and the singular little Odontoglossum peruvianum (Botanical Certificate).

As usual the showy part of the exhibition so far as visitors are concerned, was composed of the several trade groups, the finest of which was staged by Messrs. B. S. Williams & Son, Upper Holloway, N., and in which were many rare species. Among them we noted a fine Cattleya Wagneri, Odontoglossum cordatum aureum, O. hastilabium, Trichopilia crispa marginata, Angræcum Scottianum, some very fine Cypripediums. Cattleyas, and Odontoglossums (Silver Flora Medal). Messrs. Hugh Low & Co. also staged a very effective group, for which they received a Silver Banksian Medal; and Messrs. W. L. Lewis & Co., Southgate, N., a Bronze Medal, for a neat group of showy species.

Fruit Committee.

Present: Philip Crowley, Esq., in the chair; and Messrs. J. Lee, T. F. Rivers, G. W. Cummins, G. Taber, G. H. Sage, G. Wythes, J. Hudson, H. Balderson, and R. Hogg.

Some excellent Queen Pine-apples were sent from Mr. Richard Parker, Impney Gardens, Droitwich, and from Mr. E. Beckett, Aldenham House Gardens, Elstree, six from each exhibitor (Silver Banksian Medal in each case).

Mr. Owen Thomas, gr. to Her Majesty, at the Royal Gardens, Frogmore, sent baskets of fourteen varieties of Strawberries, including very intensely-coloured, large, fleshy fruits of Waterloo; also Unser Fritz, Aromatic (large, light-coloured berries), Prince of Wales, Sir J. Paxton, Laxton's Noble, Sir Charles Napier, The Countess, La Grosse Sucrée, Dr. Hogg, Harry James Veitch, Vicomtesse Héricart de Thury, Frogmore, Late Pine, &c. Also fourteen baskets of Cherries; Late Duke, Bigarreau Napoleon, Black Tartarian, Black Eagle, and Monstrous Bigarreau, were of good quality, but the remaining varieties were rather small, as is generally the case this season (Silver Banksian Medal).

Messrs. Jas. Veitch & Sons, Chelsea, sent twelve varieties of Cherries from pyramids, grown in the open at Langley. They were Early Bigarreau, May Duke, Large Red Bigarreau, Nouvelle Royale, Reine Hortense, Black Hawk, Cleveland Bigarreau, Governor Wood, Mammoth, Knight's Early Black, Royal Duke, and Bigarreau de Schreken (Culturally Commended).

Mr. Wm. Allan, Gunton Park, Norwich, sent three dishes of fine Strawberries of his own raising, Empress of India, Gunton Park (a very large, heavy, dark-coloured variety), and Lord Suffield.

Two dozen very excellent Peaches came from Messrs. T. Rivers & Son, Sawbridgeworth. They were ripened in cool orchard-houses, and the varieties were Alexander, Waterloo, and Amsden June.

A good number of Seedling Melons were again before the committee, but none of them pleased the committee; indeed, it is surprising that several of them were sent at all, the flavour being very undesirable. A very fair one, however, and by far the best sent, was from Lord Howard of Glossop, Glossop Hall, Derbyshire (gr., Mr. B. Ashton). It was a yellow fruit, deeply netted, and white flesh.

Mr. Jas. Douglas, Great Gearies, Ilford, showed a new white Grape from Black Hamburgh × White Muscadine. It had a good large berry, but the flavour was not extra good.

A dish of very large fruits of President Strawberries came from Robert Mackellar, Esq., Abney Hall, Cheadle, Staff., from runners planted in August last; also some fruits of the small-leaved Orange. Branches of the prolific Tomato Sutton's A1 were sent by Dr. Kirby, Kelsey Birk, Beckenham; and some large fleshy fruits of Musa Cavendishii by J. Watson, Esq., Berwick Gardens, Shrewsbury. Some fruits of Strawberry Jno. Rundle from Messrs. H. Cannell & Sons, Swanley, did not satisfy the committee.

Mr. Philip Crowley had some dried Asparagus, and some which had been dried previously to being cooked. The cooked specimens were not at all to be despised, although they were tasted, perhaps unfairly, without the usual accessories that attend upon this fine spring vegetable.

National Rose Society's Tea Rose Show.

The first Rose Show of the season held in connection with the meeting of the Royal Horticultural Society on Tuesday last was a great success. An exhibition arranged for Noisettes and Teas, almost a fortnight before the great show at the Crystal Palace, has enabled us to see these sections at their best; and it is probable that by July 1 these, as well as hybrid perpetuals, will be at a premium in many places.

In the first class for twenty-four single trusses, of not less than twelve varieties, the 1st prize was awarded to S. P. Budd, Esq., Gay Street, Bath (gr., J. Bradbury). The competition was keen in this, as in nearly all the other classes, and the Roses were better than we expected to see them. Particularly good in this stand were Comtesse de Nadaillac, Maréchal Niel, La Boule d'Or, Jean Ducher, Souvenir d'Elise Vardon, Catherine Mermet, Souvenir de Thérèse Levet, Princess Vera, &c. R. L. Knight, Esq., Bobbing, Sittingbourne, who was placed 2nd, had large flowers, but they were not so fresh-looking, and well-shaped, as were those of Mr. Budd.

In the class for twelve trusses of not less than nine varieties, the exhibits were excellent. The 1st prize was secured by the Rev. A. Foster-Melliar, Ipswich. His blooms were very large and fresh, and of good colour. They were Souvenir d'Elise Vardon, Marie van Houtte, Catherine Mermet, Anna Olivier, Souvenir de Thérèse Levet, Madame Angèle Lacquer, Comtesse de Nadaillac, La Boule d'Or, Ernest Metz, Souvenir d'un Ami, and Comtesse Panisse. E. B. Lindsell, Esq., Bearton, Hitchin, who was 2nd, had good blooms, but rather smaller. G. Orpen, Esq., West Bergholt, Colchester, was a good 3rd.

C. J. Grahame, Esq., Coombe Road, Croydon, was 1st for six single trusses of not less than four varieties, with fine blooms of Ethel Brownlow, Innocente Pirola, Francisca Kruger, Hon. Edith Gifford and Comtesse de Nadaillac. Rivers H. Langton, Esq., Raymead, Hendon, N.W., was 2nd, with a deserving exhibit.

The Rev. A. Foster-Melliar, Sproughton Rectory, Ipswich, with large blooms of Souvenir d'Elise Vardon gained 1st place in the class for six single trusses of any one variety; and Mr. E. Mawley was 2nd, with pretty blooms of Innocente Pirola.

Mr. E. B. Lindsell, was 1st for six distinct varieties, three trusses of each. The blooms were neat, and fresh and of good size. The Rev. F. R. Burnside, Birch Vicarage, Hereford, was a very good 2nd. The 1st prize for a decorative arrangement of Teas and Noisettes, whether in baskets, vases, or other holders, was given to Mrs. Osmond G. Orpen, West Bergholt, Colchester, who had a most tasteful bouquet in which W. A. Richardson was mostly used.

All the above classes were confined to amateurs, and those below were open. Mr. Frank Cant of Colchester, was 1st for twenty-four distinct, single trusses. The stand was a capital one, the flowers being much superior to those in the corresponding division for amateurs. The finest specimens were Cleopatra, Madame de Watteville, Souvenir d'Elise Vardon, Marie Van Houtte, Ethel Brownlow, Catherine Mermet, Madame A. Etienne, Princess of Wales, and J. B. Varonne, a very delicate rose and bronze bloom. A few of the flowers of the second stand shown by Mr. B. Cant, also of Colchester, were a little past their best, but it contained a few very excellent blooms.

Mr. Frank Cant was again to the front for twelve distinct varieties, three trusses of each; and Messrs. D. Prior & Son, Myland Nurseries, Colchester, who were 2nd, had also a meritorious collection.

The next class was for eighteen bunches, distinct, three trusses to each bunch, naturally grown, not disbudded. Here Messrs. Geo. Paul & Son, Cheshunt, were 1st, with a very pretty and interesting lot, including William Allen Richardson, Alba Rosea, Madame Lambard, L'Idéal, Belle Lyonnaise, Bouquet d'Or, Marie Van Houtte, Gloire de Dijon, Jean Ducher, Princess Vera, Reine d'Or, and Souvenir de Paul Neyron. Mr. Geo. Mount, of Canterbury was 2nd, but some of his Roses were too far open.

Messrs. D. Prior & Son were 1st for twelve trusses of Maréchal Niel, with large and well-coloured blooms; and for twelve single trusses of any Tea or Noisette, other than Maréchal Niel, Mr. Frank Cant was 1st, showing Souvenir d'Elise Vardon. Large but very loose Niphetos gained for Messrs. D. Prior & Son the 2nd place.

THE GREAT YORK GALA.

[Additional Notes]

June 14, 15, and 16.—A very greatly-admired and admirably-arranged alpine garden by Messrs. Backhouse & Sons, York, occupied a large space at the end of the large Pelargonium-tent. In it a considerable number of very interesting plants were shown, and an inspection of this beautiful group and its arrangement opened up the question of our great societies giving substantial prizes to gardeners and others for examples of decoration work in such kinds of garden ornamentation. Messrs. Backhouse's group of hardy cut flowers close by, not for competition, contained some of the rarer seen plants for which this firm is so celebrated. Conspicuous in this group was the lovely single white Pæonia Whitleyi alba major.

Another highly creditable honorary exhibit came from Aberdeen, and a Silver Medal awarded to it was richly deserved, as so many choice things were to be seen in this collection, such as the pretty Geum Ewenii, of dwarf habit, with orange-buff flowers; and some fine seedling Geums; the strong musk-scented Delphinium Brunnerianum, and Sisyrinchium odoratissimum. There was also a very extensive display of Violas and Pansies in this group staged by Messrs. Cocker & Son.

A special prize was awarded to the Lord Mayor of York, for some well-fruited trees in pots of Peaches and Nectarines.

A Gold Medal was awarded to Messrs. Birkenhead, Sale, Manchester, for a large collection of rare Ferns, some 600 plants; also Silver Medals to Messrs. Cutbush & Son, Highgate Nurseries, London, for Gladioli, herbaceous plant blooms, Malmaison Carnations, &c.; and to Messrs. Laing & Mather, Kelso, for well-grown Malmaison Carnations in pots.

There was a close competition for twenty-four bunches of herbaceous blooms, as well as for double and single Pyrethrums; and a great lot of Pansies were staged in competition, the northern growers having very fine blooms generally. In the open class for forty-eight fancy Pansies, Mr. A. Bailey, Sunderland, was 1st, with a fine lot of blooms; 2nd, Mr. Smellie, Glasgow; 3rd, Messrs. Paul & Co., Bridge of Weir, N.B. For twenty-four Fancy Pansies, 1st, Mr. Bailey; 2nd, Mr. N. Lister, Rothesay; 3rd, Mr. Smellie. The other classes were well filled, and included, amongst the prize winners, Mr. A. Campbell, Blantyre; and Messrs. R. Mann, Archer, and others. Certificates were awarded to the following seedling Fancy Pansies, to Mr. A. Bailey, for Beauty and Duke of York; to Messrs. Hy. Clark & Son, Rodley, Leeds, for Mrs. Hy. Clark.

A very fine lot of Violas in sprays were staged, and for twenty-four bunches, Mr. J. Smellie, Glasgow, was 1st; Messrs. Paul & Co., Bridge of Weir, 2nd; and Mr. Hutchinson, Kirby Moorside

3rd; and a Certificate was awarded to Mr. Smellie for a handsome seedling striped Viola of a novel colour named Mahogany.

ROYAL OXFORDSHIRE HORTICULTURAL.

June 19.—The annual Commemoration flower show took place on the above date, in the grounds of Mansfield College, Oxford, and in respect of some of its characteristics, quite recalled the palmy days of Oxford exhibitions. The Commemoration week is always one of great festivity in the city, and for years past the flower show has formed a part of them. The exhibits were in two spacious tents, while the vegetables had to be accommodated on tables in the open, placed under the shade of trees.

Certain classes, open to all England, are always most attractive. There were three collections of nine stove and greenhouse plants in flower, Mr. James Cypher, nurseryman, Cheltenham, being placed 1st, with admirable examples of Erica Cavendishiana, E. Parmentieriana rosea, and E. jubata rosea; a very fine Darwinia tulipifera, Ixora regina, Dracophyllum gracile, Allamanda nobilis, &c. 2nd, Mr. W. Finch, gr. to J. Marriott, Esq., Coventry, who had some very good specimens, including Erica Parmentieriana rosea, Bougainvillea glabra, Ixora Williamsii, a very fine plant, but indifferently bloomed; Allamandas Williamsii and nobilis, &c.

In the class for six variegated or ornamental foliaged plants, two very fine collections were staged by Messrs. Cypher and Finch, the former having tall and striking examples of Kentias Belmoreana and Forsteriana, Latania borbonica, Crotons Sunset and Chelsoni, and Dasylirion acrotrichum. Mr. Finch, who was placed 2nd, had a very fine Cycas circinalis, Kentias australis and Forsteriana, and Crotons Queen Victoria and C. montfortensis.

The class for nine Orchids brought one of the finest displays seen at Oxford for years. Mr. J. Cypher was placed 1st with Cattleya Sanderiana, a remarkably fine form, having nine flowers on two stems—very large, and most intense in colour; C. Mossiæ splendida, C. Mendeli, C. Warneri and C. gigas, Oncidium macranthum, Anguloa Ruckeri, finely bloomed; and Miltonia vexillaria. 2nd, Mr. Finch, who had a fine piece of the dwarf Sobralia macrantha, very fine in colour; Odontoglossum Alexandræ, Dendrobium suavissimum, Vanda suavis, &c. Mr. G. Jacob, nurseryman, Witney, had a collection, which included the white Anguloa uniflora, a fine form of Cattleya Gaskelliana and C. Sanderiana.

The only exhibitor of nine Pelargoniums was Mr. C. Turner, Royal Nursery, Slough, who had fresh and finely-coloured examples of Duke of Norfolk, Maid of Honour, Royal Ascot, and Florence, large-flowered; and Lady Carrington, Princess Teck, and Nellie Fordham; Fancies, &c.

There were four collections of twenty-four Roses in triplets, the flowers very good, considering the heat of the weather. Mr. George Prince, nurseryman, Oxford, was 1st; and Mr. J. Mattock, nurseryman, Headington, 2nd.

With twenty-four varieties, single blooms, the Rev. J. H. Pemberton, Romford, was 1st, with a very good stand indeed; Mr. George Prince being 2nd.

In the members' classes some very good Fuchsias, large and freely grown, and finely bloomed, were shown by Mr. J. Mattock, and the Rev. The Warden of Wadham College; while stove and greenhouse flowering and foliage plants, Ferns, Pelargoniums of all types, Achimenes, &c., were both of good character and abundant.

In the cut flower department Roses were a leading feature. In the open classes Messrs. G. Prince and J. Mattock taking the leading honours, and in the amateur Mr. J. Parker, Headington, and Mr. A. Evans, Marston. Some very fine cut zonal Pelargoniums came from Mr. John Walker, of Thame, and Mr. A. F. Wootten, Headington House. Hardy perennials, herbaceous and bulbous, was a very fine feature. With twelve bunches Mr. Joseph Lakin, Temple Cowley, was placed 1st, having fine bunches. Mr. John Walker had a very fine stand also, which would have gained a 1st prize, but which had to be disqualified in consequence of not being in conformity with the schedule; but as the wording was new, and apparently misunderstood, an extra prize, equal in value to the 1st prize, was awarded to Mr. Walker.

In the class for six bunches there was an excellent competition. Mr. W. F. Cross, Chilwell, was 1st, and Mr. G. Kirtland, Bletchington, 2nd.

Fig. 112.—Spot in Grapes: Glæosporium læticolor.

A B, Diseased Berries.
C, Spots, magnified 100 diameters.
D, Spore-capped threads, enlarged 400 diameters.
E, Single spore, enlarged 1000 diameters.

(See "Answers to Correspondents.")

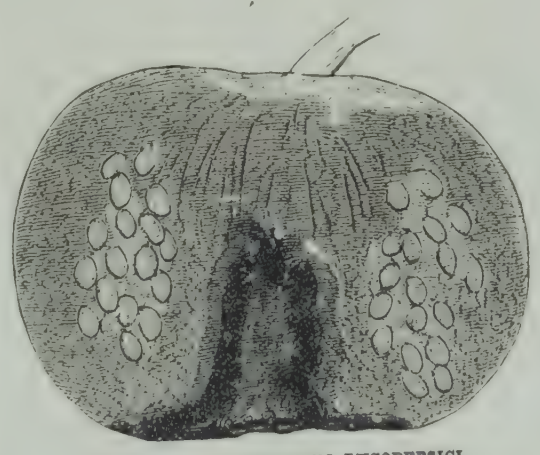

Fig. 113.—Cladosporium lycopersici.

Vertical section through a fruit, showing progress of the disease.

Fig. 114.—Cladosporium lycopersici spores.

(Greatly magnified.)

(See "Answers to Correspondents.")

Fruit was fairly well shown, and vegetables far beyond what could have been expected in such a season. The special prizes offered by Messrs. Sutton & Sons, Reading, and E. Webb & Sons, Stourbridge, brought excellent collections. Mr. Thomas Lockie, The Gardens, Oakley Court, Windsor, being much to the fore with exhibits of superb quality.

Cultural Notes.

LESCHENAULTIA BILOBA MAJOR.

For some years past the culture of the above had been neglected by gardeners, until it was brought to the front by Messrs. Balchin & Sons, the nurserymen at Hassocks Nurseries, Sussex, who exhibited some specimens that attracted great attention. It now bids fair to become as great a favourite as ever. A few cultural hints, embodying Messrs. Balchins' practice, may therefore prove of practical interest. In May, take off young shoots of about 2 inches in length and make the cuttings, care being taken not to bruise them. Insert these in 5-inch well-crocked pots, over which a mixture of peat and silver-sand should be put and made firm. Put about twenty cuttings in a pot, place in a warm propagating pit, and shade from the sun. When rooted, pot the cuttings singly in 3-inch pots, using a mixture of peat and sand; keep them close for a time, then move to a cooler house, and gradually expose to sun and air. The plants should be well pinched back during active growth, to make them bushy, otherwise they will grow tall and thin. Repotting should be attended to early in each spring, a mixture of good rich peat three parts and silver-sand one part being best for them. A frame or a light greenhouse, where the sun may be allowed to shine on them all day, is the best position for growing Leschenaultias during the summer months; also during the summer a sprinkling overhead with a syringe should be given in the afternoons of bright days. In the winter they should be housed where the temperature does not fall below 45°, and the atmosphere is dry and ventilation abundant, care being taken to guard against attacks of the dreaded mildew. *J. B.*

The Layering of the Strawberry.

About the end of the present month my preparations for forcing purposes will be commenced, and in about one month afterwards the plants will be fit for potting into the fruiting pots. The plan of layering-on the fruiting pots at once is a great saving, and usually the crop of fruit is as good as is secured in the other manner, and the crowns being raised above the soil, ripen satisfactory. An important point in the management is to keep the plants well supplied with water after the roots begin to fill the pots, and to afford them some kind of liquid manure. When the pots are filled with roots, a small quantity of manure in the form of guano, sheep-droppings, or soot-water, will keep the plants going, and prevent the unhealthy appearances brought about by having to water twice a day. It is best not to layer more than six to eight runners from any one plant, and the remainder should be cut off as the work proceeds. Sometimes turf cut into small squares is used instead of pots in layering the runners; it is a good plan, but good turf is not comeatable by all gardeners.

The potting of the Strawberry should always be very firmly done, and with this end, some amount of ramming is necessary; and to allow of this being done without spoiling the mould, it should be in a medium state of dryness, and then it will not cake on the surface, or leave a space between the pot and the ball.

For early forcing purposes, La Grosse Sucrée and Vicomtesse H. de Thury are excellent, bright in colour, and passable in flavour; Sir Charles Napier, Sir Joseph Paxton, President, James Veitch, are good-flavoured varieties, but the best is British Queen, where it does well. Only well-tested varieties should be grown in quantity, introducing unknown ones sparingly. I know of some gardens where Sir C. Napier will not succeed, mildew spoiling

the fruits; while in this garden it is one of the best. Keen's Seedling, grown side by side with Vicomtesse H. de Thury in the forcing-house, is a failure, compared with the latter; it is therefore always advisable for the main crop to depend on those known to do well. Those who plant annually a portion of forced plants should plant them out as early as may be convenient, affording them plenty of water whilst dry weather lasts. I pursue a plan when the ground intended for Strawberry is occupied with a crop of something else, of layering-on 7 or 8-inch pots at an early date—in fact, as soon as good runners are obtainable, and these are kept growing till the land has become at liberty, when they are planted. In pots of this size the plants may be kept unharmed till the month of October, or till early in February. This plan entails some amount of labour in watering, &c., over that of planting in nursery beds, but I am quite satisfied with the results obtained, the crop the first year being a heavy one, and the fruits large, thus gaining a season's fruit over those pricked out into nursery beds. A deeply-worked soil, in good heart, and made moderately firm, suits the Strawberry. *H. Markham, Mereworth Castle, Maidstone.*

VERBASCUM CUPREUM.

A PLANT bearing this name is figured in the *Botanical Magazine*, vol. xxx., t. 1226. Hybrid mulleins of similar colour have before been noticed in the *Gardeners' Chronicle*, but I venture to assert that none of them can be reproduced from seed. When any of them ripen seed, which is not unfrequently the case, the progeny revert to one of the parents. I have had more or less frequently in my garden copper-coloured hybrids of V. phœniceum × V. nigrum, V. phœniceum × V. phlomoides, V. phœniceum × V. Blattaria. The first-mentioned, having both parents perennial, is perennial; the two others follow the habit of the shorter-lived parent, and are biennial. Seed saved two years ago from the perennial cross produced 200 or 300 apparently typical phœniceum, but all uniform in colour, being pale purple-pink. I have never found fertile seed on the biennial hybrids. *C. W. Dod, Edge Hall, Malpas.*

INDIA-RUBBER CURTAINS.

THE number of uses to which the Cocoanut Palm and its fruits are put is enormous. A strong competitor is found in the India-rubber plant. The tyres of Hansom cabs are now of vegetable material; the newest "growlers"—four-wheelers—are being treated in the same manner; and, latest thing of all, we are to have, or rather are now having, India-rubber curtains. The Messrs. Schnauder & Schlegl, of Chemnitz, have patented a new material for curtains, which we are informed, will soon be placed on the London market. The composition of the substance is stated to be 75 per cent. of India-rubber, 3 per cent. wool-dust, 5 per cent. pulverised fruit-stones, 10 per cent. bleached amber varnish, and 5 per cent. bleached leather waste, to which some infusorial earth can be added if necessary. The whole is worked up with bisulphide of carbon into a thick mass, then rolled up into thin leaves, which can be decorated in patterns according to fancy. A curtain is made by combinations of several of the leaves. Our German friends are making the most of the West African Settlements, acquiring concessions of forest lands from native kings, and our botanists out there are doing their best to instruct the natives in acquiring India-rubber in the greatest economical quantity, so that the field from whence to gather the raw material is gradually extending, making a great industry for the African. It may be noted that "wool-dust" is employed in the new fabric; this and other so-called "dust" is now carefully gathered up in London fringe and curtain-weaving establishments, taken to Leicester or elsewhere, and returned to the metropolis as a very cheap curtain stuff! On the subject of economy, it may be noted that paper is now largely used in making spools on which to wind yarn; when done with, instead of being thrown away, they are carefully gathered up and sold to firework-makers, who use the hollow-tubes in the manufacture of squibs! Truly, there are many curious economics as well as patents.

ENQUIRIES.

"He that questioneth much shall learn much."—BACON.

WILL some reader kindly inform me in the next number of the *Gardeners' Chronicle* if they know in what book, recently published, the following lines are to be found:—

"Although at every Christmastide
Within our homes 'tis glorified,
And that to break 'twas thought, of yore,
A witch's spells it had the pow'r,
And dire diseases was so famed
For curing that 'twas All-heal named,
And that its berries so spotless show,
A parasite is the Mistleto,
Regardless if, so it may rise,
Its course be straight or otherwise,
And, ready, without shame, to feed
On juices other plants concede;
And with its glutinous bark supplying
A snare for volatiles decoying,
Thus, all positions sycophants
Accept which may themselves advance,
Thus, at the cost to live are prone
Of others rather than their own,
And by their unctuous natures they
Thus, to gull featherheads find a way."

Arbor.

EARWIGS. — Will some of our readers kindly inform "C. C. B." in what way he may destroy earwigs? He says:—"I caught 1364 in six nights by putting small flower-pots half-filled with moss in the trees. The trees are on a lawn. The grass on the lawn between 10 P.M. and midnight is all alive with them—thousands of them—I never saw such a plague in my life. Did you ever hear of such a case? I have been a practical gardener for twenty years. I have not heard of them so bad. Can I put anything on the grass to destroy them?"

OLEAGINOUS SEEDS AT MARSEILLES.

IT is well-known that Marseilles is one of the principal seats of the oil-crushing industries of the world, and that enormous quantities of oil-seeds of all descriptions find their way to that port, but it is somewhat startling to find that it is possible for such a trade in one place to fluctuate to the extent of 80,000 tons of oil-seeds in one year; and yet we find that such was the case in the year 1892, when the imports of oleaginous seeds showed a falling off as compared with the preceding year to the enormous extent quoted above — the total figures for 1892 being 337,732 tons, against 417,845 tons in 1891. This statement is given on the authority of Mr. Perceval, the British Consul at Marseilles, in a report to the Foreign Office, and who further gives some interesting facts in connection with this trade. The 80,000 tons deficit in the year's imports fell almost entirely on shelled Ground-nut kernels (Arachis hypogæa) from the Coromandel, Madras coast, and Bombay, the total imports of which having been 73,324 tons against 124,873 tons in the previous year. Copra and Palm kernels also showed a considerable falling off. The bulk of the imports, it is stated, were crushed in local mills, which were kept fairly supplied throughout the year, although two or three large crushers were obliged to reduce their work during the last three months for want of material, having over-estimated the crops of Ground-nuts, which form the principal oil-producing article for soap-boilers. In the beginning of the year, the reports of the crops from Madras were very favourable, and led us to anticipate large imports. Early in May, however, the reports from the Madras coast reduced the crop estimates very seriously by reason of drought, with the result before stated. Under ordinary circumstances, there is no doubt that such a large deficit would have led to a substantial rise in prices; but it exceptionally happened that in Egypt the crops of Cotton-seed were very large, and enormous supplies of this seed were offered in September and October, thus flooding the English markets, whence very large quantities of Cotton-oil were offered at Marseilles at prices which competed very favourably with local mill-oils. Hitherto only one large mill crushed Cotton-seed in Marseilles, but during the latter part of the year two fresh mills have been started, and if the results prove satisfactory, there will be a further increase in this branch of commerce. Cotton-seed oil has been used to some extent for soap-making, and the finer qualities for edible purposes, chiefly for mixing with strong Olive-oils.

Of Gingelly seed, from Sesamum indicum, the imports have been of the usual average. The finer qualities of Bombay and Levantine Gingelly produce edible oils, and the lower grades of Bombay and Madras seed produce lamp oil and inferior sorts of soap. The imports of Castor-oil seeds show an increase in the imports over those of 1891, namely, 24,551 tons in 1892, against 19,345 tons in 1891. The larger part of the Castor-oil produced in Marseilles is exported to England and Scotland, and consumed there in the cloth and cotton factories. The bulk of the oil produced from Copra (Cocoanut oil) is consumed in Marseilles by the numerous soap factories, and this is a very important trade.

THE WEATHER.

[BY the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees — a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending June 17.	Accumulated. Above 42°, for the Week.	Accumulated. Below 42°, for the Week.	Accumulated. Above 42°, difference from Mean since January 1, 1893.	Accumulated. Below 42°, difference from Mean since January 1, 1893.	Rainfall. More (+) or less (—) than Mean for the Week.	Rainfall. No. of Rainy Days since Jan. 1, 1893.	Rainfall. Total Fall since Jan. 1, 1893.	Bright Sun. Percentage of possible Duration for the Week.	Bright Sun. Percentage of possible Duration since Jan. 1, 1893.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	6 +	114	0	+ 329	— 57	5 —	99	17·5	51	27
1	5 +	117	0	+ 252	— 21	5 —	79	8·8	60	34
2	3 +	109	0	+ 263	— 62	4 —	65	7·0	52	38
3	4 +	130	0	+ 322	— 37	5 —	64	6·6	60	45
4	5 +	134	0	+ 422	— 47	5 —	65	7·1	50	42
5	5 +	144	0	+ 361	— 43	4 —	61	7·0	65	46
6	6 +	134	0	+ 352	— 63	7 —	81	14·2	60	37
7	5 +	133	0	+ 422	— 91	4 —	69	9·1	68	38
8	5 +	141	0	+ 455	— 70	4 —	64	10·8	62	49
9	7 +	139	0	+ 378	— 104	5 —	84	11·4	43	30
10	5 +	137	0	+ 408	— 100	6 —	73	12·1	36	35
*	5 +	143	0	+ 515	— 52	4 —	69	8·8	71	56

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3. England, E.; 4, Midland Counties; 5, England, including London, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; * Channel Islands.

THE PAST WEEK.

THE following summary record of the weather for the week ending June 17, is furnished from the Meteorological Office:—

"The *weather* was again fine, bright, and dry very generally. During the middle part of the period, thunder and lightning occurred in almost all districts;

but the amount of rainfall recorded was in most cases very slight, and on several occasions sharp storms of thunder and lightning occurred without any rain.

"The *temperature* continued above the mean, the excess ranging from 3° in 'England, N.E.,' and 4° in 'England, E.,' to 6° in 'Scotland, N. and W.,' and to 7° in 'Ireland, N.' The highest of the maxima occurred either on the 16th or 17th, when they ranged from 77° to 83° in Scotland, from 78° to 82° in Ireland, and from 82° to 88° in England. The lowest of the minima were registered during the earlier half of the period, when they varied from 38° in 'Scotland, W.,' and 39° in the 'Midland Counties and England, N.W.,' to 46° in 'Ireland, S.,' and to 54° in the 'Channel Islands.'

"The *rainfall* was less than the mean in all districts. Over the greater part of England and Scotland there was no fall whatever.

"The *bright sunshine* was very prevalent, and considerably exceeded the normal in nearly all districts. The percentage of the possible duration ranged from 71 in the 'Channel Islands,' 68 in 'England, N.W.,' and from between 51 and 65 in England, to 43 in 'Ireland, N.,' and 36 in Ireland, S.'"

MARKETS.

COVENT GARDEN, *June* 22.

[We cannot accept any editorial responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. ED.]

MARKET again well supplied. A brisk business doing, with prices easier. *James Webber, Wholesale Apple Market.*

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Adiantum, per doz.	6 0	12 0
Aspidistra, per doz.	15 0	30 0
— specimen, each	7 6	21 0
Calceolaria, per doz.	4 0	6 0
Cockscombs, per doz.	4 0	6 0
Crassula, per doz.	18 0	42 0
Cyperus, per dozen	4 0	10 0
Dracæna, each	1 0	5 0
Erica, various, doz.	9 0	21 0
Ferns, various, doz.	4 0	9 0
Ferns, small, per 100	5 0	8 0
Ficus elastica, each	1 6	7 6
Foliage plants, doz.	12 0	42 0
Fuchsia, per doz.	6 0	9 0
Hydrangea, per doz.	12 0	24 0
Ivy Geranium, doz.	4 0	6 0
Lilium Harrisii	18 0	30 0
Lobelia, per doz.	3 0	6 0
Marguerite, per doz.	6 0	12 0
Mignonette, per doz. pots	4 0	6 0
Musk, per doz.	2 0	4 0
Nasturtiums, p. doz.	4 0	6 0
Palms, various, each	2 0	10 0
— specimens, each	10 6	84 0
Pelargonium, p. doz.	8 0	12 0
— scarlet, p. doz.	3 0	6 0
Saxifrage, per doz.	12 0	18 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arum, per doz. bl.	2 0	4 0
Aster (French), bun.	2 0	2 6
Bouvardias, per bun.	0 6	1 0
Calceolaria, doz. bun.	4 0	6 0
Carnation, doz. bun.	4 0	9 0
— dozen blooms	1 0	4 0
Cornflower, 12 bun.	1 0	3 0
Eucharis, per dozen	3 0	4 0
Gardenia, per dozen	1 0	3 0
Heliotrope, per doz. sprays	0 4	0 6
Iris, doz. bunches	6 0	12 0
Lilium candidum, p. bunch	1 6	4 0
Lilium Harrisii, doz.	3 0	5 0
Maiden Hair Fern, 12 bunches	4 0	6 0
Marguerite, p. doz. bunches	1 6	3 0
Mignonette, 12 bun.	2 0	4 0
Myosotis, 12 bunches	2 0	3 0
Pansy, per doz. bun.	1 0	2 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blms.	2 0	6 0
Pelargoniums, scarlet, p. 12 bun.	4 0	6 0
— 12 sprays	0 6	0 9
Pink, various, 12 bun.	2 0	6 0
Poppy, doz. bunches	1 6	4 0
Primula, dble. p. bun.	0 6	1 0
Pyrethrum, 12 bun.	2 0	6 0
Roses, doz. bunches	3 0	8 0
— Tea, per dozen	0 6	2 0
— coloured, dozen	2 0	4 0
— yellow (Maréchals), per doz.	1 6	6 0
— red, per dozen	1 0	1 6
Spiræa, 12 bunches	3 0	6 0
Stocks, per bunch	0 4	0 6
Sweet Sultan, 12 bun.	2 0	4 0
Tuberose, 12 blms.	0 6	1 0

ORCHID-BLOOM in variety.

VEGETABLES. — AVERAGE RETAIL PRICES.

	s. d.	s. d.
Beans, French, lb.	1 6	2 0
Beet, red, per dozen	2 0	3 0
Carrots, per bunch	0 4	0 6
Cauliflowers, each	0 3	0 6
Cucumbers, each	0 4	0 8
Endive, per dozen	2 0	3 0
Herbs, per bunch	0 9	1 0
Lettuces, per doz.	1 6	2 0
Mushrooms, punnet	2 0	
Mustard and Cress, punnet	0 4	...
Parsley per bunch	0 3	0 6
Shallots, per lb.	0 6	...
Tomatos, per lb.	0 6	1 0
Turnips, per bunch	0 4	0 6

POTATOS.

OLD POTATOS.—Demand for is virtually over for the season, except for cattle-food.

NEW POTATOS.—Jerseys easier, 7*s.* to 9*s.* per cwt.; French, 5*s.* to 7*s.*; Caucasians, 3*s.* to 7*s.* Dutch and Belgians in bags expected this week. *J. B. Thomas.*

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Apples, Tasmanian, per case	2 6	8 6
Cherries, half-sieve,	4 0	7 0
Currants, black, ½ sve.	4 6	4 9
— red, do.	3 0	3 6
Cobs, per 100 lb.	...	...
Gooseberries, half-sve.	1 6	2 0
Grapes, per lb.	1 0	2 0
Lemons, per case	12 0	20 0
Peaches, per doz.	3 0	9 0
Pine-apples, St. Michael	2 0	5 0
Oranges, per case	20 0	30 0
Strawberries, per lb.	0 3	1 6

SEEDS.

LONDON: *June* 21.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report to-day's market thinly attended, with but few transactions passing. In new American Clover seed, for future delivery, some little business has transpired. The French are asking more money for their Trifolium, a good supply of English seed is expected very shortly. Mustard and Rape seed keep firm. For Tares there is still a brisk sale at full prices. Canary seed keeps very strong. Turkish seed is held in Liverpool for 70*s.* per quarter, and available supplies everywhere are fast melting away. Fine blue Peas are becoming scarce. In Haricot Beans the tendency is against the buyer.

FRUITS AND VEGETABLES.

BOROUGH: *June* 20.—Quotations:—Peas, 3*s.* 6*d.* to 5*s.* per bushel; Cabbages, 5*s.* to 6*s.* per tally; Parsley, 5*s.* per dozen bunches; Egyptian Onions, 4*s.* 6*d.* to 5*s.* per cwt.; Horseradish, 2*s.* 6*d.* to 2*s.* 9*d.* per bundle; Cherries, 4*s.* to 6*s.* 6*d.*; Gooseberries, 1*s.* 6*d.* to 2*s.* 6*d.* per half-sieve.

SPITALFIELDS: *June* 20.—Quotations:—Peas, 3*s.* 6*d.* to 5*s.* per bushel; Cabbages, 5*s.* to 8*s.* per tally; Greens, 3*s.* to 3*s.* 6*d.* per dozen bunches; Egyptian Onions, 4*s.* 6*d.* to 5*s.* per cwt.; Horseradish, 2*s.* 6*d.* to 2*s.* 9*d.* per bundle; Cherries, 4*s.* to 6*s.* 6*d.*; Gooseberries, 1*s.* 6*d.* to 2*s.* 6*d.* per half-sieve.

STRATFORD: *June* 21.—There has been an excellent supply of produce at this market during the past week, and a brisk trade was done at the undermentioned prices:—Cabbages, 3*s.* 6*d.* to 8*s.* per tally; Mangels, 19*s.* to 27*s.* 6*d.* per ton; Onions, Egyptian, 85*s.* to 110*s.* per ton; Apples, Tasmanian, 8*s.* to 11*s.* per case; Green Peas, 4*s.* to 7*s.* 6*d.* per bag; do., 2*s.* 6*d.* to 3*s.* 6*d.* per sieve; Gooseberries, 1*s.* 6*d.* to 2*s.* 9*d.* per half-sieve; black Currants, 3*s.* 9*d.* to 4*s.* 6*d.* do.; red Currants, 3*s.* 9*d.* to 4*s.* 6*d.* do.; Cherries, 4*s.* to 6*s.* do.; Horseradish, 2*s.* 3*d.* to 2*s.* 6*d.* per bundle; Carrots, 1*s.* 9*d.* to 2*s.* 3*d.* per dozen; Cucumbers, frame, 1*s.* 3*d.* to 3*s.* per dozen.

FARRINGDON: *June* 22.—Quotations:—Cherries, 4*s.* 6*d.* to 5*s.* 6*d.* per half-sieve; Cucumbers, 2*s.* to 2*s.* 6*d.* per dozen; Tomatos, English, 6*s.* per dozen pounds; Currants, Black, 5*s.* per half-sieve; Red, 3*s.* 6*d.* to 4*s.* do.; Gooseberries, 2*s.* 3*d.*; Strawberries, 3*s.* 6*d.* to 4*s.* 6*d.* per peck; Apricots, 2*s.* 6*d.* per box of 10 lb.; Green Gages, 2*s.* 6*d.* per box.

POTATOS.

BOROUGH: *June* 20.—Quotations:—Old: 30*s.* to 85*s.* per ton; New: 5*s.* to 8*s.* per cwt.

SPITALFIELDS: *June* 20.—Quotations:—Old: 30*s.* to 65*s.* per ton. New: 5*s.* 6*d.* to 8*s.* per cwt.

STRATFORD: *June* 21.—Quotations:—Old: 25*s.* to 40*s.* per ton. New: Jersey, 6*s.* to 7*s.* 6*d.* per cwt.; Chertourg flukes, 5*s.* to 5*s.* 6*d.*; do., rounds, 5*s.* to 5*s.* 6*d.*; St. Malo, 4*s.* 6*d.* to 5*s.* 6*d.*; do., flukes, 5*s.* to 5*s.* 6*d.* per cwt.

FARRINGDON: *June* 22.—Quotations:—Old, 35*s.* to 48*s.* per ton; Bedfords, £7 10*s.* to £8 10*s.*; Jerseys, £6 10*s.* to £7; Kidneys, £7 to £7 10. per ton.

LONDON AVERAGES: *June* 21.—New: English, 2*d.* to 3*d.* per pound; Jersey Kidneys, 8*s.* to 9*s.*; Canary do., 8*s.* to 10*s.*; Lisbon, 4*s.* to 5*s.* per cwt. Old: 35*s.* to 65*s.* per ton.

CORN.

Averages.—Official statement of the average prices of British corn, imperial measure (quarter) for the week ending June 17, and for the corresponding period last year:—1893: Wheat, 26*s.* 11*d.*; Barley, 23*s.* 5*d.*; Oats, 21*s.* 1*d.* 1892: Wheat, 29*s.* 10*d.*; Barley, 23*s.* 8*d.*; Oats, 22*s.* 2*d.*

HAY.

Averages.—The following are the averages of the prices at the various metropolitan markets during the past week:—Clover, prime, 140*s.* to 180*s.*; do., new, 115*s.* to 130*s.*; do., inferior, 100*s.* to 120*s.*; hay, best, 140*s.* to 180*s.*; do., inferior, 90*s.* to 100*s.*; new mixture, 115*s.* to 130*s.*; and straw, 42*s.* to 50*s.* per load.

"NICHOLSON'S DICTIONARY."—M. MOTTET'S translation of this valuable work is acceptable by reason of the additions and corrections which the editor has been enabled to make in the course of his labours. The *Dictionnaire Pratique d'Horticulture* is as indispensable to our French friends, as its prototype is to our own gardeners.

Answers to Correspondents.

ADVERTISEMENTS: *Correspondent.* Send samples to Chiswick, where they will get a fair and disinterested trial, and we shall be happy to record the results. The fact that you make use of our advertising columns by no means imposes upon us the duty of expressing an opinion on a substance of which we know nothing.

ASPIDISTRA: *Mrs. P. H. G.* (1.) The word is derived from the Greek aspis, a small round shield, and is applied in allusion to the shape of the flower, or to that of the Mushroom-shaped form of the stigma. (2.) Besides A. lurida, from China, there is a Japanese species, named A. elatior, taller than the former, and with purple flowers. (3.) The word lurida has reference to the colour of the flowers. (4.) It is classed with Liliaceæ.

BEETLES IN MUSHROOM-SHED: *J. S. S.* The beetles accused of destroying your Mushrooms are a species of Aphodius. The beetles of this genus are essentially dung-feeders, but would attack decaying fungi. We think they were introduced with the manure of the Mushroom-bed, and that if they cannot be got rid of by hand-picking and setting traps of rotted manure for them, it would be better to clear out and burn the present contents of the bed, and commence afresh. *R. McL.*

BOOKS: *Southernwood.* The only book which gives the complete [to date] list of the orders and genera of flowering plants is Bentham and Hooker's *Genera Plantarum*, in three thick volumes, which you could hardly carry conveniently in your pocket.

CORRECTION.—June 10, p. 689 (Week's Work), Lapagerias, read for thick string, *thin string;* and Richardias flower *well in 4-inch pots*, not four in a pot, as there stated.—We are desired by Mr. F. W. Burbidge to state that the plant mentioned by him as Xanthorrhea hastilis, see *Gardeners' Chronicle*, p. 686, is Dasylirion quadrangulatum, a plant of perhaps greater rarity.

FERN SPORES: *W. W.* Your specimens were rather poor, but we think the prothalli are there, and consequently the Ferns will appear in due time.

FLEUR-DE-LYS: *Acton.* There has been much discussion about the flower that is meant. Some contending that it is a Lily, others an Iris. But the weight of evidence, says Rev. T. F. Thiselton Dyer in his *Folk Lore of Plants*, seems to favour the Iris theory, this plant having been undoubtedly famous in French history. Spenser mentions the plant, and distinguishes it from the Lily—

"Show mee the grounde with Daffadown-dillies,
And Cowslips, and Kingcups and lovéd Lilies;
The pretty Pawnee,
And the Cheresaunce,
Shall march with the fayre flower delice."

GRAPES DISEASED: *E. B—, Bury, Lancashire, and A. J. K.* In all three cases your Grapes are attacked by the fungus Glæosporium læticolor (see fig. 112, p. 753). Cut out and at once burn all the affected berries. It is scarcely likely that the nature of the soil has any predisposing causes; and it would be safeguarding the fruit if the bunches were dressed with the Bordeaux Mixture occasionally up to the time the berries begin to colour. Recipes for making the dressing have frequently been given in these pages.

HALIMODENDRON: *T. Bailes.* Seeds, layers, or cuttings the first and third in the early autumn, and layers this month or next.

INSECT'S DAMAGE TO WILLOW: *C. W. D.* This was probably caused by Sphecia bombiciformis, one of the clear-wing moths. *R. McL.*

LILAC LEAVES: *Dunny.* The Lilac leaves are attacked by the larvæ of a very small moth (Gracilaria syringella), which mine between the two cuticles of the leaves and cause the discoloration. Spraying with some insecticide might be of service, but not much, on account of the mode of life of the larvæ. They are scarcely likely to cause any permanent injury. *R. McL.*

LILIUM MARTAGON: *F. S. E.* Fasciation is common in Lilies, but we cannot give the reason for the occurrence. It is due to the enormous multiplication and forking of the growing points.

LIME WATER FOR WORMS IN POTS: *Tree Carnation.* The lime water if it be decanted when quite clear, and applied to the Carnations will do them no harm whatever. You will find that a small pinch of common salt, say, half a teaspoonful per plant, strewn on the soil, and watered in with clean water, will have an excellent effect on the growth of Carnations. The applications should not be made more often than once in ten days. The soot-water, if clear, has a stimulating effect, from the quantity of ammonia contained in it. It is also a good remedy to use against insects which devour the leaves of plants.

NAMES OF PLANTS: *G., Southport.* Dendrobium Findlayanum.—*Winscombe.* Melilotus officinalis, a good fodder plant.—*No Name.* 1, Spiræa Aruncus (Rosaceæ); 2, Thalictrum majus (?) (Ranunculaceæ); 3, Symphoricarpus racemosus, Snowberry (Caprifoliaceæ); 4, Spiræa Douglasi (Rosaceæ); 5, Pandanus graminifolius (Pandanaceæ); 6, Lonicera Ledebouri (Caprifoliaceæ); 7, Deutzia scabra (Saxifragaceæ).—*M. J. T.* 1, Alnus glutinosa, cut leaved variety; 2, Leyceateria formosa (Caprifoliaceæ).—*H. H.* should send plants to be named to the editor, and not to the publisher. 1, Montia fontana (Portulacaceæ); 2, Sagina procumbens (Caryophyllaceæ); 3, Veronica officinalis (Scrophulariaceæ); 4, Malva moschata alba (Malvaceæ); 5, Helianthemum sp. (Cistaceæ); 6, Hyacinthus comosus (Liliaceæ); 7, Iberis corifolia? (Cruciferæ); 8, Mercurialis perennis (Euphorbiaceæ); 9, Iris fœtidissima (Iridaceæ).—*B. R.* 1, Magnolia glauca (Magnoliaceæ); 2, Spiræa ariæfolia (Rosaceæ); 3, Kalmia latifolia (Ericaceæ); 4, Potentilla, garden variety; 5, Spiræa Douglasi (Rosaceæ); 6, Magnolia macrophylla; 7, Spiræa Filipendula, double fl. (Rosaceæ).—*W. B.* 1, Asphodelus ramosus (Liliaceæ); 2, Stenactis speciosa (Compositæ); 3, Nepeta violacea (Labiatæ); 4, Clematis flammula (Ranunculaceæ).—*Alex. T., Bury.* Your Lycaste Deppei is a good variety, differing from the type, if it is constant.—*H. S. R.* 1, Sidalcea candida; 2, Rubus odorus.—*W. P.* Periploca græca.

PEAR CRACKING: *Munches.* This is probably due to a fungus (Fusicladium pyrinum). Burn the young fruits as soon as they are seen, and try the effect of spraying with the Bordeaux Mixture.

PRINCE OF WALES PLUM: *H. F. A.* This culinary variety of second-rate quality is an abundant bearer, but we never heard that it was particular in the matter of stocks on which it is worked. It may be that in certain soils the trees will, after a few seasons, fall victims to the silver-leaf disease. Perhaps some of our nurserymen will kindly say if it be a fact, that the variety has peculiarities with regard to stocks.

STRAWBERRIES: *R. D.* It is quite impossible to name your fruits. They are a mass of pulp.

TOMATOS DISEASED: *J. Kitley.* The fruits are injured by Cladosporium lycopersici (see figs. 113 and 114, p. 753). Gather and burn all affected fruits, and use the Bordeaux Mixture on the plants, washing them in clean water before making use of them. The disease was described p. 621, vol. xvi., 1881.

TROLLIUS: *T. B.* By seeds. Division in early autumn or spring. The seeds are long in germinating if not sown as soon as ripe.

COMMUNICATIONS RECEIVED.—Ed. J. Bull & Co.—J. H. Ford.—W. S.—W. C.—T. B. B.—J. C. & Sons.—C. W. D.—F. S. & Co.—Borjanovi'z.—P. W.—J. O'B.—T. H. C.—E. M.—D. T. F.—B. W.—C. A. M. C.—J. G. B.—H. R. L.—Wild Rose.—Lord Richard B.—F. W. B.—G. J. J.—C. S.—J. W.—R. R.

PHOTOGRAPHS RECEIVED WITH THANKS.—M. Lemoine, Nancy.—W. M.

DIED.—On the 20th inst, after a long illness, JOHN CHARLES BOWRING, of Forest Farm, Windsor Forest, eldest son of the late Sir John Bowring, some time H.M.'s Plenipotentiary in China, aged 72.

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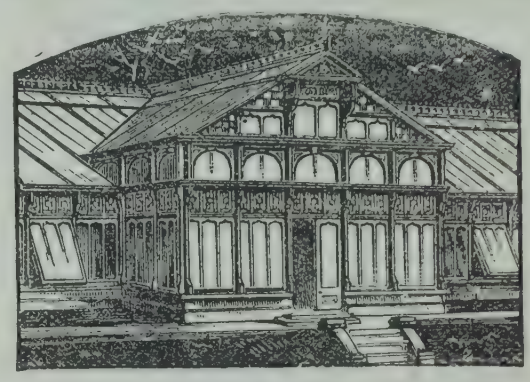

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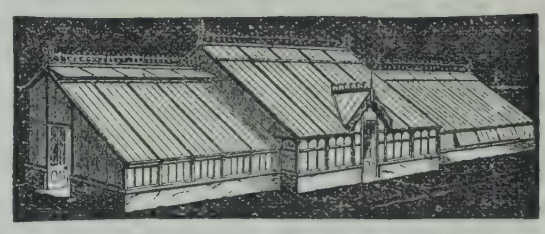

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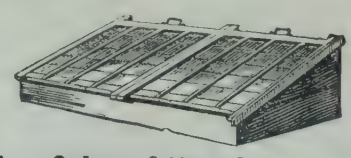

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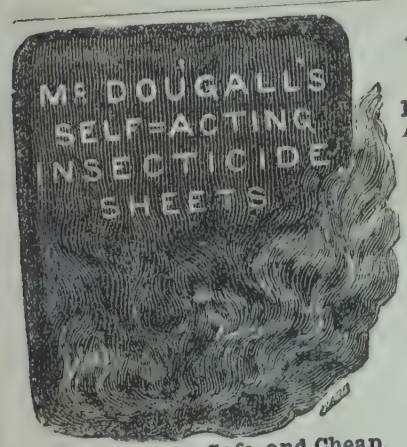

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